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# Data Warehousing - Problem faced by Tesla

There are many big companies like Ford, Chevrolet, etc., who have been manufacturing automobiles for decades. However, they are newcomers to the Electric Vehicle (EV) area. Even though they are lagging, they are catching up with their new car offers. Meanwhile, Nikola and NIO are the EV car manufacturers coming to the scene. Given that they are only developing EV from the scratch, there is a good chance that they may face manufacturing competitors.

Tesla is still struggling to become the high-quality, productive factory it aspires to be, but this may no longer be a selling factor in the future. There's also Tesla's software to consider. Tesla has been developing self-driving software that may be used not only in its own cars, but also by other automakers that wish to include autonomous driving capabilities in their vehicles. As it works through the problems of all-inclusive software, Tesla is beginning to provide limited self-driving software alternatives. One issue is that other businesses are developing extremely powerful self-driving technology, maybe even ahead of Tesla's software. Alphabet's autonomous driving software is one example.

Also, that translation isn't yet apparent in terms of selling this technology to other automobile makers. While Tesla emphasizes the use of cameras for self-driving, many cars today depend on laser sensor technologies.

# Big Data - Tesla uses Big Data & AI to Analyze customer satisfaction

Tesla not only utilizes big data to solve problems, but it also uses it to improve customer happiness. They collect data from their customers' online forums and utilize it to better their future manufacturing. No other business has such a close interaction with its clients.

Tesla claims that its autopilot software has collected data from over 100 million kilometers. This information is being combined in the cloud to create route maps for self-driving cars. According to Tesla, they say that their system is 100 more accurate than the standard navigation system.

Tesla may sell this data to other automobile companies in the future, or it may upload it to the cloud for use by the government to improve road safety.

Without a question, Tesla is pushing its competitors to the limit to be the first to deploy a completely autonomous driverless car, and it has well outpaced the competition in terms of data collection.

# Business Intelligence - BI solutions for decisions made in Tesla?

Excel and SSRS were Tesla's previous reporting tools, and they didn't provide the high-quality visualizations that the internal team required for better decision-making and quality control. Tesla was looking for a cloud-based advanced analytics tool that could easily interact with 12 of its most important data sources. The company also wanted to use mobile devices in the field and on the assembly line to dig down into critical indicators that were audience-specific to various stakeholders and management roles within Tesla.

EPC Group’s Solution:

* To increase real-time decision-making skills as the business intelligence platform giving crucial insights into the organization's data, EPC Group built a solution using Microsoft Power BI embedded in Tesla's proprietary applications.
* Before settling on Power BI Embedded, the organization evaluated a few analytics solutions to see which could analyse data from its existing data sources. EPC Group worked with multiple organizations inside Tesla to pilot test Power BI to achieve end-user acceptance as well as valuable input that assured the reports met the project's goals.
* This feedback affected how EPC Group designed the dashboards, as well as what functionality should be employed to best suit Tesla team members' working styles and ensure user uptake and usability across key stakeholders.
* Tesla stakeholders and end-users worked closely with EPC Group to create powerful visualizations within Power BI dashboards that have the "data freshness" needed for real-time decisions. The EPC Group team gathered data from a variety of sources and ensured that the system was secure and scalable.
* Power BI has allowed for near real-time analysis of critical data, as well as KPIs for stakeholders to help them make the decisions necessary to ensure the Tesla organization's success.