

Milena Petrova Valeva
Student Number: 1817469
THE GLOBAL BUSINESS ENVIRONMENT
MODULE CODE / LCBB4005
Assignment 2-New business opportunities and product life cycle
Module Lecturer :

CONTENT

- 1. INTRODUCTION**
- 2. BUSINESS ENVIRONMENT (NEW OPPPORTUNITIES)**
- 3. PESTLE ANALYSIS**
 - 3.1 Political factors**
 - 3.2 Economical factors**
 - 3.3 Environmental factors**
- 4. VALUE CHAIN**
- 5. UNPROFUTABLE BUSINESS**
 - 5.1 Industry lifecycle**
- 6. CONCLUSION**
- 7. REFERENCES**

INTRODUCTION

The Electric Vehicles (EVs) market has experienced tremendous growth in the last few years. Led by China, EU and US markets, EV volume sales have gone from 300,000 units in 2014 to more than 2.1million units sold in 2018 and are estimated to increase to between 21million to 140million units by 2030 depending on the source (Gardiner 2017; Deloitte 2019; McKinsey 2019a).

Given this transformation, it is argued that an estimated \$6trillion in investments is required to build the essential and critical infrastructure that EVs need internationally, outside of production and selling of the cars. This includes key infrastructure such as charging systems, dealer networks, maintenance and support networks, component waste management and recycling services, utilities and power networks, etc (McKinsey 2014; Deloitte 2019; Deloitte 2019b). While governments will play a key role in some of the critical services, the costs are too significant to be carried by the public sector alone, leaving a big gap in the market for private enterprise to viably and profitably offer some of them (McKinsey 2014). This report will identify new and emerging business opportunities that the production and marketing of electric cars may present to entrepreneurs and business executives as well as assess other businesses currently linked to the global automotive industry that may not be profitable in the long run to invest in.

BUSINESS ENVIRONMENT (NEW OPPORTUNITIES)

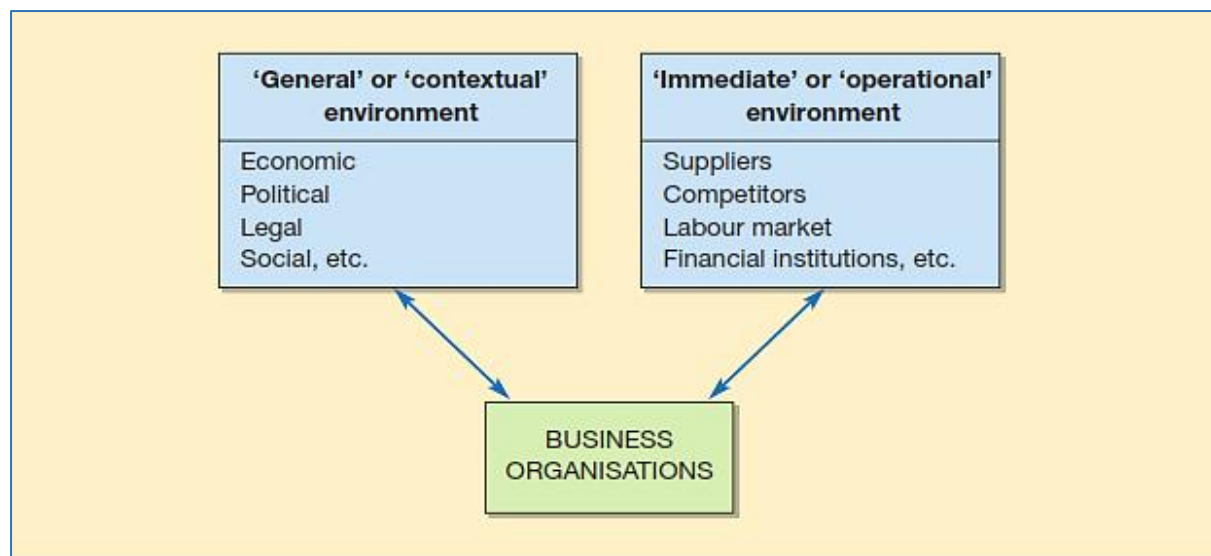
The business environment in which firms operate consists of two external but interlinked layers of influences that impinge on business activity in a number of ways;

The first layer of influence, known as the external macro environment, consists of the general macro influences such as the political, economic, social, technological, legal and ethical

factors emanating from both domestic and global sources and affecting all businesses (Worthington and Britton 2013; Johnson et al., 2017). A perfect example of a macro influence that negatively impacted many businesses across a wide spectrum of industries is the covid-19 pandemic.

