Tesla Market Strategy Analysis in the Future

Yiwei Liu *

Department of Beedie, Simon Fraser University, V5A 1S6 Burnaby, Canada

* Corresponding Author Email: yla711@sfu.ca

Abstract. The primary focus of this article centers on conducting a comprehensive development strategy analysis of Tesla, encompassing multifaceted dimensions. The article consists of three principal sections: a brief introduction to the Tesla company, an in-depth market analysis of Tesla and its position, and a list of some problems that Tesla's supply chain faces today, and which need to be improved. The article uses leveraging analytical methodologies such as SWOT Analysis, EV trends analysis, Competitor analysis, and PESTEL analysis to detail the Tesla. Additionally, this paper thoroughly examines Tesla's problems and provides the market strategy that can make Tesla more powerful in the EV market in the future. This article will also mention the promotion strategy in China and North America in the short and long term Through this comprehensive exploration, readers are afforded profound insights into Tesla's pivotal role in the rapidly evolving automotive industry landscape, enabling them to discern the trajectory of the company's future endeavors with clarity and foresight.

Keywords: Market strategy; Tesla; SWOT analysis; EV trends analysis.

1. Introduction

Numerous countries across North America and China are actively advocating for tram usage, while electric vehicles (EVs) have emerged as the cornerstone of the automotive market. The imperative primarily drives this shift to foster environmental conservation and advance national sustainability agendas. Notably, Tesla stands out as the most renowned and rapidly expanding electric car manufacturer with its innovative approach to EV technology. Concurrently, traditional automotive giants like Nissan, BMW, and Chevrolet have recognized the escalating prominence of electric vehicles and have consequently initiated ventures into electric and new energy vehicle development. Despite Tesla's dominant position within the electric car industry, its prominence extends beyond this niche market to establish itself as one of the foremost players in the broader automotive arena. However, even as an industry frontrunner, Tesla faces challenges regarding environmental sustainability. In response, there is a pressing need to adapt to evolving trends and address sustainability concerns arising from Tesla's disruptive influence across the value chain. Considering this, this paper advocates for prioritizing sustainability by developing hydrogen-powered cars.

Additionally, tailored promotional strategies targeting diverse demographics are essential. In North America, transparent sustainability campaigns and collaborative efforts via social media platforms can effectively engage the populace. Conversely, in China, expanding direct sales channels and establishing charging infrastructure in strategic locations are imperative to penetrate the market effectively. These proactive measures align with the prevailing sustainability ethos, bolster competitiveness, and foster long-term growth prospects in the evolving automotive landscape.

2. Brief Introduction of Tesla. Inc

Tesla (TSLA), a pioneering electric vehicle manufacturer, was established in 2003 in San Carlos, California, by engineers Martin Eberhard and Marc Tarpennin [1]. The company's trajectory took a significant turn in 2004 when visionary entrepreneur Elon Musk joined its ranks. Building upon their collective expertise, Tesla embarked on a journey to revolutionize the automotive industry. In 2006, Tesla made waves with the launch of its groundbreaking Tesla Roadster, marking a milestone in electric vehicle innovation. This remarkable achievement culminated in the commencement of production in 2008, signaling Tesla's commitment to delivering cutting-edge electric vehicles to the

market. Tesla's initial market focus catered to middle to high-end income demographics, characterized by a fervent appreciation for technological advancements and sustainable transportation solutions. However, recognizing the potential for broader market penetration, Tesla made a strategic pivot in 2016 with the introduction of the Model 3 sedan. Unlike its predecessors, the Model X and Model S, which were positioned at lower price points, the Model 3 aimed to capture the mass consumer market segment. In pursuit of global expansion and enhanced accessibility, Tesla ventured into the lucrative Chinese market in 2019, reducing the price of its vehicles to $70,000. Additionally, Tesla diversified its product portfolio by venturing into solar car design and establishing a network of superchargers, reinforcing its commitment to sustainability and innovation. Tesla's forward-thinking ethos is evident in its ongoing endeavors, as reflected on its official website, where the company is actively engaged in the development of solar and self-driving vehicles. These initiatives underscore Tesla's unwavering dedication to pushing the boundaries of automotive technology while championing a sustainable future.

