**The IoT: More Data Equals More Value if Managed Right**

The rapid growth of IoT devices, from smart thermostats to industrial machinery, has shown huge potential for real-time, detailed data analysis. For example, in logistics, companies like DHL use IoT sensors on delivery trucks to monitor location, fuel use, and temperature, helping reduce delays and prevent spoilage in cold goods transport (McKinsey, 2015). This kind of granular data generated by the trucks, if fully utilized, will improving decision-making and operational efficiency of the company’s fleet.

However, the more data we generate, the harder it becomes to manage. IoT devices produce high-volume, high-velocity, and often inconsistent data. A smart home system might generate logs from a thermostat in JSON format and motion sensors in XML, making it difficult to merge and analyse them. Hashem et al. (2015) note that these kinds of issues require advanced wrangling strategies just to prepare the data for use.

Security adds another layer of concern. Many IoT devices are shipped with minimal protection. A well-known example being baby monitors that have been hacked due to default passwords and lack of encryption (Zhou et al., 2019). While architectures like Lambda and Kappa (Huxley et al., 2020) help process such data at scale, the core problems of privacy, structure, and data quality remain. Managing them will be critical as IoT continues to expand.

**Referencing**

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