**WALMART- Supply Chain Management**

**The data governance guiding principle (DGGP)**

1. **Data Governance Strategic Approach & Organization**

Data governance in general is an overarching strategy for organizations to ensure the data they use is clean, accurate, usable, and secure. Walmart is continuously trying to benchmark itself against other companies and across industries to implement one of the best governance strategies. This includes consultation with corporate governance experts and key stakeholders to strengthen the processes at Walmart. It is strengthening the practices to meet changes in the landscape. To achieve proper data governance Walmart requires a group of people working together which includes Board of Directors, the Compensation, Nominating and Governance Committee (CNGC). This would eventually lead to better delivery to its customers.

1. **Process Management Approach – how DG works with business and technology and risks**

We live a world where new skills are required to meet the rapidly changing demands of customers. Walmart can recognize the changing needs of data by training the associates to analyze the increasing expectations of customers. A significant transformation is underway that’s reshaping how retailers interact with customers. As Walmart is growing its business around the globe, it continues to develop, refine and enhance its ethics and compliance program to keep pace with that growth. It tries reaching out to customers both online and in stores in markets around the world, which requires focused ethics and compliance practices.

1. **Data Accessibility**

Walmart can use following techniques to share data which supports decision making:

1. *Global helpline*:A series of global and local phone numbers where associates can ask questions and report concerns 24 hours a day, seven days a week. The helpline is equipped to handle most local languages in all the markets in which we operate.
2. *Walmartethics.com*: A website available in 14 languages and accessible globally, where stakeholders can ask questions, read our Statement of Ethics, submit ethics concerns and follow up on previously reported concerns.
3. *Global case management system*:A repository and system to manage ethics cases.
4. *Global case management process*: A process we use to encourage consistency across our global operations in the handling of any ethical concerns raised by stakeholders.

Walmart can use various data visualization tools like Tableau to share data. Walmart’s analytical platform makes data available in a highly flexible way so that APIs can be used repeatedly on lots of different applications.

1. **Data Secure**

Effective data governance will help Walmart to protect the data from unauthorized users by defining how its data is to be acquired, stored, backed up, and secured against accidents, theft, or misuse. These definitions also include provision for audits and controls to ensure that the procedures are followed. Realistically, organizations will also conduct suitable awareness campaigns to makes sure that all employees working with confidential company, customer, or partner data understand the importance of data governance and its rules.

Walmart can protect the data by using the following techniques:

* *Encrypting network traffic inside the system*: Encrypting network traffic ensures that data cannot be intercepted by an attacker who is snooping on network traffic.
* *Encryption-at-rest*: Encryption-at-rest ensures that data is not stored as plain text.
* *Two-factor authentication*: As its name suggests, two-factor authentication requires two pieces of information to be presented by a user before access to the system is granted.

1. **Data Management & Standardized**

Walmart has growing risks of data hoarding. IT servers and storage units full of useless junk make it hard to locate any data of value or to do anything useful with it afterwards. Its employees sometimes use stale or irrelevant data as the basis for important business decisions. The problem is unfortunately common. Approximately 33% of the data stored by organizations is simply ROT (redundant, obsolete, or trivial). Most of the data does not have to be kept for decades. Walmart should use only the last four weeks’ transactional data for its daily merchandising analytics. It is part of good data governance strategy to carefully consider which data is important to the organization and which should be destroyed. Data governance also includes procedures for employees to make sure data is not unnecessarily duplicated, as well as policies for systematic data retirement.

1. **Governed Critical Data as a Service**

Walmart can provide quality data by using following ideas:

1. It should need a way to formalize data quality expectations as a means for measuring conformance of data to those expectations
2. It should be able to baseline the levels of data quality and provide a mechanism to identify leakages as well as analyze root causes of data failures.
3. It must be able to effectively establish and communicate to the business client community the level of confidence they should have in their data, which necessitates a means for measuring, monitoring, and tracking data quality.

This ensures that ideas used for monitoring the quality of data can actually roll up into higher level performance indicators for the business as a whole.

Some of the data refinement steps:

1. Identifying the key data assertions associated with business policies.

2. Determining how those data assertions relate to quantifiable business impact.

3. Evaluating how the identified data flaws are categorized within a set of data quality dimensions and specifying the data rules that measure their occurrence.

4. Quantifying the contribution of each flaw to conformance with each business policy

5. Articulating and implementing the data rules within a drillable reporting framework.

1. **Prefer well-managed data from company’s trusted data sources**

To make data work for its customers, Walmart should first make data work for its eCommerce business which includes making the data available to the company in an efficient way. Transactional data, online data, mobile data are the types of data which will allow Walmart to serve its customers in new ways. But, the data is so large it would be hard to put it to work for Walmart without having the proper underlying infrastructure. There are Multi terabytes of new data collected each day and that is combined with petabytes of historical data. The data infrastructure includes following steps to increase the confidence in company’s data:

1. *Data cleansing***:** First important step is to make sure the data is correct and of high quality, we should also make sure that it is kept appropriately and anonymized.
2. *People make data work***:** Different parties are involved which include developers, data scientists and business analyst. They use the data effectively. The Big Fast Data team acquire data, develop and operate data feeds, analysis tools and implement the infrastructure.
3. *Access*: Hundreds of teams can access the anonymized data simultaneously. This is how we can make data work.
4. *Choice***:**  Walmart should use plethora of tools from a variety of partners, vendors, open source and in-house developers. It should start with an enterprise data warehouse and built an infrastructure for the data.
5. **Non-Governed Data**

Walmart can start testing automation to handle tasks that are repeatable, predictable and manual, like scanning shelves for out-of-stock items, incorrect prices and wrong or missing labels. This will save time and help it in improving the supply chain process. Walmart should ensure that its Global Data and Analytics Platform team make decisions that are data-driven, smarter, faster, and highly-automated. The team should deliver four core capabilities — analytics and visualization, algorithmic products, machine learning technology, and data foundations.

1. **Controls and Communication**

Walmart should have ongoing conversations with members of the investment community who analyze our performance for stakeholders. These include financial analysts, ESG analysts and researchers. Stakeholder perspectives and feedback will improve the relevance and effectiveness of Walmart’s products, services and initiatives. It should believe that by collaborating with our suppliers and engaging with our peers and key stakeholders, we can help drive transformation across industries.

1. **Data Education**

Walmart should collect and analyze data and generate verifiable insights for better decision making. It should collect and analyze a wide range of data about customers, partners, operations, the marketplace, employee activity, product performance, and competitors—even before they know what to do with that data. This can be done using analytics to spur previously unimagined ideas for customer offerings—and to deliver customized products and services, targeted at their individual interests. Most importantly, Walmart should deploy data analytics to design the distinctive capabilities that make them stand out from their competitors. Following are the five reinforcing attributes which will support transition management activities:

1. ***A catalog of data and applications***
2. ***Open data knowledge sharing***
3. ***Cross-functional data proficiency***
4. ***A growth-oriented CDO (Chief Data Officer)***
5. ***Semi-centralized data funding***