The second layer of influence from the business environment includes those external factors from a firms more immediate and operational environment that can have a more direct influence and impact on a firm's day-to-day operations. The most common of these direct influences from the operational business environment include suppliers, competitors, customers, labour markets and other more immediate influences as shown in figure below;

Figure 1: Two levels of environment



Source: Worthington and Britton (2014, p. 6).

Businesses need to constantly monitor and, if necessary, respond to both macro and operational influences from their environment in order to stay abreast of new and emerging opportunities that bring growth as well as threats that can threaten survival. Some of the worlds most sophisticated multinational corporations including Walmart, Tesco, and even

Amazon have at some point gotten it wrong by not first understanding the business environments of the markets they wished to expand into.

A starting point to understand the macroenvironmental and microenvironmental influences impinging on the EV sector is through the use of Pestle and Porters five forces frameworks as illustrated below;

PESTLE ANALYSIS

As stated previously, PESTLE can help businesses identify both new and emerging opportunities as well as threats arising from macroeconomic influences. Below is a look at the biggest macro drivers hastening bringing the emergency of new and evolving business opportunities in the production and marketing of electric cars apart from their production and sale.

Political factors

Governments play a critical role in creating new opportunities for businesses and entrepreneurs through favorable policies that aid investment. As noted by Worthington and Britton (2014), a government plays a big role in influencing demand and supply. In fact, government activities can influence business activities, market structures and behaviors through things like incentives, regulation etc. While many governments have run incentive schemes including credits that subsidize EV purchases for consumers (Deloitte 2019; Morris 2020; International Energy Agency 2020), some opportunities created by government for entrepreneurs so far exist in charging systems where some governments have implemented policies to support their development.

The UK government for instance increased funding to £10million for EV charging points, a move aimed at encouraging installation of electric vehicle charge points on residential streets

across the UK (Frangoul 2020). The money will be used to fund upto 3,600 charging points. This is in addition to the £350 Electric Vehicle Homecharge Scheme subsidy the UK government offers to fund upto 75% of the cost of installing EV home charge points (GOV.UK 2020). Similarly, the EU currently has 185,000 charging points, most of which are slow chargers, which falls short of its required 3million charging points by 2030 (Morris 2020). This represents a big business opportunity for manufacturers of charging infrastructure to fill the anticipated demand for charging points across the UK and EU. Afterall, without charging infrastructure, buyers will remain reluctant to purchase EVs, if there is a lack of sufficient charging infrastructure, hence an opportunity for entrepreneurs and business executives in this market.

Economic factors

Economic factors can be both macro as well as micro, which is why government still exercises a significant influence on the economic environment including the flow of income, aggregate demand etc. (Worthington and Britton 2014). Of importance to the entrepreneur and business executive in the EV industry is customer demand for EVs and the opportunities this may present across the EV value chain. Currently, the cost of EVs remains high primarily because battery development still lags behind. At the moment, EV batteries take up 30%+ of the cost of producing an EV and battery technology is still beset with issues such as short drive times, or charging range that require improvement (CB Insights 2019; Deloitte 2019). Only Tesla currently makes its own batteries, with other OEMs buying them from suppliers at exorbitant costs.

Given their critical importance to the industry, battery development thus still presents business opportunities for entrepreneurs and business executives to enter the market and

come up with less costly batteries with longer drive times and charging ranges, which will help reduce the overall cost of EVs for consumers.