3. EV Trend

The urgency surrounding global warming has heightened, leading to increased consumer awareness of environmental issues. Consequently, the appeal of electric and hybrid cars has surged significantly due to their lower emissions and superior fuel economy, offering an eco-friendly alternative and driving up the demand for EVs. Moreover, regulatory actions are further propelling the shift towards electric vehicles. A landmark law recently passed by the European Parliament bans the sale of new petrol and diesel cars in the European Union starting from 2035 [2]. This legislation aims to expedite the adoption of electric vehicles and effectively combat climate change. Car manufacturers will now be mandated to achieve a 100% reduction in CO2 emissions from new vehicles, effectively phasing out fossil fuel-powered cars across the 27-country bloc. The rise of the EV trend has significantly impacted Tesla in three notable ways.

Firstly, President Joe Biden's ambitious climate action plan outlined in the Inflation Reduction Act (IRA) has played a pivotal role in supporting Tesla's growth [3]. With approximately $370 billion allocated to subsidies for America's energy transition, including tax cuts for US-made electric vehicles and batteries, Tesla has received substantial financial incentives, fortifying its position in the EV market.

Secondly, the influential advocacy of climate activist Greta Thunberg, particularly her compelling speech before the UN addressing climate change issues, has further intensified the demand for sustainable transportation solutions [4]. As a pioneering company in the EV industry, Tesla has emerged as one of the primary beneficiaries of this heightened awareness and the global push for cleaner mobility options.

Lastly, Tesla's unwavering commitment to its Full Self-Driving (FSD) technology over more than a decade has distinguished it from other automotive manufacturers [5]. This dedication to autonomous driving has fostered a loyal customer base and bolstered Tesla's reputation as a forward-thinking and innovative company in the EV landscape.

The shift of major automotive players like Volkswagen and Nissan towards NACS (National Advanced Charging System) charging technologies underscores the widespread recognition and acceptance of EVs as the future of transportation [6]. Leveraging its robust charging infrastructure with the Supercharger network, Tesla holds a strategic advantage in this evolving landscape, rendering its electric vehicles even more appealing.

4. SWOT Analysis

The following is the table of SWOT Analysis (Table 1):

Table 1. SWOT Analysis of Tesla.

Strength	Weakness	Opportunity	Threat
Technological Innovations	High Cost of Production	Growing EV Market	Potential Competition
Market Strength	Production Capacity	Government Policies	Battery
Batteries Recycle	Limited model	New Geographical Markets	Safety Concerns

4.1. Strengths

In terms of strengths, Tesla stands out as an industry innovator, boasting cutting-edge technology tailored for electric vehicles. This includes advanced battery systems, sophisticated computer software, and proprietary motors. Notably, Tesla pioneered the introduction of supercharger stations in September 2012, revolutionizing long-distance travel by enabling rapid charging within 30 minutes through a solar carport system provided by SolarCity [7]. Moreover, Tesla's Model S emerged as the top-selling EV globally in 2015, with 25,700 units sold in the U.S. alone [8]. Additionally, Tesla's commitment to sustainability is underscored by its provision of battery recycling and reproduction services, further solidifying its position as a leader in the EV market.

4.2. Weaknesses

However, Tesla faces notable weaknesses, including significant expenditure on research and development, leading to production cost challenges [9]. Moreover, the company struggles to meet the escalating demand for its products, resulting in production and delivery delays that adversely impact customer satisfaction. Furthermore, Tesla's limited model range, attributed to prolonged R&D cycles and substantial investment requirements, hampers its competitiveness compared to rival brands [10].

