

Tesla Motors Big Data Program Design Plan Analytics Report

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Executive Summary

Current tendencies indicate that data expansion will continue, especially for major organizations. The company must engage in big data activities to effectively use this information in day-to-day operations and foresee future trends. Neither the working environment nor the staff at Tesla is up to par. Prescriptive modelling, predictive analysis, and diagnostics are some of the company's big data HR strategies. Key performance indicators are used to evaluate the sustainability of a business (KPIs). Key performance indicators evaluate how well a company executes its strategy and generates revenue. The health of a business can be gauged by how satisfied its employees and customers are. HR can send out key performance indicators (KPIs) and show them on a dashboard.

Introduction

Data is the modern business world's secret sauce for success. However, specialized hardware and software are needed to transform raw data into useful information. It's essential to the data's usefulness, without which it's useless. As a result, companies are investing in "Big Data" projects, so named for the large amounts of data that can be mined for insights that can improve processes, unearth previously unknown trends, and inspire new products and services (Silva et al.,2019). Conventional data sets tend to be more uniform, simplistic, and useless. The three pillars of Big Data are volume, which refers to the total amount of data from many different sources; variety, which refers to the several ways in which a company can present its data; and velocity, which refers to the rate at which the data is collected and processed. It takes more sophisticated software and computing power to process big data than standard data sets, so a firm that wants to take advantage of it should be prepared to invest more in the technology and the IT staff to manage it. However, big data's higher depth and precision may provide firms with more short- and long-term benefits.

In light of Tesla's remarkable rise since its creation in 2003, the company's longest-serving CEO has become one of the world's wealthiest individuals. At its inception, Tesla Motors started revolutionizing the auto industry by producing green, inexpensive vehicles (Ajitha and Nagra,2021. p.508). In 2008, with Elon Musk at the helm, Tesla diversified into alternative energy sources, including solar farms. The firm has long been a forerunner in the development of electric vehicles. However, Tesla has increased its involvement in renewable energy generation and storage, focusing on batteries, via acquisitions, manufacturing, and research & development. Employees had raised concerns about

working conditions, harassment, discrimination, and layoffs. The cited WorkSafe figures relate to injury rates in 2014–2016, so they describe the historical case context rather than Tesla’s current HR performance. This article examines how Big Data initiatives could have been applied to those HRM issues.

Human Resource Data Analytics

Companies in competitive markets always look for new methods to get ahead, including conducting surveys and focus groups with current and potential customers to learn more about their needs. Most companies are implementing data analytics strategies to boost their operations and provide better customer service (Green, 2022). Using a variety of data analytics might aid in solving the HR problems now plaguing Tesla Motors. Diagnostic data analytics is a data analytic tool Tesla might use to help with its HR management woes. Using descriptive data analytics, human resources would outline the root causes of HR problems as part of a diagnostic analytic approach (Frankenfield, 2020). For instance, a diagram may be added that explains the factors that cause Tesla salespeople to leave their roles. Many factors could contribute to this, including but not limited to low quota attainment and greater starting salary provided by other companies. The diagnostic procedure explains the events indicated by observational data and their causes. Finding the cause of the problem is the first step toward fixing it. As a result, Tesla may use this data to determine what incentives will work best to keep its current workforce happy and committed.

Using smart recruiters’ data analytic tools equips the HR team with the necessary data and reporting to further the recruitment process. Utilizing real-time dashboards for managing recruiting data and analyzing all accessible recruitment data will help Tesla considerably monitor and improve its hiring operations. Recruiting the best available data scientists could be the key to helping Tesla improve its performance, which some of its workers have promised to improve. Given the competitive nature of Tesla’s industry, it stands to reason that the company would lose ground if its performance were to dip below par (Green, 2022). The HR manager can save time and energy by using Big Data projects to sift through applications and find the best candidate for a position. Consequently, this would help improve recruitment efficacy and efficiency. Optimistic projections offer a greater potential for success and fruitful outcomes.