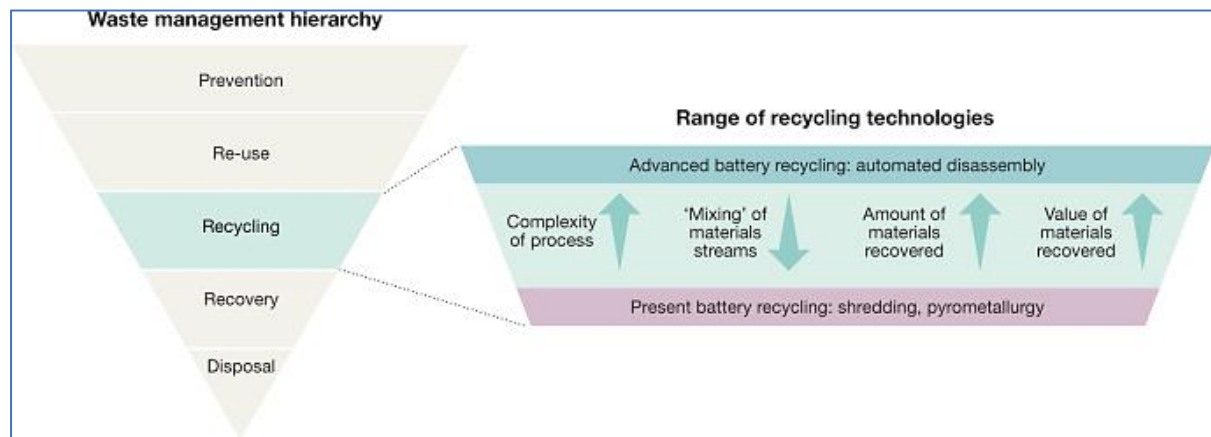
Environmental factors

In today's business world, climate change and environmental conservation have become hot topics, impacting business behavior especially among international companies. Apart from government stimulus aimed at carbon footprint reduction, many buyers of EVs are primarily driven by environmental concerns and are often termed as 'trendy greens' (McKinsey 2014; International Energy Agency 2020). One of the biggest opportunities for entrepreneurs and business executives in the EV market lies in EV battery disposal services.

With global sales of EVs forecasted to reach anywhere between 21million to 140million units by 2030 depending on the source (Gardiner 2017; Deloitte 2019), the issue of waste management and recycling becomes critical. The average lithium ion battery pack weighs 250kg, has a limited average use lifespan of 7 years and contains around 250,000 tonnes and half a million cubic metres of unprocessed pack waste at the end of its life before it needs swapping (Harper et al., 2019).

The opportunities for entrepreneurs and business executives lie either in recycling or waste management (see figure below). Recycling offers opportunities for recovery of critical valuable materials such as lithium, nickel, cobalt, graphite etc (Barik et al., 2016; Wang et al., 2016). It also presents opportunities in battery repurposing and energy storage to serve secondary markets for use in less demanding devices. Energy storage is especially sought-after in areas where weak grids need reinforcement, where *'high penetration of renewables requires supply to be balanced with demand, where there is an opportunity for trading energy with the grid and in off-grid applications'* (Harper et al., 2019).

Figure 2: Waste management and recycling options



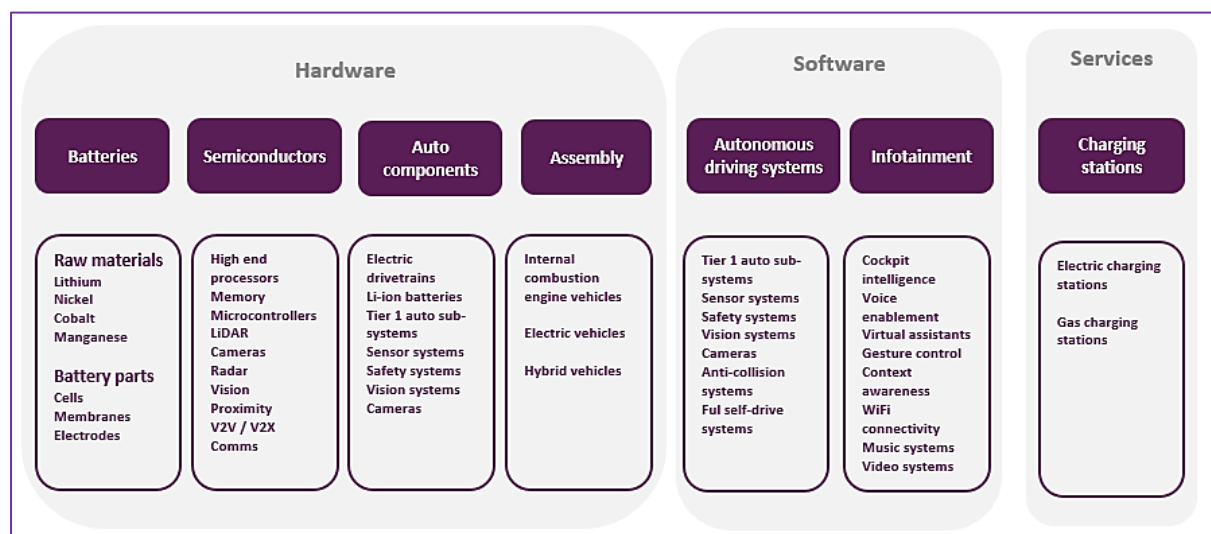
Waste management could also present opportunities for entrepreneurs given the valuable but scarce elements and materials such as cobalt in cobalt batteries that can be extracted and redeployed across the EV supply chain. Therefore, even outside of the production and selling, EVs may prove to be a valuable secondary resource for critical materials that will require careful management and recycling if global sustainability goals of the automobile industry are to be met (Harper et al., 2019; International Energy Agency 2020).

