

Digital Skills and Research Methods

BMSW4003

21.08.2021

Stoyana Ivanova	SID : 2030693
Tsvetomir Radev	SID : 2030964
Salima Moukafi	SID : 2029752
Andrey Nieche	SID : 2029595
Franceska Terziu	SID : 2030745

Background of the organisation

- Stoyana Ivanova
- SID : 2030963



Background of the organisation

- Tesla clean energy electric vehicles are famous all over the world. The headquarter of the organization is based in Palo Alto, California, US.
- Tesla is operating their business all over the world and contain strong market position as an automobile and solar energy generating organization.



Background of the organisation

Tesla is offering diversified range of products like electric cars, solar panels, solar roof tiles, battery energy storage, power wall , mega pack, power pack and many others.

Tesla is providing numerous services like vehicle service, charging , insurance, premium connectivity and software update. .

Background of the organisation

Tesla organization is established in 2003, founded by the Martin Eberhard & Marc Trepanning, they named it Tesla Motors. The organization name is generated mainly as a tribute to Nikola Tesla (Inventor & Electrical Engineering).

The company is covering more than 598 retail stores and galleries service centers as per the 2021 analysis.

Background of the organisation

- TESLA has more than 70,759 employees up-to date, which proof their best contribution in order to produce effective and innovative products and improve the EV market growth rate.
- Elon Musk is the CEO of TESLA-Corporate since 2008, under the supervision of whom TESLA actively participate in various operations. Musk also contributed a lot in a financial aspect and term.

Background of the organisation

- Musk, point of view is the main motive, TESLA to maintain the sustainable transport energy through electric vehicles and solar energy.
- In 2020, TESLA reach highest rate of sales in plug-in & battery electric passenger vehicle. The company also has captured 16% of the plug-in hybrids market and 23% of battery purely electric market.



Table of Contents

Background of the organisation

References

The challenge(s) before the introduction of modern technology

- Tsvetomir Radev
- SID : 2030964





Problem analysis



***Lack of
adequate IT
skills***



***Unable to
create positive
cash move for
the last 5 years***



***Tesla's vehicle
production***



Competition





Key Issues

- *Ineffective data management*
- *The high dependence on CEO Elon Musk for calculated superintendence.*
- *Need controlled balance between imagination and supervision*
- *CFO Deepak Ahuja's retirement*

The challenges before the introduction of modern technology

- ***Lack of changes management*** - Absence of modern technology, it was complicated for the employees to adopt the change and learn new knowledge and development latest skills as per the changing market trends.
- ***Technology integration & up gradation*** - Before Digital transformation, organizations were not familiar with the technologies so business and working operations were not even smooth operate because that time , companies were not aware about the technology integration & also up gradation.
- ***Information security*** - When organization were not awareness about the technologies then that time it was different to maintain safety and security on the information and confidential documents related with the business deal and also customers. In this situation, companies were in lots of pressure about the data and information security.



References

- Haseeb, M., Hussain, H.I., Ślusarczyk, B. and Jermsittiparsert, K., 2019. Industry 4.0: A solution towards technology challenges of sustainable business performance. *Social Sciences*, 8(5), p.154.
- Zhou, W., Jia, Y., Peng, A., Zhang, Y. and Liu, P., 2018. The effect of iot new features on security and privacy: New threats, existing solutions, and challenges yet to be solved. *IEEE Internet of Things Journal*, 6(2), pp.1606-1616.
- Li, J.Q., Yu, F.R., Deng, G., Luo, C., Ming, Z. and Yan, Q., 2017. Industrial internet: A survey on the enabling technologies, applications, and challenges. *IEEE Communications Surveys & Tutorials*, 19(3), pp.1504-1526.

Insight the modern tecnology of Tesla

Tesla not only has become a figurehead in the EV market, but it also creates and sells modern battery and solar panel machinery.



Introduced by Salima Moukafi, 2029752.

Autopilot Navigation

- Autopilot is an advanced software that provide safety and advance features designed to help you with the most difficult aspects of driving.
- Provided with 12 large range ultrasonic sensors on every sides of the car. Detects each thing within 16 feet from the vehicle.
- This feature requires the driver to supervise the car whilst driving itself, because it is not advanced to the point where it could be 100% safe.



Advanced Batteries

Tesla CEO Elon Musk has created new battery cells which are more powerful , more sufficient and more durable which are 50% cheaper than the batteries made previously.



Solar Panel Technology

Installing Solar Roof helps you electrifying your home with a fully power integrated solar and storage system. With a flawless design, every tile have a great looks from closer ore longer distance and from the street. The new panels are three times stronger than standard roof panels, fully weatherproof.



