INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY
ISSN: 2454-132X
Impact factor: 4.295
(Volume 5, Issue 5)
Available online at: www.ijariit.com

A study on the effects of Brexit on the Supply Chain Management of the automobile industry

Gautam Sharma
gautam.sharma@bba.christuniversity.in
Christ (Deemed To Be University), Bengaluru, Karnataka

Sriram Padmanabhuni
padmanabhuni.sriram@bba.christuniversity.in
Christ (Deemed To Be University), Bengaluru, Karnataka

Rishabh Sarkar
rishabh.sarkar@bba.christuniversity.in
Christ (Deemed To Be University), Bengaluru, Karnataka

ABSTRACT

The automobile industry in the United Kingdom has been running successfully for the past several years. The booming industry has created several jobs in the local market and has secured the place of London as one of the most highly developed and opportunity-rich economies present in the European Union. Such growth was possible due to the regulations and policies that the United Kingdom shared with other Member Nations. With the looming decision of Brexit in the political environment, how would such a decision affect the automobile industry? This article considers the short-run impacts, foreign direct investments and the nature of the trading relationship with the European Union in the future. It also provides some concluding thoughts and provides details on the necessary steps required to support the automobile industry.

Keywords— *Concept of Supply Chain Management, History of the European Union, Benefits of The European Union to the automobile industry of London, Reasons behind the cause of Brexit, Effect of Brexit on the Supply Chain Management of the automobile industry*

1. INTRODUCTION

According to the NC State University Supply chain management (SCM) is "the active management of supply chain activities to maximize customer value and achieve a sustainable competitive advantage. It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective & efficient ways possible. Supply chain activities cover everything from product development, sourcing, production, and logistics, as well as the information systems needed to coordinate these activities." (SRC SME, 2017). The basic concept of Supply Chain management is to ensure the timely production, transportation, delivery and arrival of the final goods onto the shelves of the stores to maximize the sales of the company (Amadeo, 2019).

Although, Supply Chain deals with such activities which are directly related to the maximization of the sales of the company, activities such as transportation, pricing of the goods and the procurement of raw materials, they are directly linked to the rules and regulations set-up by the governing body in the current market. For this article, the governing body would be the European Union (Amadeo, 2019). According to Encyclopaedia Britannica, the European Union (EU), international organization comprising 28 European countries and governing common economic, social, and security policies. (Gabel, 2019)

Originally confined to western Europe, the EU undertook a robust expansion into central and eastern Europe in the early 21st century. The EU's members are Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.. The existence of such organizations ensures the overall development as well as the simplification of rules and regulations within the member countries. (Gabel, 2019)

A huge organization such as the E.U regulates the rules and regulations which are followed by each and every industry in the member states. While for some countries, the presence of such an organization helped them to grow exponentially, the same could not be said for London, who was facing a tough time growing further due to the restrictive and general laws of the European Union. When a member state, leaves such an organization, it creates a huge impact on the economy of the country and its industries. Such is the case of London due to Brexit. (Amadeo, 2019) (Gabel, 2019)

One of the main reasons for such a dramatic decision were the problems United Kingdom and its citizens faced with the policies and regulations laid down by the European Union. One of the reasons for such a decision were the "immigration policy" of the European Union. According to the "Immigration Policy" of the European Union, any citizen of the member country can re-locate to any of the other member countries and work over there without needing a work-visa. This caused an issue as the presence of such a policy led to the cutting down of public resources such as National medical Insurance. (Beckerman, 2016)

Such a decision caused the London economy to shake leading to a few drastic changes in the functioning of the economy as well as every company present in it. According to an article published by The Guardian by David Comm, the automotive industry had taken a hit due to the British exit from the European Union. Investment in the U.K had also taken a hit as companies set-up in U.K face heavy questioning from investors regarding whether Britain will have new tariffs, bureaucratic custom barriers and the 'intangible" factor of whether they would feel welcome or not. (Comm, 2017)

The main question which this article hopes to answer is the effect Brexit took on the supply chain management of the companies present in the London economy. The article specifically dives into the political factors and market conditions that were affecting the supply chain management of the automobile industry. In particular this investigative article wishes to find out the major effects that such a huge political decision would cause which would be discussed further in the article.