VALUE CHAIN

Another framework that can help identify business opportunities in the EV market is the value chain. According to Johnson et al (2017), the value chain can look at both industry as well as organizational activities, which together help in the production of products or services. As stated previously, an estimated \$6trillion in investments is required to build the essential and critical infrastructure that EVs need internationally, outside of production and selling of the cars. This includes key infrastructure such as charging systems, dealer networks, maintenance and support networks, component waste management and recycling services, utilities and power networks, etc (McKinsey 2014; Deloitte 2019; Deloitte 2019b).

The following figure shows some of the many activities that exist across the EV value chain, both within and outside EV production and sales, that present profitable opportunities for many OEMs and start-ups. These include batteries, auto components, charging stations, and semiconductors – mostly because a typical electrical vehicle uses two to three times the dollar value of semiconductor constituents, compared to an ICE vehicle.

Figure 3: EV value chain

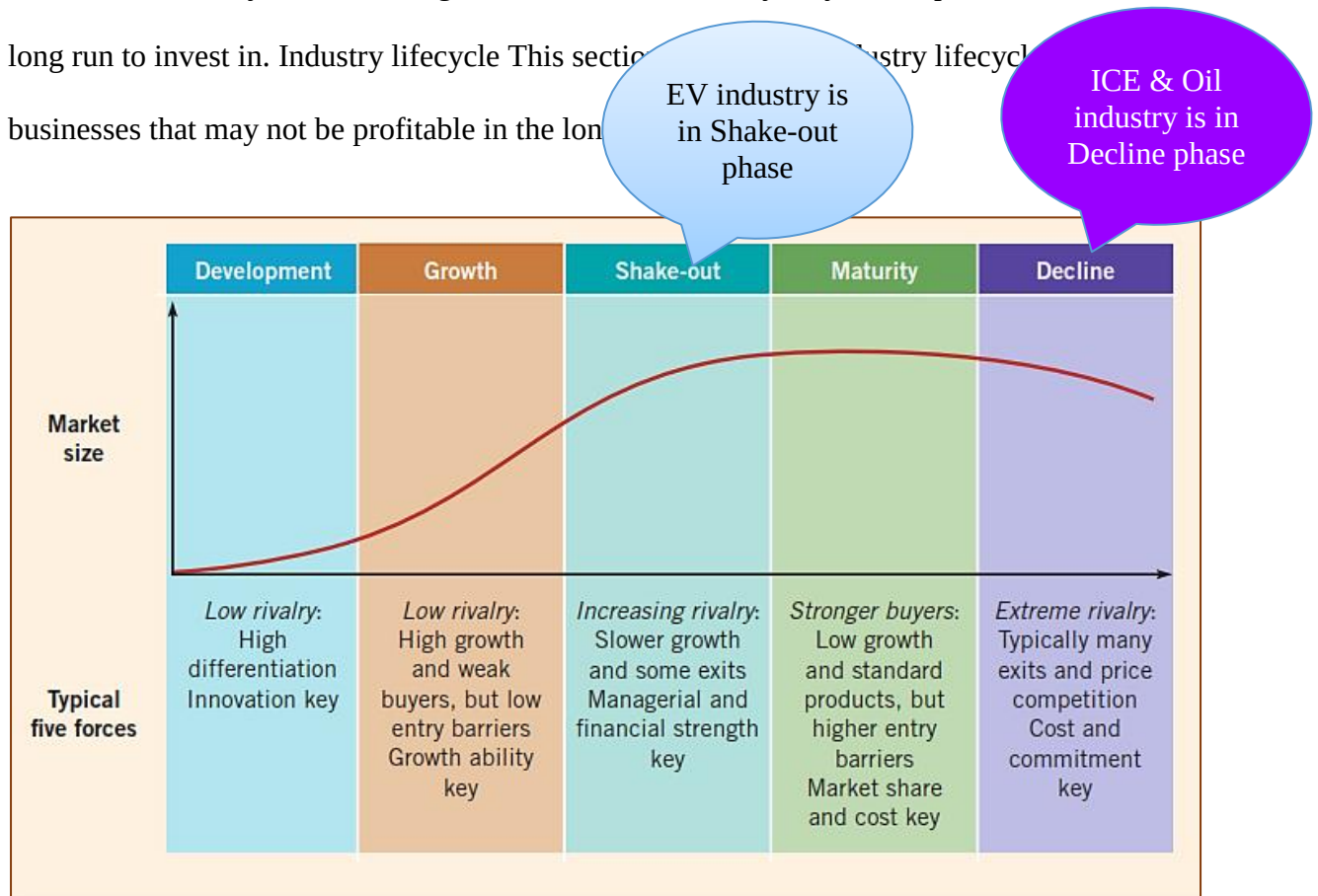


One of the most significant opportunities that lies outside EV car production and sales is utilities, which represent the infrastructure that will power the entire charging system of the electric power trains. If the internal combustion engine (ICE) disappears together with fuel and gas stations, utilities could become the backbone of the EV economy in the same way oil and fuel stations were to the ICE economy as they will provide the ‘fuel’ – electricity. From investment in wind and solar energy generation, to providing smart grid technology or software, many opportunities for entrepreneurs and business executives exist (Deloitte 2019b).

UNPROFITABLE BUSINESS

Industry lifecycle

Just like the industry value chain was used to identify new and emerging business opportunities that the production and marketing of electric cars may present to entrepreneurs and business executives, other frameworks can also be used to identify and assess other businesses currently linked to the global automotive industry may not be profitable in the long run to invest in. Industry lifecycle This section discusses the industry lifecycle of businesses that may not be profitable in the long run.



Source: Adapted from Johnson et al (2017, p. 79)

