Data Quality as a Pillar of Data-Driven Organizations: Exploring the Benefits of Data Mesh

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Abstract : Data quality is a key component of any data-driven organization. Without data quality, organizations cannot effectively make data-driven decisions, which often leads to poor business performance. Therefore, it is important for an organization to ensure that the data they use is of high quality. This is where the concept of data mesh comes in. Data mesh is an organizational and architectural decentralized approach to data management that can help organizations improve the quality of data. The concept of data mesh was first introduced in 2020. Its purpose is to decentralize data ownership, making it easier for domain experts to manage the data. This can help organizations improve data quality by reducing the reliance on centralized data teams and allowing domain experts to take charge of their data. This paper intends to discuss how a set of elements, including data mesh, are tools capable of increasing data quality. One of the key benefits of data mesh is improved metadata management. In a traditional data architecture, metadata management is typically centralized, which can lead to data silos and poor data quality. With data mesh, metadata is managed in a decentralized manner, ensuring accurate and up-to-date metadata, thereby improving data quality. Another benefit of data mesh is the clarification of roles and responsibilities. In a traditional data architecture, data teams are responsible for managing all aspects of data, which can lead to confusion and ambiguity in responsibilities. With data mesh, domain experts are responsible for managing their own data, which can help provide clarity in roles and responsibilities and improve data quality. Additionally, data mesh can also contribute to a new form of organization that is more agile and adaptable. By decentralizing data ownership, organizations can respond more quickly to changes in their business environment, which in turn can help improve overall performance by allowing better insights into business as an effect of better reports and visualization tools. Monitoring and analytics are also important aspects of data quality. With data mesh, monitoring, and analytics are decentralized, allowing domain experts to monitor and analyze their own data. This will help in identifying and addressing data quality problems in quick time, leading to improved data quality. Data culture is another major aspect of data quality. With data mesh, domain experts are encouraged to take ownership of their data, which can help create a data-driven culture within the organization. This can lead to improved data quality and better business outcomes. Finally, the paper explores the contribution of AI in the coming years. AI can help enhance data quality by automating many data-related tasks, like data cleaning and data validation. By integrating AI into data mesh, organizations can further enhance the quality of their data. The concepts mentioned above are illustrated by AEKIDEN experience feedback. AEKIDEN is an international data-driven consultancy that has successfully implemented a data mesh approach. By sharing their experience, AEKIDEN can help other organizations understand the benefits and challenges of implementing data mesh and improving data quality.