2. HISTORY OF THE EUROPEAN UNION

According to Encyclopedia Britannica, the European Union (EU), international organization comprising 28 European countries and governing common economic, social, and security policies. (Gabel, 2019) Though the organization has been a governing body since the very beginning, the attempts to make a unified Europe date all the way back to the 9th Century. According to an article by Euro India in the 9th century, most of the Europe was dominated by a Frankish Emperor Charlemagne, while in the 19th century, most of Europe was controlled by Napoleon Bonaparte. (Euro Indiana)

The effects of World War 2 left Europe divided and sub-merged in violence. By 1945 half of Europe was destroyed, factories were laid waste, bridges and railroads were destroyed. Without their homes and livelihood, many Europeans faced despair, not knowing when their lives would return to normal. For the reality to change, rivalries would have to be forgotten, prejudices would have to be put aside in order to rebuild Europe and ensure a brighter future for the continent. The Marshall Plan and the Berlin Airlift were just wo examples which ensured the development of the vanquished nations. (Euro Indiana)

In 1921, trade agreements were made between the governments of the Luxenberg and Belgium to grow the economy together in order to compete with larger countries. In 1948, steps toward economic co-operation were also taken by countries like The Netherlands and Belgium. Finally, in 1948, the Benelux Customs Union was signed which allowed the free movement of services, goods, capital and workers across the countries, making the Benelux customs Union a free trade unit.

Suggestions of an integrated Europe were considered which would allow Europe to have both economic and political power. For example, Jean Monnet of France believed that a union of European nations could better compete against countries with a larger pool of resources, such as the United States. Likewise, French foreign minister Robert Schuman believed that the European producers of coal, such as France and West Germany, could integrate their coal and steel industries. On the one hand, as Monnet had suggested, this integration could give those countries more economic clout in the world markets. (Euro Indiana)

This would help France and other European nations to keep an attentive eye on West Germany' quickly reviving economy. As the "economic wonder" began in West Germany, causing it recover quickly from the devastation caused by the World War 2, other nations wanted to ensure that the rapid usage and industrialization of the nation was leading to the creation of another powerful army. To avoid this, the European Coal and Steel Community was formed in 1951, which became effective in 1952. The Community held the responsibility of integrating the production and trade of coal, iron and steel in Belgium, Luxenberg, Netherlands, France, west Germany and Italy. Thus, began the path of six countries towards a unified Europe, paving the path of the European Union in the future. (Euro Indiana)

3. BENEFITS OF DOING TRADE IN THE EU

As defined by the Wikipedia, the European Union is a political and economic union of 28 states that are located in Europe. (Wikipedia, n.d.) This agreement was signed on 1st November 1993, in Maastricht, Holland. It was initially signed among 6 countries, namely Belgium, France, Germany, Italy, Luxembourg and the Netherlands. After the slow integration amongst the 28 countries, there had been a lot of advantages for the countries part of the European Union agreement.

(a) Greater competition and more options for the consumer- With the transparency of the borders amongst the 26 countries, it was easier to for different companies to open their businesses in the EU, and this increases the competition among the businesses. With this, the quality of the products had to be at its best, if at all they had to compete in the highly competitive market. So this gave the consumers the option to choose from the best products.

(b) Removal of trade barriers- With the integration of the borders, the trade of materials and goods amongst different countries had become easier. With the agreement of the EU, the trade tariffs amongst the different countries was already decided and with the common currency followed by the different countries, there was no issue faced with respect to exchange rate and trade barriers related to that.

(c) Reduction of business costs- With the EU come in place, there will be a reduction of business cost for the companies. The EU agreement states the easy migration of people from one country to another. So, companies take labourers from less developed countries, where they will reduce their manufacturing costs. Also, the trade of raw materials amongst the different countries will become easier, due to the reasons mentioned above.

4. WHY DID BRITAIN LEAVE THE EU

The exit of Britain from the European Union was one of the most shocking things that took place in the recent times, with respect to world politics. Under this section, I would like to decode the reason due to which Britain decided to quit the EU, even after all the benefits they were getting by being part of this Union.