4.3. Opportunities

Opportunities abound for Tesla, driven by its pioneering status in the EV industry and growing consumer awareness of its brand values. The company is poised to capitalize on technological advancements through the development of new models, potentially unlocking additional sales opportunities. Furthermore, increasing governmental focus on environmental sustainability bodes well for Tesla, as supportive policies incentivize the adoption of electric vehicles as a viable alternative to traditional combustion engines. With favorable policy environments emerging globally, Tesla stands to expand its presence in international markets with government backing.

4.4. Threats

Despite these opportunities, Tesla faces threats from intensifying competition within the EV market, as both new entrants and established automotive giants like Volkswagen, BMW, Toyota, and NIO vie for market share. Additionally, concerns surrounding Tesla's product quality and safety have surfaced, with reports of charging fires, brake failures, and autopilot system errors raising public scrutiny [11]. Moreover, the surge in Tesla's sales has spurred unprecedented demand for lithium-ion batteries, straining the global supply chain and potentially compromising Tesla's production capabilities. These multifaceted threats underscore the complex landscape in which Tesla operates and necessitate strategic measures to mitigate risks and sustain its competitive edge in the dynamic EV market.

5. Competitor Analysis (Perception Map)

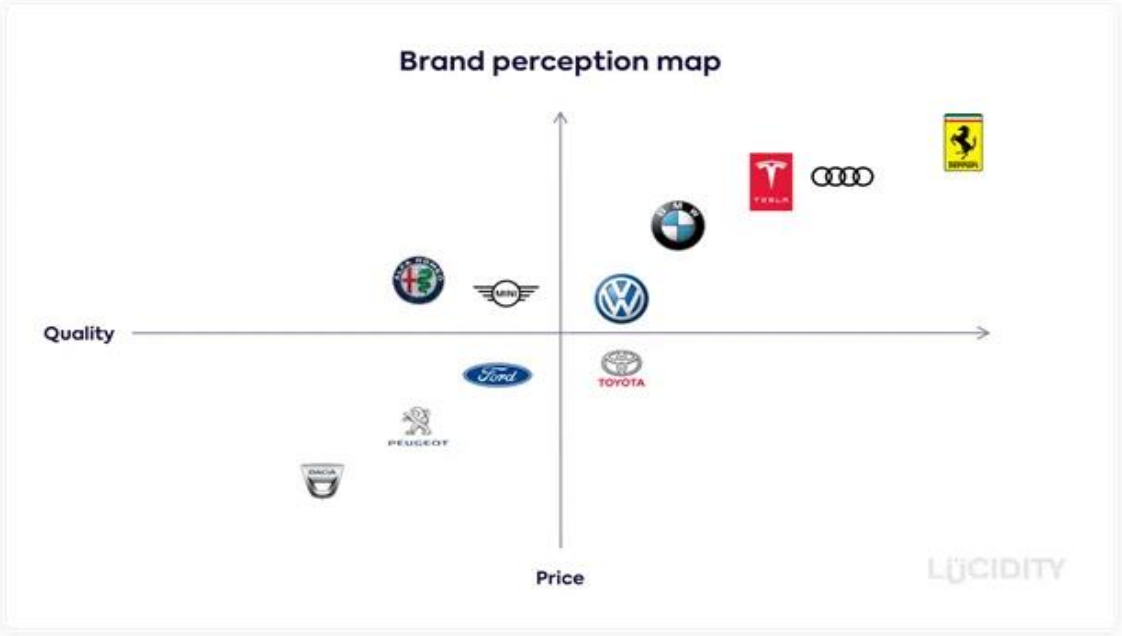

Fig. 1 Brand Perception Map Showing Tesla's Current Position [12].
(Date Source: Copyright 2021 by Medium)