References

- Tesla © 2021 <https://www.tesla.com/autopilot>
- Forbers ©2021
- <https://www.forbes.com/sites/lutzfinger/2021/02/09/clubhouses-future-depends-on-datahow-to-build-a-tiktok-like-algorithm/?sh=7a7e727d3bb9>
- ©Bernard Marr 2021
<https://bernardmarr.com/the-amazing-ways-tesla-is-using-artificial-intelligence-and-big-data/>



THE IMPACT OF **TESLA** TECHNOLOGY

Introduced by

ANDREY NIECHE

TABLE OF CONTENT

Introduction

mission



❖ Autopilot Software



❖ Full Self-Driving Capability



❖ Electrification



❖ Analytics of TESLA driving



❖ The Future

Autopilot Software

Autopilot it's a software that helps which is created to assist the driver . The software comes with the purchased of the car ore it can be preorder after the buying of your car .



See

8 visual camera's 12 ultra-sounds sensors plus radar helps gather data about the car's environment. Tesla do not to use expensive LIDAR technology to reach autonomy.



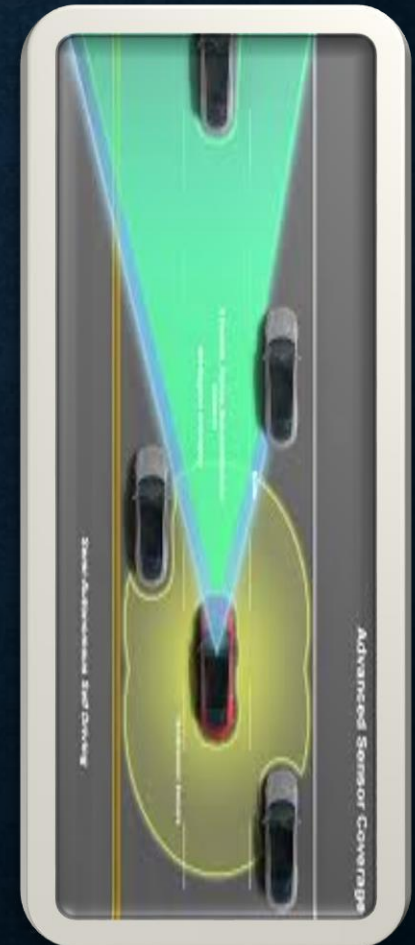
Understand

Traffic-Aware Driving Control - Tesla has made his Autopilot Software, and it also use high intelligence to understand the environment and to detect lanes, traffic, fixed & moving objects. (pedestrians, cars, and more.) traffic lights and road signs.



Act

The autosteer assist your car steering in reach of marked lane and utilize traffic-aware driving authority. Whenever the environment is recognized the car intelligence makes a driving decision like a physical driver will.



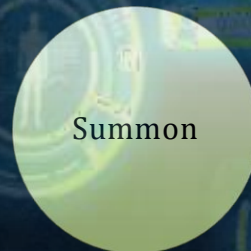
Guides your car from a highway's on and off ramp providing lane suggestion. It can change navigating interchange, spontaneously interconnect the turn signal and getting the correct exit.

Helps your car to move in coordinated when the Autosteer is switch on.

You can park your car with one touch.



Full Self-Driving Capability



You can drive your car in and out of a small spaces using the mobile app.

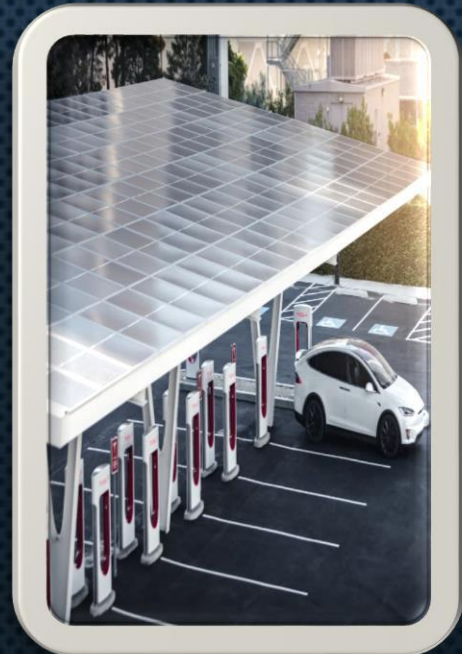
Your car will cruise in increasingly difficult and complicated environment and parking spaces, will maneuvering around objects to come find you in a parking lot.

