10 Overall Ranking & Recommendation

10.1 Overall Analysis -

		Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
No	Ratios	Score	<u>Score</u>	Score
1	Profit Margin (%)	3	1	2
2	Return on Assets (ROA). (%)	3	2	1
3	Return on Equity (ROE). (%)	2	1	3
	Profitability ratio	8	4	6
4	Inventory turnover (Absolute)	3	1	2
5	Net asset turnover (Absolute)	2	1	3
	Efficiency ratio	5	2	5
6	Debt to Equity Ratio (Absolute)	2	3	1
7	Current Ratio (Absolute)	1	3	2
	Leverage ratio	3	6	3
8	Operating costs (% of sales)	3	2	1
	Cost ratio	3	2	1
9	Earnings per Share (EPS). USD	2	3	1
10	Price/Earnings Ratio (absolute)	3	1	2
	Investor ratio	5	4	3
11	Altman Z-Score (Absolute)	3	2	1
	Overall scores of financial Ratios	27	20	19
	Weighted at 70%	18.9	14	13.3
12	Customer Satisfaction Index (100-point scale)	3	1	2
13	Product Recall rates (%)	2	3	1
14	Total emissions volume of production rates (%)	1	3	2
	Overall scores of non-financial Ratios	6	7	5
	Weighted at 30%	1.8	2.1	1.5
	Overall weighted scores	20.7	16.1	14.8
	Overall ranking	1st	2nd	3rd

Figure 30: Overall ranking

The overall ranking is determined by overall weighted scores that consist of 70% of the financial ratio scores and 30% of the non-financial ratio scores. The reason for these weightings because the financial ratio is generally for evaluating the performance and financial health of a company whereas non-financial ratios provide all the information which cannot be provided by financial ratios referring to essential aspects of the company's performance (Milost, 2000).

Based on the correlation between this weighting and the research questions, the weighting points that the calculation result answer the research question about the company economic scale and issues encountered by the company which can influence the performance of the company. In this case, the economic scale is difficult for companies to achieve if they still struggle about lack of skills and issues of rising commodities (nasdaq, 2016). While, issues and the things that can hamper the critical success factors such as environmental issues, supply chain and regulations may affect the ratios and directly impact the performance of the company (fool, 2014).

According to figure 30, General Motors is in the most unfortunate position. The main reason for general motors' performance is due to the large amount of debt which can generally be seen in the leverage ratio. Since GM is currently loss-making because of high product recall and tariff policies in global trade (Hillreporter, 2018). Maintaining a high level of debt, while revenue is still below costs, can be a threat of GM as liquidity tends to dry up in unexpected downturns (Yahoofinance, 2018)

Whereas the overall position of Hyundai is moderate among the three companies in the automobile industry. Based on the efficiency ratio, it was because the Hyundai did not know how to balance supply and demand. Hyundai was wasting resources by storing non-salable. Hyundai did not learn to pay close attention to inventory management during the recession (Autonews, 2016)

Toyota ranks in the first place as Toyota is the best financial health of the company in automobiles industry. It could be tracking from the increasing of Toyota's profit based on profitability ratios. Furthermore, this became a good impact for investors as it indicated positive future performance and investors are willing to pay more for Toyota's shares (CFA, 2018).

10.2 Recommendation

Analyzed with the financial and non-financial ratio, the worst company is General Motors. Using the SMART approach, below are the recommendations for general motors from short term, middle term and long term.

10.2.1 A strategic vision (Short term)

It is imperative for General motor to start designing a strategy to deal for the short term issue as well as preparing for the next future. It is included developing or creating the quality culture such as how to solve difficulties, challenges and how to take advantage of the opportunities. Those things may help general motors deliver high-quality products and can decrease the number of product recall (Kuppler, 2014). Moreover, Executive managements and quality departments should create a culture where suggestion for improvement are welcomed. This could lead to improved quality and manufacturing (Page, 2015).

10.2.2 Fostering business adaptations (Middle term)

The aspect of General Motors to be successful in the future is depending on the ability of how General Motors can adapt to the situation encountered. In the middle term, General motors should collaborate with the relevant stakeholders to develop a mechanism regarding work planning and skill needs (Barra, 2017).. Therefore, General Motors needs to have proper identification of what skill they need. Besides, General motors are necessary to cooperate with both industry and educational institutions in ensuring that the training being offered is suitable

for company needs and innovation process. With the result that, GM is expected to get more profit (MediaGM, 2018).

