

CAN BUSINESSES SUCCEED WITH OPEN INTELLECTUAL PROPERTY? THE CASE OF TESLA, INC.

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ABSTRACT

Along with business efforts in research and development, history presents a tendency to patent and monopolize ideas. Moreover, when a business identifies a unique concept; it then seeks to remain the only business offering this innovative idea to make a fortune out of it. The issue of intellectual property rights has developed over history to the present, more sophisticated laws of patents that spread to all industries. The most dominant sector where patents and intellectual properties reigned was in the technology industry. However, today, it applies to many areas. Tesla Inc., however, has opened its patents to achieve a spread sustainability cause in the world. This is to many people, a difficult step, while it is supported by “The Great Reset”. One plausible question that one may ask is whether Tesla will gain or lose in its patent approach. Although patents are used by companies to maintain monopolies and essentially make a company benefit from its efforts, the authors of this paper content that businesses should refrain from the use of patents as they do not make any substantial contribution to the company's goals, as they are costly to pursue and maintain, and are the enemies of general societal progress.

JEL: M00, O34, O36, K20, L1, L17, L2, L21, L24

KEYWORDS: Intellectual Property, Intellectual Capital, Open Innovation, Regulation, Business Law, Market Structure

INTRODUCTION

Companies typically use patents and intellectual property rights to guard their strategies and ideas against competitors. In this way, companies believe that by obtaining patents, that they can secure and remain the only players in the industry using these strategies or offering a particular product. Tesla Inc.'s CEO Elon Musk, in a 2014 conference, announced that the company would open its patents for use by anyone who, in goodwill, seeks to contribute to sustainability in energy consumption (Musk, 2021). Musk further went ahead to affirm his decision on the company's website and other subsequent interviews. In analyzing Tesla's case, this case study seeks to answer the following research question: Do companies lose by using an open patent policy? To answer this question, one would also be interested to know whether companies gain by sharing their patents. This study hypothesizes that: A company does not generally lose by sharing its patents. Furthermore, this study proposes that companies gain by offering their patents for access by others. Last, this paper contributes to the literature through the novel analysis of whether an open-I.P. policy has a negative on a company's sales. The remainder of this paper will provide a review of the literature, an analysis of Tesla's use of open-I.P., a discussion of data detailing Tesla's auto sales, suggestions for how companies should approach I.P. policy in the future, and a concluding section.

LITERATURE REVIEW

Intellectual property rights and patents define the present and a significant part of the past of economic governance in the world. These concepts were introduced to enable people to own their ideas and inventions. The first patent that came into recording in the world was Filippo Brunelleschi in 1421 (Olwan, 2012). Brunelleschi was an inventor in Florence, Italy and sought a 3-year patent for a barge he manufactured and fitted with a hoisting gear. Over the years, intellectual rights and patent laws have evolved significantly. In the mid-20th century, especially, the U.S. recorded significant interests in intellectual property (Olwan, 2012). As the years progressed with advancements in technology, tech companies increasingly pushed for intellectual property protection and patents. Today, as Papageorgiadis & Sharma (2016) notes, there are sophisticated I.P. and patent laws in the world. This has been made to accommodate emerging technology products and services that include intangible assets.

The general view is that intellectual property rights are beneficial to companies and countries. Olwan (2012) writes that countries need intellectual properties to gain efficiency and protect their companies. The author cites that developed countries have developed strong I.P. laws than developing countries. Failure to implement string I.P. laws could be why these countries are not achieving as much development. Papageorgiadis & Sharma (2016), on the other hand, write that there has been an overemphasis on the creation of I.P. laws ignoring the need to strengthen their implementation. In other words, scholars and policymakers have insisted on the development of rules on intellectual property rights. However, minimal advancement has been made in the implementation and enforcement of these laws. Combining with what Olwan (2012) cites above, one could see a difference in how different countries develop and a difference also in how they implement I.P. laws. The view of these two sources, however, is generally beneficial to businesses and governments.