It can recognize street signs, traffic lights, and automatically reduce the speed of your car and stop on arrival, with your supervision

Autosteers on city streets



- ✓ 17,000 Superchargers Worldwide (2020)
- ✓ Mostly on highways and outside of cities
- ✓ Quick charging from 11% to 85% in less than 50 min. **3 Times faster than average.**



- Solar Panel Specs**
- ✓ Wattage 425W
 - ✓ Operating Temperature -35°F up to + 180°F
 - ✓ Inverter Power 2.9kW / 8.5kW
 - ✓ 96.6% Efficiency
 - ✓ **Warranty 27'- years** performance guaranty.



TESLA ELECTRIC

COOL AND DESIRABLE

Analysts said that by 2040, 60% of all cars sold on the planet will be electric. Tesla is a lieder in the electric vehicle race because it has Supreme-powered battery tech — and brave deed. More than a 10 years, Tesla has been creating battery-powered vehicles from the ground up and using software to make the batteries more efficient. It has created many weighty, traditional luxury features in favour of aerodynamics, has taken measures like excavate multi-gear transference in favour of dual motors computerized to send flecible power ratios to the front and rear wheel.

Customer Loyalty

With real-time data tracking, Tesla is able quickly to recognize and respond to problems rapidly, driving customers loyalty to another level.

Driving Experience

By intermixing predictive maintenance into the car. Tesla uses analytics to control customer issues before they get satisfaction.

Research & Upgrades

Tesla uses analytics to receive data from the cars for research. This permits the IT engineers and the manufacturing lines to resolve problems and sends back fixed results over-the-air software updates.

Production Cycle

Tesla analyses nearly in real-time customer usage information that affects production change sequence from months, years to weeks.

Innovation

The owners of TESLA can request new functions and get them within a week's time. Tesla also expand their test ability by making a group by early accepters for new features satisfactions with continued early access.

Product Design

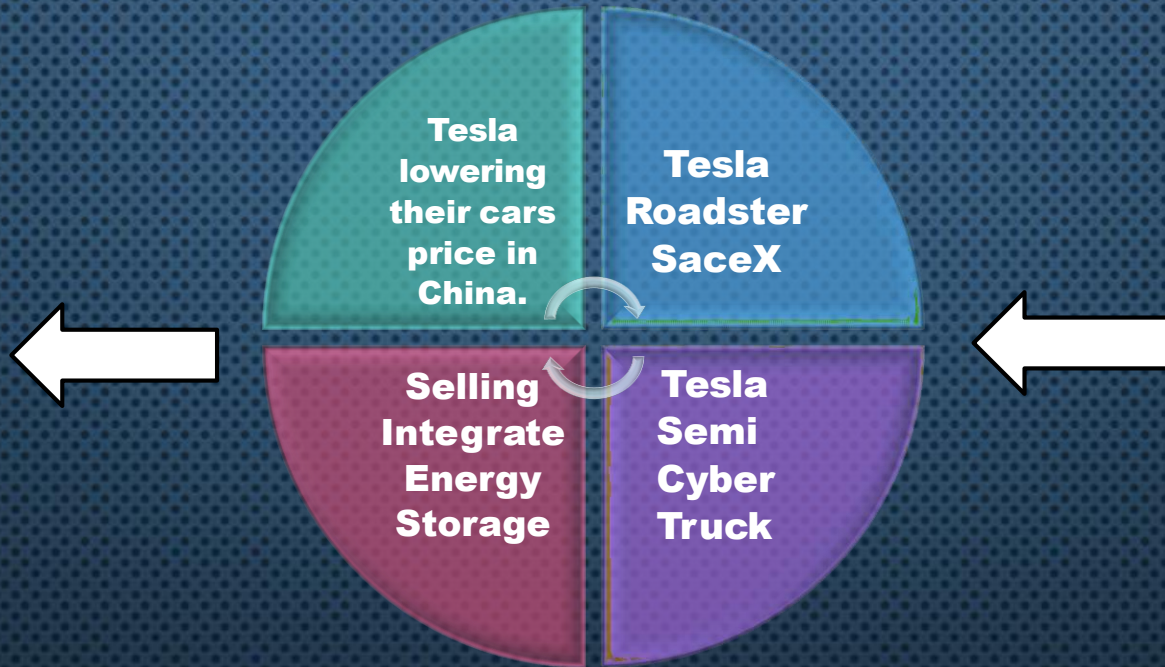
Daily metrics from high volume of users' data, provides Tesla with the capability to developing and rolling out incremental cars and customer experience features in a rapid way.

Maintenance

Analytics helps Tesla to sense technical problems and request an analysis. It can also produce alerts and suggest company and customer action: such as automated increase of that component, order ahead of failure or automated booking for repair.