10.2.3 **Developing alternative fuel infrastructure (Long term)**

Innovation is an essential factor to maintain General Motors competitiveness in the global market. In the long term, alternative fuels may play an important role in transportation due to the challenge transport decarbonization (Europeancommission, 2016). Therefore, general motors is expected to create an innovative thing particularly in alternative fuels n lumine Lex (eceuropa, 2019).

11 Conclusion & Reflection

11.1 Conclusion

This research presents an overview of the automobile industry, aims and objectives. This research focused on issues of the automobile industry and selected companies. Additional research focuses on analyzing the financial and non-financial ratios of the companies in automobile industry company in the recent year. The companies have been ranked based on those performance analyses, where Toyota performed the best. Recommendations have also been given to all three companies.

To conclude my overall report, it is important how this report can answer the main research question "How do encountered issues influence the performance of the companies in the Automobiles Industry?" After I analysed using pest, financial and non-financial ratios, critical success factors and give the recommendation. I could say I have successfully linked relation between encountered issues to the performance of the performance of the company in automobiles industry.

This can be proven by data obtained from global data, news, report and journal that clearly explain the impact of encountered issues. The data show that issues faced by automobile

industry such as emission, safety, lifestyle, health, price of commodities, social trends, fuel consumptions, product recall, supply chain, environmental regulations, innovation related with electric car, recycling waste, sourcing energy and wasting resource, obviously influence the performance of company in automobile industry especially Toyota, Hyundai and General motors reflected on the overall ranking. With the result that Toyota ranks 1st, Hyundai 2nd and General motors 3rd.

11.2 Reflections

To realise my goals and fully utilise my time spent in this university. This module can provide me with the best resources and educational tools available. By doing this accounting project, I learn new many things included soft skills and knowledge. On the other side, I can implement the knowledge of what I have gained in this university. Related to this project, this project makes me know how to analyse industry professionally using data and other resources.

Personally, this project teaches me how to manage my time efficiently. Therefore, I hope in the next future I can be the person who can do many things effectively and correctly. This project also sharps my mind on how to think critically. Now, I more understand the issues in the automobile industry. As a student, this report can help me to improve my skills in accounting, managing work, decision making and initiating action. Therefore, I hope I can contribute to the world and reach my goals as a good accountant.

12 Appendix

12.1 Appendix 1: Financial ratios formula

Financial Ratios by groups	Selected Financial Ratios	Formula
Profitability Ratio	Profit Margin. (%)	Net Income Net Sales
	Return on Assets (ROA). (%)	Net Income After Tax Total Assets
ile	Return on Equity (ROE). (%)	Net Income Shareholder'sEquity
Efficiency Ratio	Inventory turnover. (Absolute)	Cost of Goods Sold Average Inventory
	Net asset turnover. (Absolute)	Net Sales Average Total Assets
Leverage Ratio	Debt to Equity Ratio. (Absolute)	Total Liabilities Total Equity
Liquidity Ratio	Current Ratio. (Absolute)	Current Assets Current Liabilities
Cost Ratio	Operating Costs. (% of Sales)	Operating Expenses Revenues
Investor Ratio	Earnings per Share (EPS). (USD)	Net Earnings Number of Shares

Price/Earnings Ratio. (Absolute	Current Stock Prices Earnings per Share

	Z= 1.2*A + 1.4*B + 3.3*C + 0.6*D + 1.00*E
	A = Working Capital/Total Assets
Altman Z-Score	B = Retained Earnings/Total Assets
	C= Earnings before Interests and Taxes/Total Assets
	D= Market Value of Equity / Book Value of Total Liabilities
	E = Sales/Total Assets

12.2 Appendix 2: Financial ratios each company for 5 years

Profit Margin %	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	6.36	13.40	4.80
2014	9.50	11.15	2.72
2015	10.62	9.20	6.17
2016	10.50	7.80	8.05
2017	7.95	4.61	8.15

Return on Assets	Toyota Motor	Hyundai Motor	General Motors
(ROA) %	Corp	Co	Corp
2013	2.71	6.40	2.27
2014	4.40	4.99	1.58
2015	4.55	3.88	4.99
2016	4.87	3.02	4.25
2017	3.75	2.26	-1.83

Return on Equity (ROE) %	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	7.53	16.45	12.55
2014	11.98	12.74	11.14
2015	12.32	10.35	24.30
2016	12.77	8.05	21.51
2017	9.78	5.84	-11.04

Inventory turnover	Toyota Motor	Hyundai Motor	General Motors
(x)	Corp	Co	Corp
2013	12.86	12.34	11.07
2014	13.56	12.03	11.43
2015	12.74	10.00	9.86
2016	13.78	8.90	13.51
2017	11.55	9.38	13.65