The reason for the creation of intellectual property rights is also apparent. Lamoreaux (2019) writes that I.P. laws help businesses get motivated to invest more in innovation, research, and development. In this way, patents represent the findings of companies and some of the strategies the company has spent a lot on and that it continuously benefits from. The cost of obtaining a patent ranges from \$20,000.00-60,000.00 USD. (Louisiana). Further, the typical patent application can take up to twenty-two months to be approved. (Gerben). Like in the pharmaceutical industry, companies spend much in research through the approval of drugs. In this way, pharmaceutical industries would like to recover their investments in research through the monopolization of drugs and strategies they use to remain profitable. As such, companies that would like to produce the same drugs or use the techniques that have been discovered by other companies need to obtain paid costly licenses Papageorgiadis & Sharma (2016). This helps companies that own these patents to recover some of the investments they have made in research and innovation. Besides recovery of first investments, these companies benefit financially. As a result, I.P. laws motivate companies to be more innovative.

Generally, intellectual property rights and patents help companies to gain a monopoly of knowledge and ideas. This is believed to be the security of companies not to be copied. Such factors in a company as its name, colors, and logo are registered and patented. This helps the company be easily identifiable and, through marketing, creates a brand value Papageorgiadis & Sharma (2016). Strategies and products companies sell are then patented in terms of ingredients and procedures used to make them. This helps companies to remain unique in their product lane such that no companies offer similar products. What remains in the market is only close substitutes for the product. Clients can then stay loyal to the company. While most literature focuses on the benefits of intellectual property, some scholars have seen the negative side of it. Lamoreaux (2019), in an article critiquing monopoly companies, writes that monopolization is created by the bigness of companies. According to the author, the greatness of companies has been an economic and political problem in America for a long time in history. The author writes that growing companies create monopolies that, in turn, may result in issues for society. An example of a company whose

expansion was not good for Americans was American airlines. The company offered predatory prices and forced other airlines in its routes Papageorgiadis & Sharma (2016). Later, the company raised its prices in ways where it had gained monopoly status. Since one of the reasons companies grow and gain monopoly is through I.P. and patents, then these policies are not suitable for society. This is where I.P. pledges come into play. (Contreras, 2021).

Critics of Tesla's decision posit that "open" I.P. is a misnomer. (Hill, 2016). The monopoly-like power that I.P. confers on its owner cannot simply be given away, and that Tesla would simply refuse to enforce its I.P. against those using it without a license. (Hill, 2016). Despite Musk's decision to open Tesla's I.P. in 2014, he applied for patent protection for the SpaceX project, possibly due to the variations in the electric car and space exploration industries. (Dineen, 2022).

In the present age, sustainability issues are at stake. Patents seem to drag or make slow efforts to make companies sustainable. Even sustainability issues have been a point for companies to seek patents and intellectual property protection. In this way, companies gain monopolization of protection of the environment and generally do not lead to the actual intention that it communicates to the public. Comstock (2018) writes that companies should reinvent and do the impossible. Things that others see as impossible, yet a forward analysis yields more benefits for the company. Shiva (2020), however, offers a negative through on open I.P. as proposed in the great reset, arguing instead that companies would spread out ideas that have negative consequences on the environment and massive destruction. The author's argument, however, does not logically convince the audience why the negative reasons for the shared patents would outweigh the good or positive influence. In other words, the author focuses only on the negative side of the content that is shared yield (what Robinson et al. (2021) call conspiracy theories). Shared patents as such could be potentially spread sustainability measures to help the organization to achieve their goals as well as supporting other companies for the attainment of the same purpose.