In 2015, Tesla's Model S emerged as the top-selling electric vehicle (EV) in the United States, solidifying Tesla's dominance in the EV market from **Fig. 1**. Outperforming competitors such as Nissan, Chevrolet, and BMW, Tesla achieved a significant milestone by cumulatively selling 25,700 units of the Model S that year [8]. The Tesla Model S, introduced by Tesla, Inc. in 2012, revolutionized the automotive industry with its cutting-edge technology and performance capabilities. Featuring a battery-powered dual-motor, all-wheel-drive layout, and a sleek hatchback body style, the Model S set new standards for electric vehicles. Notably, it became the first electric coupe available for sale in the United States, showcasing Tesla's commitment to innovation and sustainability. With an impressive driving range of up to 265 miles per charge and three battery pack options delivering up to 470 horsepower, the Model S offered unmatched performance and versatility [13]. Priced between $69,900 and $120,170 in 2015, the Model S targeted the middle to high-end segment of the U.S. market, catering to discerning consumers seeking premium electric vehicles [13].

In contrast, competitors like the Nissan Leaf, Chevrolet Volt, and BMW i3 offered distinct alternatives to consumers with varying preferences and needs. The Nissan Leaf, priced at $22,360, positioned itself as an affordable and practical option tailored for urban commuters, boasting a range of 84 miles per charge and lower operating costs [14]. Meanwhile, the Chevrolet Volt, priced similarly to the Leaf, served as a hybrid alternative with a range-extending gasoline engine, making it ideal for users with short daily commutes. Uber drivers found the Volt appealing due to its cost-effectiveness and spacious cargo volume [14]. On the other hand, the BMW i3, priced at $35,850, showcased BMW's commitment to sustainability and design excellence, offering a range of 80-100 miles per charge and sophisticated infotainment features [15]. While each model catered to distinct consumer segments and preferences, Tesla continued to lead the EV market and set the standard for future electric vehicles.

6. PESTEL Analysis

6.1. Political

Political stability: Cobalt, an essential raw material for Tesla's batteries, is primarily supplied by the Democratic Republic of Congo (DRC). However, the region faces significant political instability

and conflicts, as highlighted by Amnesty International. Issues such as corruption, child labor, and conflicts linked to cobalt mining pose a supply chain risk for Tesla's electric vehicles, where cobalt plays a vital role [16, 17].

Lobbying and political influence: During the US-China trade war under the Trump administration, Tesla encountered challenges and took legal action to prevent tariffs on parts imported from China. Despite participating in lobbying efforts to shape the external political landscape, Tesla's lobbying budget remains smaller than that of other global vehicle manufacturers. In 2023, Tesla employed 16 lobbyists and spent slightly over USD 1,130,000 on lobbying activities, as indicated in Appendix [17].