Net asset turnover (x)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	0.98	0.86	1.50
2014	0.96	0.80	1.39
2015	0.87	0.74	1.10
2016	0.91	0.69	1.09
2017	0.88	0.71	1.07

Debt to Equity Ratio (x)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	1.01	0.92	0.85
2014	1.13	0.94	1.32
2015	1.13	1.05	1.58
2016	1.06	1.09	1.71
2017	1.06	1.04	2.69

Current Ratio (x)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	1.07	1.84	1.31
2014	1.07	1.85	1.27
2015	1.09	1.64	0.98
2016	1.13	1.66	0.90
2017	1.03	1.71	0.89

Operating Costs. %	Toyota Motor	Hyundai Motor	General Motors
of Sales	Corp	Co	Corp
2013	91.83	90.16	96.84
2014	91.08	9159	98.89
2015	89.90	93.06	95.59
2016	89.95	94.48	93.32
2017	92.77	95.95	93.12

Earnings per Share	Toyota Motor	Hyundai Motor	General Motors
Ratio (USD)	Corp	Co	Corp
2013	3.39	28.07	2.38
2014	5.07	24.15	1.66
2015	6.06	21.31	5.89
2016	6.48	17.97	6.01
2017	5.28	13.40	5.21

Price/Earnings Ratio (x)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	17.42	6.10	15.06
2014	11.02	5.07	20.00
2015	13.18	5.11	5.46
2016	8.60	5.95	5.59
2017	10.80	8.52	7.33

12.3 Appendix 3: Non-financial ratios each company for 5 years

Customer Satisfaction Index (100-point scale)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	87	82	82
2014	82	81	83
2015	84	83	80
2016	85	81	84
2017	86	83	84

Product Recall Rates (%)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	19.5	20.8	26
2014	41.6	7.47	77.5
2015	7.8	7.8	45.6
2016	57.43	10.2	68.9

Total emissions volume of production rates (%)	Toyota Motor Corp	Hyundai Motor Co	General Motors Corp
2013	88.86	42.33	67.23
2014	88.29	43.16	67.23
2015	85.45	43.16	63.08
2016	68.00	43.16	61.42
2017	61.42	42.33	56.64

13 Reference List

ACEA, 2018. Environmental impact of car production strongly reduced over last decade.

[Online]

Available at: https://www.acea.be/press-releases/article/environmental-impact-of-car-production-strongly-reduced-over-last-decade

[Accessed 12 March 2019].

Akhtar, S., Xicang, Z. & Iqbal, S., 2017. Impact of Brand Image on the Profitability of Firm. Review of Public Administration and Management, 5(3), pp. 1-3. Alex, D., 2017. General Motors is going all electric. [Online]

Available at: https://www.wired.com/story/general-motors-electric-cars-plan-gm/

[Accessed 8 March 2019].

Altmanzscoreplus, 2017. Altman Z-score analysis. [Online]

Available at:

http://www.altmanzscoreplus.com/articles/AltmanZScorePlus_TM_Toyota_Motor_Corp_Sp onsored_ADR.html

lumine u

[Accessed 12 March 2019].

AltmanzscoreplusGM, 2017.

http://www.altmanzscoreplus.com/articles/AltmanZScorePlus_GM_General_Motors_Compa
ny.html. [Online]

Available at:

http://www.altmanzscoreplus.com/articles/AltmanZScorePlus_GM_General_Motors_Company.html

[Accessed 12 March 2019].

AltmanzscoreplusToyota, 2017. Altman z score plus Toyota. [Online]

Available at:

http://www.altmanzscoreplus.com/articles/AltmanZScorePlus_TM_Toyota_Motor_Corp_Sp onsored_ADR.html

[Accessed 12 March 2019].

Atalay, M., Anafarta, N. & Sarvan, F., 2013. International Conference on Leadership,

Technology and Innovation Management. *The relationship between innovation and firm*performance: An empirical evidence from Turkish automotive supplier industry, pp. 227-231.

ATKearney, 2019. The Contribution of the Automobile Industry to Technology and Value Creation. [Online]

Available at: http://www.atkearney.in/en/automotive/ideas-insights/article/-

/asset_publisher/LCcgOeS4t85g/content/the-contribution-of-the-automobile-industry-to-technology-and-value-

creation/10192?_101_INSTANCE_LCcgOeS4t85g_redirect=%2Fen%2Fautomotive%2Fidea
s-insights

[Accessed 22 February 2019].

Autoexpress, 2018. Best car dealers 2018. [Online]

Available at: https://www.autoexpress.co.uk/car-news/driver-power/92307/best-car-dealers-2018

[Accessed 22 April 2019].