THE FUTURE



When Tesla opens about their pans about the new Roadster in 2017 aiming for 2021 Musk said "this will be the fastest car ever made" Tesla conclude that the four-seat supercar will sprint to 100mph in 4.2 seconds top speed of more than 260mph. The EV maker, also said that the Roaster will be to traveling 630 mile on a charge farther than any other EV on the present market.

I THINK
IT IS
POSSIBLE
FOR
ORDINARY
PEOPLE
TO CHOOSE
TO BE
EXTRA-
ORDINARY.
ELON
MUSK



REFERENCES

- ❖ 1. About Tesla. (2016). Tesla.com. Retrieved 15 December 2016, from <https://www.tesla.com/about#executives>
- ❖ 2. DeBord, M. (2016). Elon Musk just made a totally mind-blowing change to Tesla's strategy. Retrieved 2 March 2017, from <http://www.businessinsider.com/tesla-mind-blowing-change-strategy-2016-5>
- ❖ 3. DeBord, M. (2017). Tesla's greatest hope for going mass market could present a threat to its car factory. Retrieved 30 March 2017, from <http://www.businessinsider.com/tesla-gigafactory-problems-for-carmaking-2017-1>
- ❖ 4. Ingram, A. (2016). Electric Car Maintenance A Third Cheaper Than Combustion Vehicles? Green Car Reports. Retrieved 20 December 2016, from http://www.greencarreports.com/news/1080925_electric-car-maintenance-a-third-cheaper-than-combustion-vehicles
- ❖ 5. Lachnit, C. (2016). The True Cost of Powering an Electric Car. Edmunds. Retrieved 15 December 2016, from <https://www.edmunds.com/fuel-economy/the-true-cost-of-powering-an-electric-car.html>
- ❖ 6. Moloughney, T. (2016). How Much Does It Cost To Charge An Electric Car? Retrieved 20 December 2016, from <https://pluginamerica.org/how-much-does-it-cost-charge-electric-car/>
- ❖ 7. Murtha, P. (2017). Tesla Owners Love Their Model S, Model X Vehicles, Despite Problems. Retrieved 30 March 2017, from <http://www.jdpower.com/cars/articles/jd-power-studies/tesla-owners-love-their-model-s-model-x-vehicles-despite-problems>
- ❖ 8. Ohnsman, A. (2017) Tesla Plans Model 3 Electric Car Production from July -- And More Gigafactory's. Retrieved 2 March 2017, from <http://www.forbes.com/sites/alanohnsman/2017/02/22/tesla-plans-model-3-electric-car-production-from-july-and-more-gigafactories/#2c661ab16c62>
- ❖ 9 Ramsey, J. (2016). Tesla Reports Loss on Higher Research Costs. WSJ. Retrieved 21 December 2016, from <http://www.wsj.com/articles/SB10001424>

The image features a dark blue background with a futuristic, semi-transparent car model in the center. A hand is shown interacting with a digital interface, with several rectangular panels floating around the car. These panels display various views of the car, including side profiles, front and rear views, and detailed mechanical components like wheels and suspension. The overall aesthetic is high-tech and digital, with glowing lines and a sense of depth.

THANK YOU !



TESLA

What is so special about tesla?

1. Model 3 clean dashboard

- A sharp edge-to-edge configuration worked around a screen that packs nearly everything on the dashboard of a normal vehicle, the Tesla Model 3's inside is moderate, utilitarian and greatly smooth. Alongside keeping up with the plan dynamism, it likewise offers a continuous perspective out and about.
-

2. Battery Design

- Tesla's battery configuration is definitely not a straightforward one. The miracle vehicle is based on a troublesome mechanical production system of numerous wires and batteries, all united with flawlessness. The spotless blend helps a great reach and execution. Curiously, per Business Insider, the organization likewise makes its own battery packs in relationship with Panasonic.
-



3. Maddening performance

- Most electric vehicles in the market would compel you to think twice about the presentation. However, with a Tesla, it's an alternate story. With this result of Elon Musk's virtuoso, you might actually be driving perhaps the quickest vehicle on street.
-

4. Overnight upgrades

- Been an owner of Tesla is very much like possessing a smartphone. Let's envision that you upgrading your phone momentarily and spend several mornings getting familiarize with the new attributes applied in the OS. Its the same with a Tecla's software updates which permit you to have all the new attribute on a regular basis. Its good to say that the vehicle basic attributes can be accessed from the phone app also.
-

5. In-house audio system

- With most top of the line vehicles, the sound framework is generally a cooperation with any semblance of Harman or JBL, among others. However, for Tesla, they've assembled their own in-house sound framework.
-