As the figure above shows, the industry life cycle of the EV industry differs from that of the ICE and oil industry. The former is currently in the shakeout phase, characterized by increasing market saturation cluttered with many competitors, some exits and variable profits (Johnson et al., 2017). As the EV industry continued to grow, it has attracted very many competitors, for instance China alone, which has the biggest EV market in the world, has upto 500 firms registered to engage in the production and sale of EVs (Soat 2019). The recent

expiration of a government EV subsidy and tax incentives led to many startups to exit the market after sales declined as typical of the shakeout phase.

On the other hand, the ICE and oil industry is currently approaching the decline phase, which is characterized by intense rivalry, high exit barriers, and price competition as declining sales and profitability lead to extreme rivalry of a dog-eat-dog nature. With EV sales expected to make up to 55% of new car sales by 2040, the ICE industry may not be profitable in the long run to invest in for a number of reasons. Firstly, the typical EV powertrain comes with less than 20 moving parts compared to the ICE powertrain with more than 2000 moving parts. This means that an entire value chain and supply chain network may come under threat as demand for ICE cars declines. This will include dealer networks, repair and maintenance networks, as well as manufacturers of many ICE components such as gearboxes, brakes, transmission, steering systems and many other components may not survive or remain profitable (Shaffer 2017).

The anticipated decline in demand for ICE cars will further impact the oil sector as demand for petrol and diesel cars falls further. Its expected that demand for oil will decline by as much as 15% by 2035 with the increased growth of EVs and phasing out of petrol and diesel cars. According to Scott (2019), the oil sector will experience divestments as demand shifts to batteries and renewable electricity such as wind and solar energy which will play a critical role in ‘fueling’ the EV revolution.

CONCLUSION

In summary, the EV industry is set to challenge the ICE automobile sector in the coming years, creating both losers and winners. As evidenced in the analysis, many opportunities for entrepreneurs and business executives are predicted to arise from the EV sector in many areas

such as charging infrastructure, and investment in sectors like utilities, battery recycling and waste management. On the otherhand, the ICE and oil sector is predicted to continue its decline and experience further divestment as petrol and diesel car sales continue to decline making the sector less profitable for investment.