Autonews, 2016. How a dealer tackled inventory problem. [Online]

Available at: https://www.autonews.com/article/20160613/RETAIL07/306139992/how-a-dealer-tackled-inventory-problem

[Accessed 14 March 2019].

Barra, M., 2017. To Our Stakeholders. [Online]

Available at: file:///C:/Users/vince/Downloads/Mary-Barra-letter.pdf
[Accessed 15 March 2019].

Barron, A., Pereda, A. & S. S., 2017. Journal of World Business. *Exploring the performance of government affairs subsidiaries: A study of organisastion design an the social capital of European government affairs managers at Toyota Motor Europe and Hyundai Motor Company in Brussels*, pp. 185-187.

BEA, 2018. Motor Vehicles. [Online]

Available at: https://www.bea.gov/national/xls/gap-hist.xlsx

[Accessed 1 December 2018].

bicyledutch, 2017. Dutch cycling figures. [Online]

Available at: https://bicycledutch.wordpress.com/2018/01/02/dutch-cycling-figures/

[Accessed 23 February 2019].

Bloomberg, 2018. Trump's Tax Cuts Have Boosted Bottom Lines, But Not Much Else.

[Online]

Available at: https://www.bloomberg.com/news/articles/2018-12-21/trump-s-tax-cuts-have-

boosted-bottom-lines-but-not-much-else

[Accessed 19 March 2018].

BLS, 2018. Automotive Industry: Employment, Earnings, and Hours. [Online]

Available at: https://www.bls.gov/iag/tgs/iagauto.htm

[Accessed 1 December 2018].

Branddirectory, 2018. Brand directory Automobiles 100 2018. [Online]

Available at: https://brandirectory.com/rankings/automobiles-100-2018

[Accessed 13 March 2019].

brandwatch, 2017. Consumer Trends in the Auto Industry: Disruption, Millenials and

Changing Buying Behavior. [Online]

Available at: https://www.brandwatch.com/blog/consumer-trends-auto-industry/

[Accessed 4 March 2019].

Caiazza, R., 2016. Benchmarking: An international Journal. *New drivers and challenges in a multi-polar world*, 23(2), pp. 6-8.

CenterAutomotiveResearch, 2017. U.S. Consumer & Economic. [Online]

Available at: <a href="https://www.cargroup.org/wp-content/uploads/2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/02/US-Consumer-pull-2019/03/US-Consumer-pull-2019

Economic-Impacts-of-US-Automotive-Trade-Policies-.pdf

[Accessed 19 March 2019].

CFA, 2018. CFA Program Curriculum Level 1 Volumes 1-6. 1st ed. London: Wiley.

CNN, 2019. General Motors Fast Facts. [Online]

Available at: https://edition.cnn.com/2014/04/08/us/general-motors-fast-facts/index.html
[Accessed 12 March 2019].

Consumerreports, 2017. https://www.consumerreports.org/buying-a-car/how-to-buy-your-first-new-or-used-car/. [Online]

Available at: https://www.consumerreports.org/buying-a-car/how-to-buy-your-first-new-or-used-car/

[Accessed 4 March 2019].

ControlRisks, 2017. Automotive brief: Romania. [Online]

Available at: https://www.controlrisks.com/our-thinking/insights/romania-automotive-brief
[Accessed 22 February 2019].

CSIMarket, 2019. CSI Market. [Online]

Available at: https://csimarket.com/Industry/industry_Efficiency.php?ind=404&hist=16
[Accessed 11 March 2019].

de Souza, A. M. et al., 2017. Traffic management systems: A. Research Article, 13(4), p. 6.

Dealercenter, 2017. The Political Climate of the U.S. Auto Industry. [Online]

Available at: https://www.dealercenter.com/political-climate-u-s-auto-industry/
[Accessed 19 March 2019].

deloitte, 2014. The changing nature of mobility. [Online]

Available at: https://www2.deloitte.com/insights/us/en/deloitte-review/issue-15/automotive-

trends-gen-y.html

[Accessed 4 December 2018].

eceuropa, 2019. Alternative fuels for sustainable mobility in Europe. [Online]

Available at: https://ec.europa.eu/transport/themes/urban/cpt en

[Accessed 16 March 2019].

EnvironmentalProtectionAgency, 2017. Automotive Trends Report. [Online]

Available at: https://www.epa.gov/automotive-trends/highlights-automotive-trends-report

[Accessed 23 April 2019].

Europeancomission, 2011. Effect of regulations and standards on vehicle prices. [Online]

Available at:

https://ec.europa.eu/clima/sites/clima/files/transport/vehicles/cars/docs/report_effect_2011_e

<u>n.pdf</u>

[Accessed 8 March 2019].