- **Sovereignty:** According to brittanica.com, (Sovereignty, 2019) Sovereignty is defined as the power or authority of a country in the decision-making process of the state and in the maintenance of order. When Britain joined the EU, even with all the benefits they had with easiness of trade, integration of global markets, it affected the sovereignty of the country in a huge way, which is one of the basic fundamentals of a democracy. As Britain was part of the EU, Britain had to take decisions with respect to the rules setup by the governing bodies of the EU, namely the European commission, and couldn’t take decisions which benefitted the UK if it meant that it would affect the other countries under the EU in a negative way. According to a poll taken by Wikipedia.com, it showed that nearly 49% of voters who voted in favour of Brexit, said the biggest reason they wanted to leave the EU was “The principle that decisions about the UK should be taken in the UK"
- **Immigration:** According to Wikipedia, the second most imminent factor because of which the population of Britain decided to vote for Brexit was the effect on the immigration policies of the UK. Throughout the history of the EU, UK was considered as one of the more rich countries as compared to the other countries, and when there used to be a crisis in one country, it was expected that the UK would cover up for them, as other wise it would affect all the countries in the union. In the European Union, the borders were pretty much transparent, so people from all the poor countries would migrate to the rich countries like UK in search of a job, which would have an aftereffect of not enough jobs available for the citizens of the United Kingdom. This also used to take place when there used to be a global economic crisis, and no jobs available in other countries

4.1 How Brexit affected the supply chain

We would like to go more in depth regarding how the Brexit affected the supply chain industry, by going more in depth on how it affected the automobile industry specifically.

4.1.1 Short-run market and production impacts: With the Brexit taking place, there was an obvious immediate impact on the economy of the UK as a whole, which on an overall would reduce the market volume by over 400000 units. (Bailey, 2018)
Using economic principle, with the depreciation of the Sterling, the UK based auto assemblers, depreciation should boost exports, as taking in comparison with the dollar, each unit of cars they would sell in dollars, they would be getting more Sterling’s in return as 1 dollar would be equal to more Sterling’s With the fall in the economy and the reduction in production, the production cost of each unit of a car would increase. Thus, the automobile companies have to decide whether to increase output and increase price to raise margins. (Bailey, 2018). So, looking at the benefits Brexit will have on the local assemblers, it can be concluded that the output will increase and be exported, thus giving them profit, but the domestic sales of the cars will reduce. At the same time, the imported cars and components will become for the customers and the industries alike. With the openness of the market prior Brexit, the UK companies preferred to import the components of their cars from different countries, as it used to be cheaper, and there used to be other costs like Tariffs, as the borders of the EU were transparent. According to a research paper published by Birmingham University, 60% of the components that comprise UK assembled cars are from Germany. The Sterling depreciation will have a negative impact on these companies, as they will have to pay more Sterling’s in exchange for that one Dollar. Hence, the cost of these cars will become more expensive after Brexit. (Bailey, 2018)

4.1.2 Uncertainty and FDI

With the manufacturing sectors, production was fragmented along global value chain of Multi-tier suppliers that cross borders and continents. Such value chains are coordinated from strategic locations where the original equipment Is manufactured. Before Brexit, the border used to be transparent, and coordinating the supply chain used to be easy, but post Brexit, coordinating this will be a tough task. This will be because now, there will be import duties and tariffs that will be imposed before goods are transported from one country to another.