REFERENCES

Barik, S.P., Prabakaran, G., & Kumar, B. (2016) ““An innovative approach to recover the metal values from spent lithium-ion batteries” *Waste Management*, 51:222-226

CB Insights (2019) “*The Race For The Electric Car*” [Online] available at <https://www.cbinsights.com/research/report/electric-car-race/#15> [Accessed 20th August 2020]

Deloitte (2019) “*New market, new entrants, new challenges: Battery electric vehicles*” [Online] available at

<https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/manufacturing/deloitte-uk-battery-electric-vehicles.pdf> [Accessed 19th August 2020]

Deloitte (2019b) “2020 Power and Utilities Industry Outlook: Exploring clean energy trends in the power sector” [Online] available at <https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/power-and-utilities-industry-outlook.html> [Accessed 19th August 2020]

Frangoul, Anmar (2020) “UK government increases funding for electric charge points to \$13 million” *CNBC* [Online] at <https://www.cnbc.com/2020/01/21/uk-government-increases-funding-for-electric-charge-points.html> [Accessed 26th August 2020]

Gardiner, Joey (2017) “The rise of electric cars could leave us with a big battery waste problem” *The Guardian* [Online] at <https://www.theguardian.com/sustainable-business/2017/aug/10/electric-cars-big-battery-waste-problem-lithium-recycling> [Accessed 26th August 2020]

GOV.UK (2020) “Grant schemes for electric vehicle charging infrastructure” [Online] at <https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles#electric-vehicle-homecharge-scheme> [Accessed 26th August 2020]

Harper, G., Sommerville, R., Kendrick, E. *et al.* (2019) “Recycling lithium-ion batteries from electric vehicles”. *Nature*, 575:75–86.

International Energy Agency (2020) “Global EV Outlook 2020” [Online] at <https://www.iea.org/reports/global-ev-outlook-2020> [Accessed 26th August 2020]

Johnson, G., Scholes, K., Regner, P., Angwin, D., and Whittington, R. (2017) “*Exploring strategy: Text and cases*” 11th ed., Pearson Education.

McKinsey (2014) “*Electric vehicles in Europe: Gearing up for a new phase*” [Online] at <https://www.mckinsey.com/featured-insights/europe/electric-vehicles-in-europe-gearing-up-for-a-new-phase> [Accessed 20th August 2020]

McKinsey (2020) “*McKinsey Electric Vehicle Index: Europe cushions a global plunge in EV sales*” [Online] at <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/mckinsey-electric-vehicle-index-europe-cushions-a-global-plunge-in-ev-sales> [Accessed 26th August 2020]

Morris, James (2020) “Can Electric Vehicles Succeed Without Government Support?” *Forbes* [Online] at <https://www.forbes.com/sites/jamesmorris/2020/07/25/can-electric-vehicles-succeed-without-government-support/#4c73195e370f> [Accessed 24th August 2020]

Scott Mike (2019) “Economics of Electric Vehicles Mean Oil's Days as A Transport Fuel Are Numbered” *Forbes* [Online] at <https://www.forbes.com/sites/mikescott/2019/09/02/economics-of-electric-vehicles-mean-oils-days-as-a-transport-fuel-are-numbered/#2ebac53e5102> [Accessed 26th August 2020]

Shaffer, Leslie (2017) “JPMorgan thinks the electric vehicle revolution will create a lot of losers” *CNBC* [Online] at <https://www.cnbc.com/2017/08/22/jpmorgan-thinks-the-electric-vehicle-revolution-will-create-a-lot-of-losers.html> [Accessed 26th August 2020]

Soat Raquel (2019) “Chinese EV Subsidy Elimination Could Mean Trouble for Some EV Companies” *Forbes* [Online] at <https://www.forbes.com/sites/pikerresearch/2019/10/17/chinese-ev-subsidy-elimination-could-mean-trouble-for-some-ev-companies/#6b9121613005> [Accessed 26th August 2020]

Wang, X., Gaustad, G., & Babbitt, C.W (2016) “Targeting high value metals in lithium-ion battery recycling via shredding and size-based separation” *Waste Management*, 51: 204-213

Worthington, I., and Britton, C. (2014) “The *Business Environment*” 7th ed., Pearson Education.