Europeancommission, 2016. Alternative fuels and infrastructure in seven non-EU markets -

Final report. [Online]

Available at:

https://ec.europa.eu/transport/sites/transport/files/themes/urban/studies/doc/2016-01-21-

alternative-fuels-and-infrastructure-in-seven-non-eu-markets.pdf

[Accessed 15 March 2019].

EY, 2016. Automotive change drivers for the next decade. [Online]

Available at: https://www.ey.com/Publication/vwLUAssets/EY-automotive-change-drivers-

for-the-next-decade/\$File/EY-automotive-change-drivers-for-the-next-decade.pdf
[Accessed 24 February 2019].

Financial Times, 2014. *Hyundai Motor seeks steelmaking advantage*. [Online]

Available at: https://www.ft.com/content/0f08c6e6-f3ba-11e0-b98c-00144feab49a
[Accessed 28 April 2019].

Financialtimes, 2015. Government fund urges Japan auto industry shake-up. [Online] Available at: https://www.ft.com/content/3b7c0afe-76eb-11e5-a95a-27d368e1ddf7 [Accessed 22 February 2019].

Financialtimes, 2018. *Disappointing 2018 sales forecast dents Hyundai and Kia*. [Online] Available at: https://www.ft.com/content/cc450f3e-ef72-11e7-b220-857e26d1aca4 [Accessed 11 March 2019].

Foley, 2018. *Top Legal Issues Facing the automotive industry in 2018*. [Online] Available at: https://m.foley.com/files/Publication/da584f92-2dc1-4c56-a399-601133b7c2a9/Presentation/PublicationAttachment/aa6e2ba9-7d9c-41dc-a9db-627614a92038/Automotive%20Industry%20White%20Paper_sp.pdf
[Accessed 17 April 2019].

Fontaras, G., Zacharof, G. N. & Ciuffo, B., 2016. *Progress in Energy and Combustion Science*, I(3), pp. 101-103.

fool, 2014. Why General Motors' Stock Is Down 14% So Far. [Online]

Available at: https://www.fool.com/investing/2018/11/14/why-general-motors-stock-is-down-14-in-2018-so-far.aspx

[Accessed 12 March 2019].

Forbes, 2014. How GM Makes \$1 Billion A Year By Recycling Waste. [Online]

Available at: https://www.forbes.com/sites/joannmuller/2013/02/21/how-gm-makes-1-

billion-a-year-by-recycling-waste/#75dc688f2309

[Accessed 14 March 2019].

Forbes, 2017. Brand Loyalty Recalls: Ford, General Motors, Hyundai, & Toyota. [Online]

Available at: https://www.forbes.com/sites/robertpassikoff/2014/04/30/brand-loyalty-recalls-

ford-general-motors-hyundai-toyota/#1c364b346d5f

[Accessed 20 April 2019].

FTIConsulting, 2015. Regulation and Competitiveness of the EU Automotive Industry.

[Online]

Available at: <a href="https://www.fticonsulting.com/~/media/Files/us-files/intelligence/intelligence-intelli

[Accessed 22 April 2019].

Geetha, E. & Swaaminathan, T. M., 2015. International Journal of Current Research and Academic Review. A study on the factors influencing stock price A Comparative study of Automobile and INformation Technology Industry stock in India, 3(3), pp. 97-109.

Global Strategy PWC, 2018. *The 2018 Global Innovation 1000 study*. [Online] Available at: https://www.strategyand.pwc.com/innovation1000#VisualTabs2 [Accessed 24 April 2019].

Gov.uk, 2018. *Road vehicles Improving air quality and safety*. [Online] Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/678209/road-vehicles-improving-air-quality-and-safety.pdf

[Accessed 6 March 2019].

Hannan, A., Haider, F., T. I. & Ishaq, T., 2015. International Journal of Economic Behavior and Organization. *Impact of Economic, Social and Environmental Variables: Evidence from Panel Data*, 3(1), pp. 2-3.

Harvardbusinessreview, 2012. *Better Marketing at the Point of Purchase*. [Online] Available at: https://hbr.org/1983/11/better-marketing-at-the-point-of-purchase [Accessed 5 March 2019].

Hillreporter, 2018. General Motors Is Preparing To Lose A Massive \$1 Billion Over Trump's Tariffs. [Online]

Available at: https://hillreporter.com/general-motors-is-preparing-to-lose-a-massive-1-billion-over-trumps-tariffs-4416

[Accessed 14 March 2019].

History, 2018. Automobile History. [Online]

Available at: https://www.history.com/topics/inventions/automobiles [Accessed 22 February 2019].