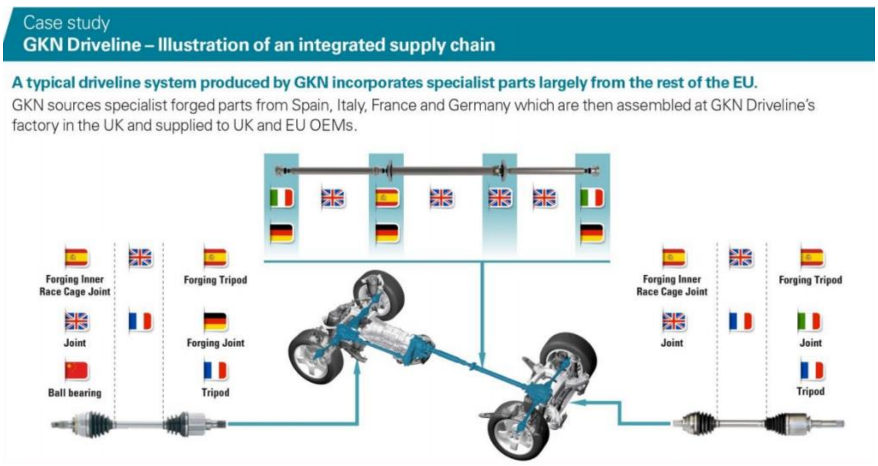

Fig. 1: Case study: GKN driveline

The FDI in the UK will be affected as before, the FDI flown in the UK used to be used to get access to the EU, which is a single market. With this, multinationals could use facilities across different countries, and save on cost of tariffs. As of now, the agreement of trade between the UK and the EU is still to be decided and negotiations are taking place between the two. An example that can be taken is how automotive and engine assemblers like GM, BMW and Ford used import components to the UK, and this used to be easy due to the single market. But now, with this taken of, it can heavily affect the FDI in the UK.

Looking at numbers calculated by the researchers of the journal written by Birmingham University, if UK doesn't adhere to the WTO rules in absence of a trade deal with the EU, the tariffs on cars could go up by 10% on cars and 4% on components.

4.1.3 Firm Specific Impacts

Currently companies face a huge dilemma in continuing their operations due to the impending Brexit decision. Such companies earlier faced advantages when the United Kingdom was part of the EU, which were:

- With the transparency of the borders amongst the 26 countries, it was easier to for different companies to open their businesses in the EU, and this increases the competition among the businesses. With this, the quality of the products had to be at its best, if at all they had to compete in the highly competitive market. So this gave the consumers the option to choose from the best products.
- Removal of trade barriers- With the integration of the borders, the trade of materials and goods amongst different countries had become easier. With the agreement of the EU, the trade tariffs amongst the different countries was already decided and with the common currency followed by the different countries, there was no issue faced with respect to exchange rate and trade barriers related to that.

With the occurrence of Brexit, companies would have to change the way of operation, supply of materials and manufacturing of goods and services with the high occurrence of double running costs especially in the areas of tooling and logistics. A few of the issues faced by these companies would be:

- Relative cost differences between the UK and the EU- When the borders were transparent, the automobile companies could manufacture in any of the countries across Europe, which have a lower labour and manufacturing cost, without any extra costs of tariffs or any other overhead charges. This reduced the cost of manufacturing. But now, UK becoming an independent nation, they cannot do this, and the cost of production will surely go up.
- Sales of a model on the European vs the European market- Before, companies could sell/export their cars to different countries across Europe without facing any difficulty of Tariffs or any other trade barriers. But now, this will not be possible. The cost of Tariffs will go up, thus increasing the cost of the car. This is again dependent on what trade agreement UK and the European Union will have after Brexit.

With uncertainty blooming in the air, and the possibility of tariffs begs a question over the future of several UK plants and jobs. Supply Chain is dynamic in nature, and such a decision could lead to a domino effect. Automotive industry, like any other industry is constantly evolving, with rise in automotive technology and rapid development in electric cars, connected cars and self-driving cars could change the whole face of the industry. Thus, a lack of funding in such a evolving market could lead to a long term affect of such industry in the UK economy.

One of the major risks the UK automotive industry faces is the investment decisions for the launch of new models which had been several years in advance. Such plants are often engaged in locational tournaments to win contracts in order to build new models. Such investments for many of the companies would be made in the middle of Article 50 negotiations which would at least cause a 2-year window of uncertainty.