Environmental, Social, and Governance ("ESG") is a set of metrics that measures an organization's impact on the environment, its social consciousness and impact, and how its governance coincides with these areas. (Malhotra, 2022). ESG takes into account factors not included in typical financial analyses, such as human rights and supply chain management, impact on climate change, water usage, how an organization treats its labor force, and whether the organization's culture fosters innovation. (El-Hage, 2021). Studies have shown that ESG ratings produced by different ratings agencies often produce inconsistent results. (Chatterji et al., 2016; Yont et al., 2018). For example, in 2018, the ratings agency, FTSE, rated Tesla last among global automotive companies while another agency, MSCI, placed it first, and while Sustainalytics rated it toward the middle of automotive companies. (Allen, 2018). Divergent ratings among ratings can be traced back to the following factors: differing definitions of ESG factors (the theorization problem), the factors' compositions and statistical weights, and the methodologies to measure said factors (the commensurability problem). (Hawley, 2017). The theorization problem is derived from ratings agencies holding different views about which ESG factors are material to an organization's financial performance and their respective degree of materiality. (Dorfleitner, et al.). Some have argued that compulsory EDG reporting, administered by the Securities and Exchange Commission, could remedy these disparities in ESG ratings. (El-Hage, 2021).

THE CASE OF TESLA

This section analyzes the change in Tesla's performance before and after the company opened its patents for others to use (2013-2021). This analysis is instrumental in establishing whether the company has either lost or gained from this approach. On 6 December 2014, Tesla DEC made a public announcement that opened the company's patent rights for others (Musk, 2021). The company echoes this on its website, explaining the reason why the company made this move. Musk explains that over the companies that he had worked for before he began his ventures, he has seen companies apply for patents, and he thought it

was a good idea. Musk further describes why Tesla went for patents immediately after they started the company. Tesla declared that other traditional automakers would use Tesla's ideas and use their already developed production lines to build many electric cars. This would then overwhelm Tesla Inc., then called Tesla Motors, which would risk the company's failure (Musk, 2021). However, the company reviews that even after the company opened its patents, other automakers make a tiny percentage in revenue from the sale of electric vehicles of their total sales. Also, the company cites that some automakers to date make no sustainable car. This means that by having an open patent policy, other traditional companies have not used the conventional manufacturing t threaten Tesla's Electric vehicle dominance.

The number of units the company has sold and the revenue the company has made over the years show a steady increase. In this way, the company has improved from the time the company opened its patents. Notably, the company sold 22,477 cars a year before opening its parents ("Tesla's Revenue 2008-2020", 2021). It then manufactured and sold 16,689 vehicles in the year that it opened its patents, a drop caused by challenges in the supply of batteries. Then the following year the company made 25,416 cars, a higher figure that is higher than any other year before then. In the subsequent years, the company made higher sales than the previous year.

Similarly, the company had seen a steady rise in revenue from \$15 million in 2008 when the car sold its first car to \$31.5 billion in 2020 ("Tesla's Revenue 2008-2020", 2021). Tesla became the most valuable auto manufacturer in 2021 when its market value hit \$795.8 billion. Despite the company offering its patents for the public and competitors to use, the company has not lost but instead gained even more attraction to stakeholders who have supported the business' rise.

DISCUSSION

This paper analyzes Tesla's annual sales and revenues between years 2013 and 2021 (see Table 1).

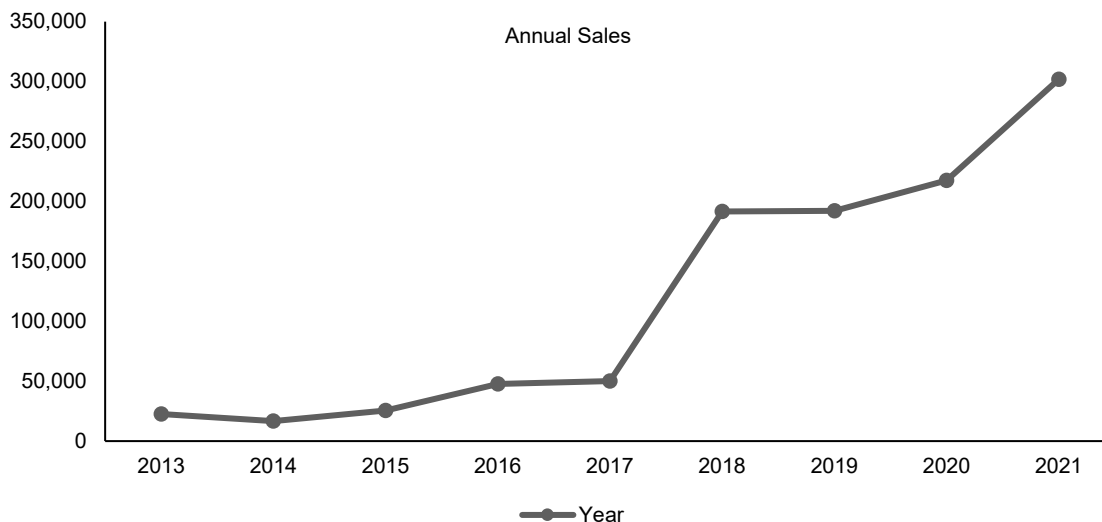
Table 1: Tesla Annual Car Sales from 2013 to 2021