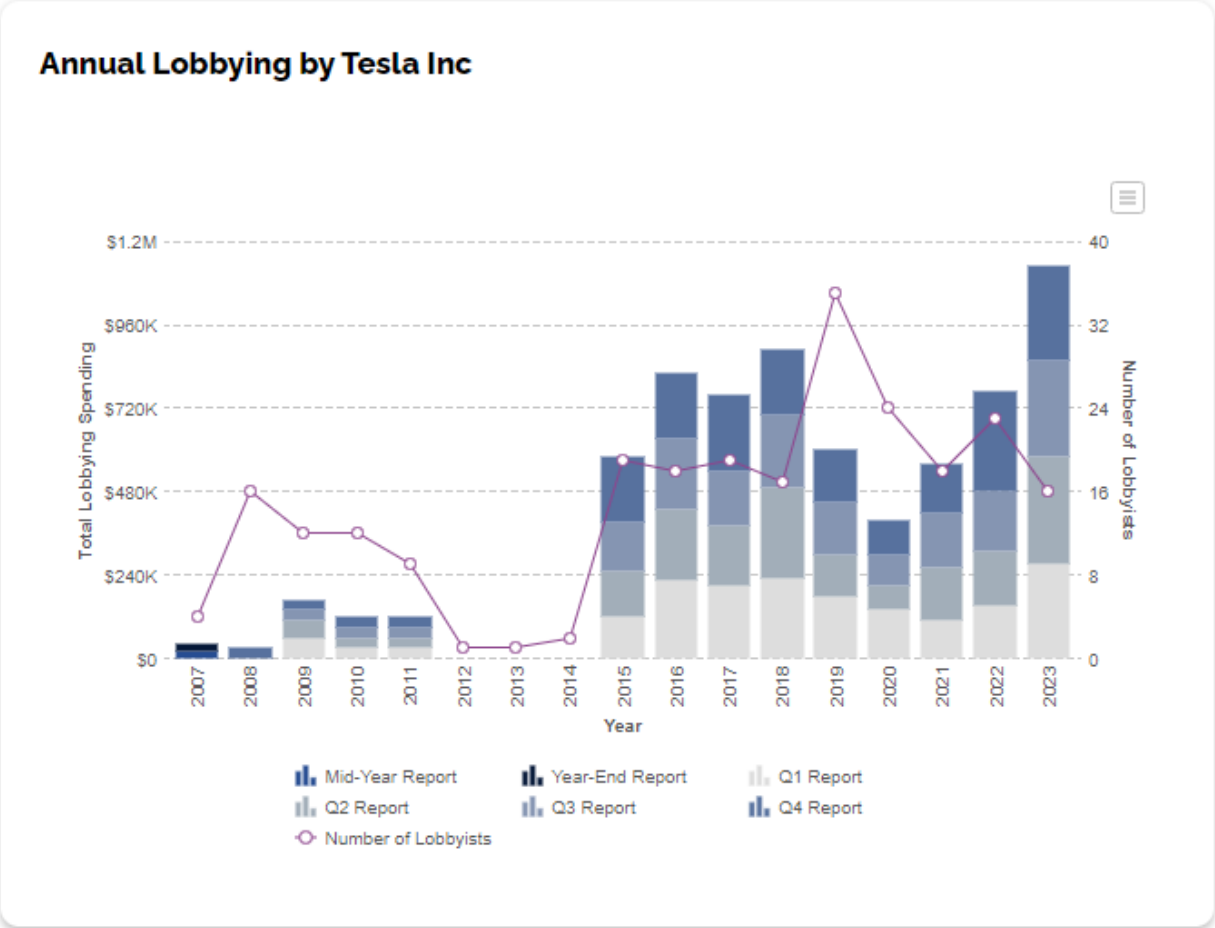

Fig. 2 Annual Lobbying by Tesla Inc [17]
(Date from: Copyright 2023 by Open Secrets).

6.2. Economic

Exchange rates: Tesla is susceptible to fluctuations in foreign currency exchange rates due to its international business operations, which can impact selling prices in various parts of the world. For instance, in the Chinese market, lower prices may lead to increased sales.

Decreasing costs of batteries: The declining cost of batteries is a critical economic factor affecting electric car manufacturers. According to Bloomberg New Energy Finance, the current price of lithium-ion batteries at USD 139 per kilowatt-hour is expected to further decrease to $113/kWh in 2025 and $80/kWh as shown in **Fig. 2** in 2030. This trend, supported by various studies and forecasts, is likely to make electric vehicles more appealing to the general population, positively impacting companies like Tesla [18].

6.3. Social

Adoption of new technology: Consumers' widespread acceptance and adoption of new technologies significantly impact Tesla's success. The growing popularity of advanced technologies

such as autonomous driving, electric powertrains, and connected vehicles can increase the demand for Tesla's innovative products.

6.4. Technological

Electric vehicle technology: Tesla's success hinges on its ability to innovate and develop cutting-edge electric vehicle (EV) technology, including advancements in battery technology, powertrain efficiency, and charging infrastructure. These innovations directly influence Tesla's vehicles' performance, range, and affordability.

Autonomous driving technology: As a leader in developing autonomous driving technology, Tesla invests heavily in research and development to enhance its Autopilot and Full Self-Driving (FSD) capabilities. As autonomous driving technology becomes more advanced and widely accepted, Tesla's early adoption can provide it with a competitive advantage.