Thus, begging a question by car makers "will UK have access to the European market: "Is it worth to finance UK production". Such risk is often greater for mass market producers who often operate on low margins, low capacity and are heavily reliant om exports. According to the research paper published by Birmingham University (Guardian 2016), A potential withdrawal of investment was raised by Nissan and by Ford in relation to engine assembly, and the Japanese government has raised concerns over the Brexit process and how this could impact on Japanese investment in the UK (Japan, 2016)

The Japanese government's memorandum has emphasised the need for the UK to retain maximum contact with the Single Market and maintain free movement of worker between the UK and EU. The Japanese Ambassador to the UK has warned that Japanese firms could disinvest from the UK if Brexit meant that they could not make sufficient profits (The Guardian, 2016)

Nissan itself initially stated that it would defer decisions on where to build new generations of models currently assembled at its Sunderland plant, with the Renault- Nissan CEO Carlos Ghosn stating, "important investment decisions will not be made in the dark" (Financial Times, 2016)

It was thought that the firm was going to make the Qashqai and XTrail model decisions in early 2017 but appeared to have pulled forward the decisions to maximise leverage on the UK government in the wake of the Brexit vote and uncertainty over the future of the UK's trading relationship with the EU.

The British government knew that it couldn't afford to lose the Qashqai investment and Nissan effectively held a big gun to its head. A deal was done and Nissan announced that it would build the next generation Qashqai and XTrail at Sunderland after having received 'assurances' from the UK government (we return to industrial policy below). Nissan has since said that this decision will be reviewed once the terms of Brexit become clearer

The huge success in the UK auto industry is due to its productivity. Industries in UK boost plant utilization, running at over 70% with several plants running 24/7 operations (KPMG, 2014). When compared with the European nations such as Italy, where utilization is just over 50%, the comparison unconditionally favours the UK. According to an example stated in the research paper by Birmingham University. For example,

Nissan's Sunderland car plant was the UK's most productive in 2015, building one- in-three of all new vehicles. The risk is that some firms will try to take advantage of spare capacity on the continent, shifting production from the UK at the time of new model launches, especially if uncertainty can be used to justify it.

While some commentators such as LMC (2106b) note that while a 'Hard Brexit' (here meaning exiting the Single Market) may not represent a severe blow to UK auto, some volume (and by implication jobs in assembly and the supply chain) is likely to be lost over the medium to long term. LMC (2016b) note that "new investment initiatives in the UK, such as expansion of current manufacturing activity, or new capacity for manufacturers that have alternatives to the UK appear unlikely until current uncertainty diminishes. Such uncertainty has the potential to last for several years".

4.2 Other Impacts

Brexit would not only cause an effect on the relationships United Kingdom would have with other European nations, it would also have a cascading effect on the trade policies and regulations the country will have with other nations. As much as the U.K would try and safeguard itself from every possible harm due to such a decision, the one area the country would be able to protect itself would be from losing the ability to shape regulations of the industry.

With rise in 5g technology and the development of industry 4.o there would be sudden rise in the sales of electric cars, autonomous automotive and connected cars. This would result in United Kingdom losing the ability to influence such regulations when it leaves Europe and would then have to look to the Slovakian Government to represent it at the European Level.

The common immigration policies of the European Union permit the immigration of workers to any of the member countries without the need of a work-visa. With the exit of Britain from the European Union, the immigration policies would drastically change resulting in a drastic effect on the automobile industry. Currently, the automobile industry has 5,000 vacancies which need to be filled by hiring skilled workers from Europe (SMMT, 2016). rules. One option could be to extend current rules for non-EU/EEA nationals to all non-UK nationals (House of commons Library, 2016)

According to an article by Birmingham University, such a decision would result in effective restriction of economic migrants to highly skilled migrants, resulting in the reduction of inflow of migrant workers doing low-skilled jobs. as noted by the Social Market Foundation (2016), only 12% of current EEA employees working in the UK as a to whole would meet visa requirements that currently apply to non-EEA workers. This might lead labour shortages in those sectors which employ a higher share of EU migrants in their workforce, including manufacturing (at 10%) (House of commons Library, 2016). If a more restrictive immigration system is implemented, this would result in increase in hiring and visa costs of the company in order immigrate workers from other nations.