Hull, R. M., 2007. *The Big Three of the Auto Industry: Analyzing and Predicting Performance*, pp. 3-13.

Husan, R., 1996. The continuing importance of economies of scale in the automotive industry. *Emerald Insight*, 97(1), pp. 38-42.

International carbonflows, 2018. Automotive. [Online]

Available at: https://www.carbontrust.com/media/38401/ctc792-international-carbon-flows-automotive.pdf

[Accessed 13 March 2019].

Izogo, E. E., 2015. International Journal of Quality & Reliability Management. *Service quality, customer satisfaction and loyalty in automobile repair services sector*, 32(3), p. 7.

Jamal, Z. B., 2014. International Conference on Business. *Cross-cultural Impact on Marketing Strategies: A study on Automobile Industry*, pp. 69-70.

Kale, D., 2012. Institutions and Economies. *Sources of Innovation and Technology Capability Development in the Indian Automobile Industry*, 4(3), pp. 121-150.

Kolk, M. & Eagae, R., 2014. How to manage your return on investment in innovation. [Online]

Available at: https://www.adlittle.com/sites/default/files/prism/ROI.PDF
[Accessed 23 April 2019].

KPMG, 2019. R&D in the automotive sector. [Online]

Available at: https://home.kpmg/pl/en/home/insights/2018/03/r-and-d-in-the-automotive-sector.html

[Accessed 10 March 2019].

Kuppler, T., 2014. *GM Culture Crisis Case Study - A Tragedy and Missed Opportunity*. [Online]

Available at: https://www.humansynergistics.com/blog/culture-university/details/culture-university/details/culture-university/details/culture-university/details/culture-university/2014/06/24/gm-culture-crisis-case-study---a-tragedy-and-missed-opportunity [Accessed 15 March 2019].

Kushwaha, G. S. & Sharma, N. K., 2014. Journal of Cleaner Production. *Green initiatives: a step towards sustainable development and firm's*, pp. 3-8.

Law, C. M., 2018. National and regional impacts. *Restructuring the Global Automobile Industry*, Volume 4, pp. 2-6.

Law, C. M., 2018. Routledge Library Editions. *Restructuring the Global Automobile Industry*, Volume 4, pp. 20-25.

Marketline, 2018. Company Profile General Motors Company. p. 56.

Marketline, 2018. Company Profile Hyundai Motor Company. pp. 32-33.

Marketline, 2018. Company Profile Hyundai Motor Company. p. 6.

Marketline, 2018. Company Profile Toyota Motor Corporation. pp. 60-62.

Marketline, 2018. Company Profile Toyota Motor Corporation. p. 13.

Marketline, 2018. Company Profile Toyota Motor Corporation, s.l.: Marketline.

Marketline, 2019. A progressive Digital Media Business. [Online]

Available at: https://advantage-marketline-com.ezproxy.northampton.ac.uk

[Accessed 27 February 2019].

Masnoon, M. & Saeed, A., 2014. European Scientific Journal. *Capital Structure Determinants of KSE Listed Automobile Companies*, 10(13), p. 455.

Maverick, J. B., 2018. Key Financial Ratios to Analyze the Auto Industry. [Online]

Available at: https://www.investopedia.com/articles/active-trading/082015/key-financial-ratios-analyze-automotive-industry.asp

[Accessed 8 December 2018].

McFarlane, D. & Sheffi, Y., 2012. The Impact of Automatic Identification on Suplly Chain Operations. *Research*, I(1), p. 4.

MediaGM, 2018. General motors update: Opportunities for employees at impacted plants.

[Online]

Available at:

https://media.gm.com/media/us/en/gm/home.detail.html/content/Pages/news/us/en/2018/dec/

<u>1214-jobs.html</u>

[Accessed 15 March 2019].

Milligan, B., 2017. Car prices 'up by 5%' since June as inflation threatens. [Online]

Available at: https://www.bbc.co.uk/news/business-38957710

[Accessed 2 December 2018].

Milost, F., 2000. Non-financial performance ratios as a management tool. [Online]

Available at: http://www.fm-kp.si/zalozba/isbn/961-6486-39-x/041-049.pdf

[Accessed 13 March 2019].

Morrissey, R., Stricker, K., Raymond, T. & Eric, Z., 2017. The Future of Car Sales Is

Omnichannel. [Online]

Available at: https://www.bain.com/insights/the-future-of-car-sales-is-omnichannel/

[Accessed March 5 2019].

MunichRE, 2015. *Growing number of product recalls in the automotive industry.* [Online]

Available at: https://www.munichre.com/topics-online/en/mobility-and-transport/growing-

number-automotive-product-recalls.html

[Accessed 13 March 2019].