6.5. Environmental

Emission Standards and Regulations: Governments worldwide are implementing more stringent emission standards and regulations to address air pollution and climate change, promoting the use of electric vehicles. This regulatory environment provides a favorable landscape for Tesla as a prominent electric vehicle manufacturer and provider of clean energy solutions.

6.6. Legal

Trade and import/export regulations: Tesla must adhere to diverse trade and import/export regulations in the countries where it operates its products. Compliance with these regulations can significantly influence the cost and accessibility of Tesla's vehicles and components in various markets.

Data protection and privacy laws: With Tesla's vehicles becoming increasingly connected and reliant on software and data, the company is obligated to follow data protection and privacy laws, including the General Data Protection Regulation (GDPR) in the European Union [19]. Adhering to these regulations is crucial to safeguard customer data and maintain consumer trust.

7. Problem Identification of Tesla Supply Chain

In 2022, Tesla made waves with its disclosure of greenhouse gas pollution stemming from both direct operations and customer EV charging, totaling 2.5 million metric tons of carbon dioxide. However, this revelation overlooked a crucial aspect: the significant impact of supply chain pollution, an indirect emission source that can substantially inflate a company's carbon footprint. Under mounting pressure, Tesla eventually unveiled its supply chain emissions for the same year, amounting to approximately 30.7 million tons of carbon dioxide, resulting in a staggering total emissions figure of at least 53.2 million tons of carbon dioxide.

In stark contrast, BYD, a competitor in the electric vehicle market, showcased a stronger commitment to environmentally responsible practices. In 2022, BYD reported a total carbon dioxide emission of only 8.1 million metric tons, underscoring its dedication to sustainability. As of April 13, 2023, BYD had successfully prevented approximately 32 billion kilograms of carbon emissions.

The ramifications of Tesla's environmental practices extend beyond mere carbon emissions. Their exclusion from the S&P 500 ESG index stemmed from the absence of published details regarding their low carbon strategy and business conduct codes, as elucidated by Margaret Dorn, Head of ESG Indices for North America at S&P Dow Jones Indices. This raised concerns among investors and stakeholders regarding Tesla's commitment to sustainability and transparency in its operations.

8. Recommendation

The development of hydrogen cars has gained significant momentum in recent years, spurred by increasing concerns about environmental degradation and the finite nature of traditional energy resources. As awareness grows regarding the adverse effects of air pollution and the escalating levels of traffic-related emissions, the allure of hydrogen fuel cell vehicles has become more pronounced. Hybeldrogen, known as the sustainable fuel of the future, presents a distinct opportunity for Tesla to diminish global reliance on fossil fuels and substantially mitigate pollutant emissions within the transportation sector [20]. The feasibility of hydrogen as a primary fuel source for the future is being examined through recent advancements in hydrogen-based propulsion systems. Nevertheless, there are inherent challenges associated with utilizing hydrogen in internal combustion engines, including lower efficiency and power output when compared to conventional fossil fuels. To tackle these obstacles, Tesla can consider adopting a dual-fuel strategy, integrating hydrogen with hydrocarbon fuel systems to achieve higher performance than hydrogen-only internal combustion engines. This approach not only enhances combustion stability and thermal efficiency but also reduces emissions of CO and unburned hydrocarbons while optimizing fuel consumption. By embracing this innovative approach, Tesla can drive efficiency enhancements in internal combustion engines and pave the way for more sustainable transportation solutions. Significant investments in research and development will be essential to enhance the efficiency, performance, and affordability of hydrogen fuel cell vehicles, ultimately allowing Tesla to gain a competitive edge in the market. By continually refining its hydrogen-powered offerings, Tesla can solidify its position as a leader in the transition toward a greener and more sustainable future.