Furthermore, prescriptive data analytics would help to resolve issues such as low employee morale, discrimination, resource wastage, and layoffs. HR uses the data-driven workforce in planning strategy where a predefined roadmap guides every element of allocation, optimization, and HR process. Inadequate data and antiquated tools sometimes impede modern labour planning attempts. Predictive analytics holds enormous potential. It will facilitate the integration of new data streams, enabling companies to identify possible movements. In light of these advantages, businesses should investigate how prescriptive analytics might revolutionize HR duties. Data quality and this technology’s disruptive nature are impeding implementation. The garbage-in/garbage-out concept states that the quality of prescriptive analytics insights is proportional to their data (Green, 2022).

Companies lacking static, descriptive, and predictive analytics expertise will struggle to make the transition. Output from prescriptive analytics must be thoroughly evaluated and refined to determine the most pertinent action areas. Hence, this might be challenging for businesses that lack data science or strategic talent.

Detecting employee health and injuries is another area of HR data analytics that would be useful in addressing Tesla's current HR difficulties. According to Golden (2017), Tesla's injury rates have been significantly higher than industry averages in 2014 and 2015, and they were on track to be much higher in 2016. Hence, this puts the company at risk of losing productivity, employee morale, and reputation, which could lead to losing customers to competitors. Companies can lose money if workers get hurt and demand compensation. Human resources departments can now use Big Data to anticipate and prepare for frequent health issues in the workplace. It may, for example, show that the holiday season of November through January is a particularly bad time for employee illness, necessitating the hire of extra temporary personnel then. Predictive analytics has the potential to lessen workplace injuries as well. The system can compile information from various sources to better understand the intricate workings that lead to injuries. The use of analytics allows businesses to probe the causes of accidents (Golden, 2017). However, the most significant advantage is that companies can now foresee injuries. When analyzing injury reports, Tesla may apply Predictive analytics to better understand what went wrong and to anticipate potential threats to workers.

Identified Human Resource KPIs And Their Measurements

Key performance indicators are quantitative criteria used to assess the long-term viability of a company (KPIs). A business's strategic, financial, and operational success can be evaluated with the help of key performance indicators (KPIs), which serve as a standard industry benchmark (Jetter et al., 2018, p. 22). Financial data, employee satisfaction, customer satisfaction, and internal quality control are just some examples of the kinds of KPIs that may be used to gauge success in any sector. Due to the "battle for talent," it is imperative that HR not ignore the importance of employee satisfaction and retention as key performance indicators. Financial incentives are not the only element in whether or not an employer keeps their staff happy; working conditions and a welcoming business culture also play important roles. To guarantee that all of their demands are addressed and to solve any emerging concerns that may lower employee satisfaction and, in turn, low productivity, Tesla Motors can use the Big Data project to conduct regular surveys of employees and team assessments.

A closely related analysis is available in [Big Data Program Implementation Plan for Tesla Motors](#).

Tesla's gross profit and current ratio would serve best in indicating its financial performance. The current determines the firm's capability to meet its short-term financial obligations. The ideal current ratio is 2:1, meaning the current assets should be twice the current liabilities. A firm with a current

ratio of less than 1 has a high chance of facing liquidity problems (Kelley and Simmons, 2019. p.498). A firm with a higher gross profit indicates that there are high sales, which may be a result of customer satisfaction. The gross profit of Tesla has been increasing since FY 2018-2021, thus indicating a good performance, which would attract more investors. Additionally, the firm's current ratio for the year 2021 is 1.4, thus indicating that they have a low chance of facing liquidity problems.

Satisfied consumers are the lifeblood of any business. Tesla Motors intends to sell vehicles at lower prices than its rivals to meet consumer demand. The distance between what a customer wants and what they get is inversely proportional to their level of satisfaction (Gavalas et al., 2020. p.485). When a business either doesn't provide the promised perks or makes it too difficult to get them, unhappy customers result. Customer satisfaction can be increased by consistently meeting or exceeding customer expectations and making transactions simple. Big data may be a way to gauge customer satisfaction. Tesla Motors could use the net promoter score to evaluate customer loyalty and word-of-mouth advertising (Gavalas et al., 2020. p.485). Customer effort score is one metric Tesla may use to gauge how satisfied its customers are with the company's service. How hard or simple is it to send payment your way? If a company makes it simple for customers to make purchases and contact support, those customers will be more satisfied with the company overall.