Year	Sales
2013	22,477
2014	16,689
2015	25,416
2016	47,644
2017	50,145
2018	191,627
2019	192,250
2020	217,600
2021	302,000

This table details Tesla's annual automobile sales between 2013 and 2021. The lefthand panel shows each year in question. The righthand panel shows the total number of Tesla automobiles sold. This table indicates that sales have not been negatively impacted by Tesla's open-I.P. policy.

The corresponding line graph for the above table is shown in Figure 1.

Figure 1: Line Graph Showing Tesla Annual Car Sales from 2013 to 2021



This chart details Tesla’s annual car sales between years 2013 and 2021. This chart indicates that Tesla’s sales have not been negatively impacted by its open-I.P. policy.

Table 1 and Figure 1 above indicate that Tesla has recorded an increasing number of car production over the years. The company only recorded a decline in its production in 2014. However, it is essential to note that Tesla closed its financial year on 31 December (“Tesla’s Revenue 2008-2020”, 2021). This announcement was, however, made in December of this year, within the last month of the fiscal year; this means that this was not a contributing factor to the decline of sales in this year, the first year such effect should be expected is in 2015 as we advance. Instead, a rise in sales is seen in the following years, especially which is increasingly steeper in 2015 to 2016. Thus, this open patent policy did not affect the volume of production for the company. Table 2 shows annual revenues for Tesla from 2008 to 2021.

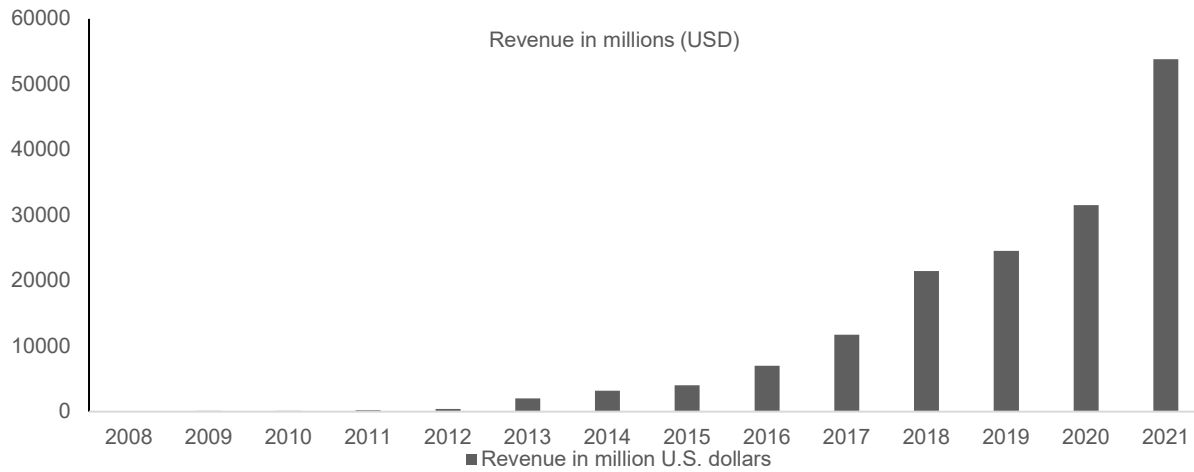
Table 2: Tesla Yearly Revenues from 2008 to 2021

Fiscal Year	Payment in Millions (USD)
2021	53,823
2020	31,536
2019	24,578
2018	21,461
2017	11,759
2016	7,000
2015	4,046
2014	3,198
2013	2,014
2012	413
2011	204
2010	117
2009	112
2008	15

This table details Tesla’s revenue between the years 2008 and 2021. This lefthand column lists each fiscal year between 2008 and 2021. The righthand column lists Tesla’s revenue for each respective year between 2008 and 2021. This data shows that Tesla’s revenue increased each year following its adoption of open-I.P.