9. Promotion Strategy

9.1. Promotion Strategy in China

Short Term: Utilize targeted advertising on new media platforms such as Weibo, Douyin, and video streaming platforms to engage with the burgeoning middle-class consumer demographic in China. Emphasize Tesla's commitment to reducing carbon emissions and sustainability efforts. Collaborate with local influencers who align with Tesla's brand values to showcase the company's sustainable manufacturing processes, including the innovative use of mushroom leather. Explore partnerships within the film and television industry to produce compelling content that highlights Tesla's brand and products through endorsements and integrations. Expand Tesla's retail presence from major cities to minor cities to broaden brand exposure and accessibility to potential customers. Enhance the overall customer experience by offering personalized services, facilitating test drives, and creating interactive showrooms to educate and engage consumers. Strategically deploy charging stations in densely populated areas to alleviate concerns about electric vehicle range and promote EV adoption. Continuously monitor and analyze customer feedback and market trends to refine advertising and customer experience strategies accordingly. Expand the charging infrastructure network to encompass less developed regions in China, ensuring broader accessibility to EV charging stations.

9.2. Promotion Strategy in North America

Short Term: Leverage social media platforms like Twitter and Instagram to communicate Tesla's sustainable manufacturing practices, emphasizing hydrogen car development. Collaborate with environmental organizations and influential figures to amplify Tesla's message of sustainability, sharing transparent data on carbon emissions reduction and ongoing improvements. Advocate for regulatory changes to support Tesla's direct sales model, offering online ordering options with virtual showrooms and interactive experiences to facilitate customer decision-making. Accelerate the deployment of fast-charging stations across high-traffic areas to alleviate range anxiety concerns and encourage EV adoption. Maintain a commitment to sustainable practices, continuously optimizing

and innovating to remain a leader in eco-friendly technology. Regularly assess customer feedback, market dynamics, and competitor activities to adapt marketing strategies and product offerings as needed. Expand efforts in hydrogen car development, leveraging partnerships and government incentives to advance sustainable transportation solutions.

10. Conclusion

According to this research and analysis, Tesla currently leads the electric vehicle market. However, the company faces persistent challenges, including emission pollution in its supply chain and concerns over battery degradation. To secure long-term sustainability and regain market leadership, Tesla should consider developing hydrogen-fueled cars. Transitioning to hydrogen-fueled vehicles would not only address current emission issues but also help rebuild customer trust and loyalty. To mitigate safety concerns associated with hydrogen fuel, rigorous safety testing, and protocol updates are essential to ensure the stability and safety of hydrogen energy. Moreover, the rising trend of electric trams presents a significant market opportunity. European and North American countries are expected to phase out traditional tanker cars in favor of trams by 2035. As a leader in the tram market, Tesla should prioritize the introduction of safe and environmentally friendly products to meet this growing demand and solidify its position as a trusted provider. The main purpose of Tesla is to make the development of cheaper and sustainable EV cars.

References

[1] TheStreet. History of Tesla: Timeline and Facts. October 5, 2020. Retrieved on April 20, 2024. Retrieved from: https://www.thestreet.com/technology/history-of-tesla-15088992

[2] Reuters. EU lawmakers approve effective 2035 ban on new fossil fuel cars. February 14, 2023. Retrieved on April 20, 2024. Retrieved from: https://www.reuters.com/business/autos-transportation/eu-lawmakers-approve-effective-2035-ban-new-fossil-fuel-cars-2023-02-14/

[3] Le Monde.fr. US expands electric vehicle subsidies to foreign producers. March 31, 2023. Retrieved on April 20, 2024. Retrieved from: https://www.lemonde.fr/en/united-states/article/2023/03/31/us-expands-access-to-ev-subsidies-in-proposed-rules_6021317_133.html

[4] The Guardian. Greta Thunberg, schoolgirl climate change warrior: "Some people can let things go. I can't." March 14, 2019. Retrieved on April 20, 2024. Retrieved from: https://www.theguardian.com/world/2019/mar/11/greta-thunberg-schoolgirl-climate-change-warrior-some-people-can-let-things-go-i-cant

[5] WardsAuto. Are Musk and Tesla Being Underestimated…Again?. July 21, 2023. Retrieved on April 20, 2024. Retrieved from: https://www.wardsauto.com/industry-news/are-musk-and-tesla-being-underestimated-again