The strength of an organization's internal control system is crucial to its success or failure. Identifying and understanding the most important internal control processes is key to a company's success. The ability to collect money from consumers every month in cash at the property level through cheques or money orders is one of the most important internal KPIs we use to gauge the performance of any organization. It's also important to have solid internal control for payroll processing. KPIs to ensure that all checks and balances, such as reviewing and approving payroll amounts, are in place and have been completed. Prepares monthly reports for the company's higher management that are both on-time and accurate, as well as the annual budget and financial statements used. In addition, the budget for the next reporting year is prepared and made public every November. With the aid of cash releases and division of labour, the corporation can Separate roles, which may improve employee honesty and the control system's efficiency.

Communication

The KPIs will fall under the purview of the HR manager, who will be responsible for sharing relevant information. When KPIs are reported by email, they can be accessed from any device with internet access. Send an email with your key performance indicator report, but make sure it's easily readable on a mobile device (such as a PDF or an image). Email reporting allows for viewing key performance indicators (KPIs) without the need for users to install separate software, and the visuals provided in email reporting are identical to those viewed on a corporate dashboard. The HR department can also talk about KPIs with one another by utilizing the KPIs dashboard (Martinez et al., 2018. p.5). A KPI dashboard is a collection of charts and graphs that display the Key Performance Indicators (KPIs) in an engaging and adaptable way. If you keep tabs on key performance indicators (KPIs) on a dashboard,

you can feel certain that you are always assessing your success in reaching your objectives based on the most recent data and understanding.

References

Ajitha, P.V. and Nagra, A., 2021. An Overview of Artificial Intelligence in Automobile Industry-A Case Study on Tesla Cars. *Solid State Technology*, 64(2), pp.503-512.

Chen, Y. and Perez, Y., 2018. Business model design: lessons learned from Tesla Motors. In *Towards a Sustainable Economy* (pp. 53-69).

Frankenfield, J. (2020). *How Descriptive Analytics Work*. [online] Investopedia. Available at: <https://www.investopedia.com/terms/d/descriptiveanalytics.asp#:~:text=Descriptive%20analytics%20is%20the%20process>.

Gavalas, D., Syriopoulos, T. and Tsatsaronis, M., 2022. Assessing key performance indicators in the shipbuilding industry; an MCDM approach. *Maritime Policy & Management*, 49(4), pp.463-491.

Golden, R. (2017). *Tesla to shake up HR leadership as employee allegations surface*. [online] HR Dive. Available at: <https://www.hrdive.com/news/tesla-to-shake-up-hr-leadership-as-employee-allegations-surface/443680/#:~:text=Tesla%20has%20been%20the%20target>.

Green, G. (2022). *The 4 Types Of HR Analytics, Explained*. [online] Picked. Available at: <https://www.picked.ai/magazine/the-4-types-of-hr-analytics/#:~:text=There%20are%20four%20levels%20of>.

Jetter, J., Eimecke, J. and Rese, A., 2018. Augmented reality tools for industrial applications: What are potential key performance indicators and who benefits? *Computers in Human Behavior*, 87, pp.18-33.

Kelley, J.G. and Simmons, B.A., 2019. Introduction: The power of global performance indicators. *International Organization*, 73(3), pp.491-510.

Martinez, D.A., Kane, E.M., Jalalpour, M., Scheulen, J., Rupani, H., Toteja, R., Barbara, C., Bush, B. and Levin, S.R., 2018. An electronic dashboard to monitor patient flow at the Johns Hopkins Hospital: communication of key performance indicators using the Donabedian model. *Journal of medical systems*, 42(8), pp.1-8.

Silva, B.N., Diyan, M. and Han, K., 2019. Big data analytics. In *Deep Learning: Convergence to Big Data Analytics* (pp. 13-30). Springer, Singapore.