4.3 Industrial Policy Needs

The Brexit negotiations would change the way the whole economy functions. The soon to be non-European Union Member would have to strike new trade deal with the European Union and also do much more than that. The country would to create and develop its own skills and at the same point of time would have to upgrade its infrastructure in order to incorporate a wider economy and a wider industrial policy. Just like the government and the bank Of England have had to rethink and re-examine their monetary policy, so too the industrial policy needs to be rethought.

It is very crucial for the British government to rethink its current policies both monetary and industrial, as well as ensure that they are of top priority to the government in order to send a powerful message to the investors, which would bring back the faith of the investors and ensure a stable and steady investment in its new upcoming economy.

5. CONCLUSION

The United Kingdome has been the most developed and fast-growing economy in the European Union. Being a member of the union has helped the nation to become the nation we see it as today. This was made possible through the common trade, fiscal and monetary policy the nation shared with the other member nations allowing the free trade of goods, services and even workforce. The impending and drastic decision of Brexit would completely change the way how the nation is perceived and the relationships it will continue to have with the union and its member nations. Such a decision brings with it its own set of challenges and opportunities. The Brexit vote could completely change the way the economy functions and could further risk the economy and the regulations and policies that govern the industries which are thriving in it. The vote of Brexit could also damage the ability of London to secure investments in the future due to the looming possibility of high risk in any investment with regards to any industry in London. It would have to create a new trading relationship with Europe in order to secure funds to rebalance the market. The exit would lead to a huge destabilisation of the economy, due to the lack of proper availability of infrastructure. London would have to create and develop its infrastructure in order create skills and jobs relevant to those skills.

Companies which operate in the United Kingdom would be unsure of opening new centres or even operating in the country due to the impending decisions on the new tariffs and regulations regarding the immigration policies which would directly affect the job opportunities available to the immigrants of the country. In short, the government would have to ensure a strong financial support, availability of funds to support its active industries, ensuring a strong delivery of message to the investors regarding the strength of the economy. At the same time, the Government Of London should try and ensure to secure trade relations between the European Union and itself to further guarantee the survival of its guarantee of its economy through mutual benefits.

6. REFERENCES

[1] (2014). Retrieved from KPMG.
[2] (2016, June 29). Retrieved from Financial Times.
[3] (2016). Retrieved from Guardian.
[4] (2016). Retrieved from The Guardian.
[5] (2016). Retrieved from House of commons Library.
[6] Amadeo, L. (2019, June 25). How The Supply Chain Affects the U.S Economy. Retrieved from The Balance: https://www.thebalance.com/what-is-the-supply-chain-3305677
[7] Bailey, D. (2018, 04 10). Brexit, Automotive And Industrial Policy. Brexit and the UK automotive industry, 21.
[8] Beckerman, C. (2016, June 24). Why Does Britain Want To leave The Eu? Understanding The Brexit beef. Retrieved from Bustle: https://www.bustle.com/articles/168688-why-does-britain-want-to-leave-the-eu-understanding-the-brexit-beef
[9] Comm, D. (2017, August 4). UK car industry facing an"utterly demoralising" Brexit. Retrieved from The Guardian: https://www.theguardian.com/business/2017/aug/04/uk-car-industry-facing-an-utterly-demoralising-brexit
[10] Euro Indiana. (n.d.). Introduction To The European Union. Retrieved from Euro Indiana: https://euro.indiana.edu/docs/outreach/lesson-plans/IntroEU_update.pdf
[11] Gabel, m. J. (2019, January 24). European Union. Retrieved from Encyclopaedia Britannica: https://www.britannica.com/topic/European-Union/The-euro-zone-debt-crisis
[12] Guardian, T. (2016).
[13] Japan, G. o. (2016).
[14] Library, H. O. (2016).
[15] SMMT. (2016).
[16] Sovereignty. (2019, August 6). Retrieved from www.britannica.com: https://www.britannica.com/topic/sovereignty
[17] SRC SME. (2017, April 2). Supply Chain Resource Cooperative. Retrieved from NC State University: https://scm.ncsu.edu/scm-articles/article/what-is-supply-chain-management-scm
[18] Wikipedia. (n.d.). European Union. Retrieved from www.wikipedia.com.