[6] Winding Road Magazine. Volkswagen in Talks to Adopt Tesla's NACS Charging Plugs. July 7, 2023. Retrieved on April 20, 2024. Retrieved from: https://windingroad.com/articles/news/volkswagen-in-talks-to-adopt-teslas-nacs-charging-plugs/

[7] Tesla. Tesla Motors Launches Revolutionary Supercharger Enabling Convenient Long Distance Driving. September 24, 2012. Retrieved on April 20, 2024. Retrieved from: https://ir.tesla.com/press-release/tesla-motors-launches-revolutionary-supercharger-enabling

[8] HowMuch. Tesla Model S Becomes The Best Selling Electric Car in U.S. in 2015. January 16, 2016. Retrieved on April 20, 2024. Retrieved from: https://howmuch.net/articles/tesla-becomes-best-selling-electric-car-USA-2015-11

[9] Statista. Tesla's R&D Costs 2010-2021. March 2, 2022. Retrieved on April 20, 2024. Retrieved from: https://www.statista.com/statistics/314863/research-and-development-expenses-of-tesla/

[10] Forbes. Tesla: A History of Innovation (and Headaches). September 29, 2022. Retrieved on April 20, 2024. Retrieved from: https://www.forbes.com/sites/qai/2022/09/29/tesla-a-history-of-innovation-and-headachas/

[11] TechCrunch. Tesla recalls 362,758 vehicles over Full Self-Driving software safety concerns. February 16, 2023. Retrieved on April 20, 2024. Retrieved from: https://techcrunch.com/2023/02/16/tesla-recalls-362758-vehicles-over-fsd-beta-software-safety-concerns/

[12] Medium. Using Perceptual Mapping for Competitive Analysis. August 12, 2021. Retrieved on April 20, 2024. Retrieved from: https://anupambajra.medium.com/using-perceptual-mapping-for-competitive-analysis-9aae239ec736

[13] TopSpeed. 2015 Tesla Model S. October 13, 2014. Retrieved on April 20, 2024. Retrieved from: https://www.topspeed.com/cars/tesla/2015-tesla-model-s/

[14] Nissan. 2015 Nissan LEAF Press Kit. June 27, 2014. Retrieved on April 20, 2024. Retrieved from: https://usa.nissannews.com/en-US/releases/release-513847a8aeeb48d480a52a8fbdcdbd93-us-2015-nissan-leaf-press-kit?selectedTabId=

[15] Driving. Car Review: 2015 Chevrolet Volt. June 26, 2015. Retrieved on April 20, 2024. Retrieved from: https://driving.ca/reviews/road-test/road-test-2015-chevrolet-volt

[16] CleanTechnica. BMW i3 vs Tesla Model S - The Dilemma Continues. October 31, 2015. Retrieved on April 20, 2024. Retrieved from: https://cleantechnica.com/2015/10/31/bmw-i3-vs-tesla-model-s-the-dilemma-continues/

[17] OpenSecrets. Tesla Motors Lobbying Profile. 2023. Retrieved on April 20, 2024. Retrieved from: https://www.opensecrets.org/federal-lobbying/clients/summary?cycle=2020&id=D000057516

[18] BloombergNEF. Lithium-Ion Battery Pack Prices Hit Record Low of $139/kWh. November 26, 2023. Retrieved on April 20, 2024. Retrieved from: https://about.bnef.com/blog/lithium-ion-battery-pack-prices-hit-record-low-of-139-kwh/

[19] Federico Costantini, Nikolas Thomopoulos, Fabro Steibel, Angela Curl, Giuseppe Lugano, Tatiana Kováčiková. Chapter Eight - Autonomous vehicles in a GDPR era: An international comparison. Advances in Transport Policy and Planning, 2020, 5: 191-213.

[20] Hosseini S. E., Butler B. An overview of development and challenges in hydrogen powered vehicles. International Journal of Green Energy, 2019, 17(1): 13-37.