My Accounting Course, 2018. Profit Margin Ratio. [Online]

Available at: https://www.myaccountingcourse.com/financial-ratios/profit-margin-ratio

[Accessed 21 November 2018].

myaccountingcourse, 2018. Price Earnings P/E Ratio. [Online]

Available at: https://www.myaccountingcourse.com/financial-ratios/price-earnings-ratio

[Accessed 26 November 2018].

NADA, 2014. The Impact of. [Online]

Available at:

https://www.autonews.com/Assets/pdf/NADA%20UCG WhitePaper Impact%20of%20Vehi

cle%20Recalls.pdf

[Accessed 13 March 2019].

nasdaq, 2016. Toyota's (TM) Vehicle Production Increases 4.4% in 2016. [Online]

Available at: https://www.nasdaq.com/article/toyotas-tm-vehicle-production-increases-44-in-

n lumine

2016-cm735946

[Accessed 12 March 2019].

notesmatic, 2014. General Motors Advertising and Promotions Expenses. [Online]

Available at: https://notesmatic.com/general-motors-advertising-and-promotions-expenses/

[Accessed March 12 2019].

Office for Low Emission Vehicles, 2015. Uptake of Ultra Low Emission Vehicles in the UK,

St Leonards on Sea: Office for Low Emission Vehicles.

Orbis, 2017. General Motors. [Online]

Available at: https://orbis.bvdinfo.com/version-

2018127/Report.serv? CID=875&context=1F3NFXXM08SDX51&SeqNr=1

[Accessed 24 November 2018].

Orbis, 2017. Hyundai Motor Co.,Ltd. [Online]

Available at: https://orbis.bvdinfo.com/version-

2018127/Report.serv?_CID=732&context=1F3NFXXM08SDX51&SeqNr=0

[Accessed 24 November 2018].

Orbis, 2018. Toyota Motor Corporation. [Online]

Available at: https://orbis.bvdinfo.com/version-

2018127/Report.serv? CID=95&context=1F3NFXXM08SDX51&SeqNr=0

[Accessed 24 November 2018].

Orbis, 2019. Company information across the globe. [Online]

Available at: https://orbis.bvdinfo.com/version-

2019314/Search.QuickSearch.serv? CID=1&context=31JGFXXM0JUFH4U&loginpostback

=true&ssotoken=PfwLXDbnkhkYtHne2r3c2w%3d%3d

[Accessed 27 February 2019].

Orbisgeneralmotors, 2019. General Motors. [Online]

Available at: https://orbis.bvdinfo.com/version-

2018127/Report.serv? CID=875&context=1F3NFXXM08SDX51&SeqNr=1

[Accessed 11 March 2019].

Orbishyundai, 2019. Hyundai Motor Co., Ltd. [Online]

Available at: https://orbis.bvdinfo.com/version-

2018127/Report.serv? CID=732&context=1F3NFXXM08SDX51&SeqNr=0

[Accessed 12 March 2019].

Page, A. W., 2015. GM's Failed Corporate Culture. [Online]

Available at:

https://page.org/attachments/1edd5184509636aabbdc07ef0c3546e0facf5c0c/store/00f8d9b37

<u>2015.pdf</u>

[Accessed 15 March 2019].

Peavler, R., 2018. *Understanding and Using the Total Asset Turnover Ratio*. [Online]

Available at: https://www.thebalancesmb.com/calculating-total-asset-turnover-ratio-393209

[Accessed 24 November 2018].

R. F., 2018. How to calculate the inventory turnover ratio. [Online]

Available at: https://www.investopedia.com/ask/answers/070914/how-do-i-calculate-inventory-turnover-ratio.asp

[Accessed 11 November 2018].

Robinet, M., 2015. *The impact of lower oil prices on the auto industry*. [Online]

Available at: https://www.weforum.org/agenda/2015/01/the-impact-of-lower-oil-prices-on-the-auto-industry/

[Accessed 3 December 2018].

Robinson, T. R., Henry, E., Pirie, W. L. & Broihahn, M. A., 2015. *International Financial Statement Analysis*. 3rd ed. Canada: Wiley.

uming

Romero, B., 2017. *How to manage inventory turnover in wholesale distribution*. [Online] Available at: https://blog.apruve.com/how-to-manage-inventory-turnover-in-wholesale-distribution

[Accessed 20 April 2019].

Shah, R., Ball, G. P. & Netessine, S., 2016. Management Science. *Plant Operations and Product Recalls in the Automotive Industry: An Empirical Investigation*, p. 8.