Figure 2 shows the trend of annual revenues Tesla has made over its history.

Figure 2: Tesla Historical Annual Revenues from 2008 to 2021



This graph shows the trajectory of Tesla’s revenue between the years 2008 and 2021. This data shows that Tesla’s revenue increased each year following its adoption of open-I.P.

Table 2 and fig 2 above show a general rise in revenue the company has made over its history. The company began by selling its first car in 2008. Ever since the company has seen its revenues grow exponentially. Again, before the policy took effect in late 2014, the company made little profits; the period post-2014 has recorded even higher payments (“Tesla’s Revenue 2008-2020”, 2021). While this study does not investigate whether this policy helped boost its revenues, it finds that this policy did not affect the revenue growth of the company.

A PATH FORWARD

The data tends to indicate that, at least in the automobile industry, businesses that adopt an open-I.P. policy will not suffer from decreased unit sales or revenue as a result. Tesla’s open-I.P. policy should serve as guidance for businesses considering taking a more lenient approach toward its own I.P. rights. Though it is undetermined whether I.P. law will evolve in a more restrictive or less restrictive direction over time, companies will have the option to have a lenient attitude regarding their own I.P. Therefore, if a company decides that open-I.P. is in its best interest, then the case of Tesla can be instructive. Regarding Tesla’s use of patents in the future, Tesla will likely continue to apply for patents to share its technology with others and spur open innovation. (Takenaka, 2019). One company has already done this. (Contreras et al., 2018). SolarCity, a U.S. technology company, allowed developing nations to utilize its I.P. free of royalties. (Contreras et al., 2018).

CONCLUDING COMMENTS

Many companies apply patents and intellectual properties to protect their ideas from being copied by their competitors. In doing so, these companies create monopolies of knowledge, ideas, and other elements of intellectual property. Although businesses think that intellectual properties and patents are beneficial to them, there are many reasons not to use them. Lamoreaux (2019) demonstrates how companies are harmful to the public by the creation of monopolies. Data of Tesla’s unit sales and revenue from 2008-2021 was analyzed to determine whether its open-I.P. policy negatively impacted sales or revenue after 2014. This data on Tesla’s unit sales and revenue shows that Tesla did not suffer in either sales or revenue after opening its I.P. to outsiders. Rather, this data indicates that Tesla opening its I.P. was at worst neutral and at best

beneficial. The data shows that Tesla has not lost, but rather gained, in sales and revenue after adopting a more lenient I.P. policy. Thus, the hypothesis that companies do not lose sales or revenue from open-I.P. holds. Managers in the automotive industry (and possibly among others) could view these finds as instructive when considering revisiting their organization's I.P. policy.

There are two limitations that should be addressed. First, the gain in Tesla's unit sales and revenue could be attributed to factors other than open I.P. For example, factors such as improved supply chain management and increased production efficiencies could have boosted Tesla's sales and revenue. Second, a change in consumer preferences could have steered toward Tesla, boosting its sales and revenue. If consumer wealth increased along with consumers' desire to purchase automobiles seen as "elite" by these consumers, then more Tesla automobiles could have been sold as a result. In any event, these limitations show that open-I.P. policies may not be a sales or revenue generator in and of themselves.

By sharing its patents, Tesla has been able to enhance its intended mission of improving the use of sustainable cars (Musk, 2021). This has also enhanced its image to the public as a responsible company as it sacrifices its bit for profits through patents for suitability cause. Comstock (2018) encourages business leaders to take on those paths that others do not follow. Such ways, when they are combined with forecasted analysis, could present excellent pillars of success.

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BIOGRAPHY

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