S. & Jen, C., 2013. International Journal of Applied Mathematics and Statistics. *Performance Analysis of Automobile Industry in Taiwan with Data envelopment Analysis*, 38(8), p. 87.

SMMT, 2018. Emissions. [Online]

Available at: https://www.smmt.co.uk/industry-topics/emissions/
[Accessed 13 March 2019].

Stefano, M. C. D., Sancho, M. J. M. & Busch, T., 2016. Journal of Cleaner Production. *A natural resource-based view of climate change: Innovation challenges in the automobile industry*, pp. 2-6.

StrategicCFO, 2013. Altman Z Score Model. [Online]

Available at: https://strategiccfo.com/z-score-model/

[Accessed 12 March 2019].

Strategybusiness, 2016. The Auto Industry's Real Challenge. [Online]

Available at: https://www.strategy-business.com/article/The-Auto-Industrys-Real-

Challenge?gko=31542

[Accessed 10 March 2019].

The world bank, 2017. How do import tariffs on cars affect competitiveness. [Online]

Available at: http://blogs.worldbank.org/psd/insidetheweb/how-do-import-tariffs-cars-affect-

competitiveness-case-india-and-pakistan

[Accessed 3 December 2018].

Thekoreatimes, 2017. Fixing Hyundai Motor's labor-management problems. [Online]

Available at: http://www.koreatimes.co.kr/www/news/biz/2013/08/326_136350.html

[Accessed 12 March 2019].

Thenewyorktimes, 20197. Automakers Call on E.P.A Chief to Ease Fuel-Efficiency

Standards. [Online]

Available at: https://www.nytimes.com/2017/02/22/business/energy-

environment/automakers-pruitt-mileage-rules.html

[Accessed 1 March 2019].

Toyota Motor Corporation, Toyota Environmental Report. 2018, s.l.: Toyota.

Toyotapartcenter, 2014. February 2014 Toyota Sales Slight Decrease - Similar to GM, Ford,

Chrysler and Others - Toyota Parts Blog. [Online]

Available at: https://parts.olathetoyota.com/blog/5347/february-2014-toyota-sales

[Accessed 12 March 2019].

transportgeography, 2019. The Geography of Transport Systems. [Online]

Available at: https://transportgeography.org/?page id=5277

[Accessed 22 February 2019].

Turner, H. A., Clack, G. & Roberts, G., 2017. A study of Industrial Unrest and An

International Comparison. Labour Relations In the Motor Industry, Volume 10, pp. 19-22.

White, C. B., 2018. How do you calculate return on assets (ROA). [Online]

Available at: https://www.investopedia.com/ask/answers/031215/what-formula-calculating-

return-assets-roa.asp

[Accessed 24 November 2018].

Williams, A., 2006. Product service systems in the automobile industry: contribution to system innovation?. *Science Direct*, p. 2.

Wohlner, R., 2018. Liquidity Measurement Ratios: Current Ratio. [Online]

Available at: https://www.investopedia.com/university/ratios/liquidity-

measurement/ratio1.asp

[Accessed 24 November 2018].

Worldeconomicforum, 2018. Electric cars are coming. But are cities ready for them?.

[Online]

Available at: https://www.weforum.org/agenda/2016/08/can-cities-handle-an-electric-car-

boom/

[Accessed 22 February 2019].

Wu, M. & Wu, Z., 2017. International Journal of Financial Research. *Empirical Assessment of Factors Influencing Corporate Performance of China's Independent Brand Automobile Companies*, 9(2), p. 97.

Yahoofinance, 2018. What Investors Should Know About General Motors Company's (NYSE:GM) Financial Strength. [Online]

Available at: https://finance.yahoo.com/news/investors-know-general-motors-company-212314483.html

[Accessed 13 March 2019].

ycharts, 2017. Hyundai Motor Co Altman Z-Score. [Online]

Available at: https://ycharts.com/companies/HYMTF/altman_z_score

[Accessed 12 March 2019].

Yilmaz, S. & Ustaoglu, M., 2013. International Conference on Leadership, Technology and Innovation Management. *Electric Vehicles Production in Turkish Automotive Industry and Sectoral PEST Analysis*, p. 14.

zacks, 2017. Here's Why General Motors (GM) Stock Fell After Earnings. [Online]

Available at: https://www.zacks.com/stock/news/248512/heres-why-general-motors-gm-stock-fell-after-earnings

[Accessed 10 March 2019].

Zhu, Q., Sarkis, J. & Lai, K.-h., 2006. Green supply chain management: pressures, practices and performance within the Chinese automobile industry. *Science Direct*, p. 3.