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THE IMPACT OF THE SILENT ENEMY (COVID-19 PANDEMIC) ON THE MARKETING EFFORTS UNDERTAKEN BY THE AUTOMOTIVE INDUSTRIES IN MALAYSIA

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Abstract:

The impact of a dangerous pandemic to human life is not a new chapter in human history. However, the silent enemy (Covid-19) pandemic crept from Wuhan City, Hubei Province, China, at an exponential rate that it shifted the rhythm of the world. The crisis that started in China has become a global crisis that crippled many nations in terms of health and economy. From the events that have happened and still happening, we can notice that humans were not prepared for the onslaught of this killer pandemic. The businesses and industries in Malaysia were also not spared by this killer pandemic. One of the hard-hit industries, due to this pandemic is the automotive industry in Malaysia. Therefore, this research aims to discover how Covid-19 pandemic has impacted the marketing efforts undertaken by the automotive industry in Malaysia. Consequently, to achieve the objective of this research, the survey technique is used to develop a detailed profile, which is gathered from 337 out of 450 formal standardized questionnaires sent online to marketers at twelve automotive companies in Malaysia. This research applied the quantitative methods to yield empirical results and validations that answer the research question. The literature examined the areas of the marketing concept, context and strategies to fill the gap and to determine the significant relationship between the Covid-19 pandemic and the marketing efforts undertaken by the marketers of the automotive industry. The analysis shows that Covid-19 pandemic has a significant relationship and correlated negatively to marketing efforts. The hypothesis proved that Covid-19 pandemic has a significant relationship with marketing efforts. Thus, this study could also help all other businesses and industries in Malaysia stay vigilant and overwhelm the assault of this silent enemy. By making a shift to its marketing concept, context and strategies, the automotive industry could regain its momentum from the onslaught of the silent enemy (Covid-19) pandemic.

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Keywords: Covid-19, marketing efforts, concept, context, strategies, automotive industry

1. Introduction

Covid-19, a silent and invisible killer virus, was first declared by the World Health Organisation in January 2020 (WHO, 2020). The impact of this silent enemy, also known as the novel coronavirus or Covid-19, has undeniably caused a remarkable shift to every person's norms and routines. Businesses are also not being spared, and many businesses have sensed and subjected to the merciless onslaught of this silent enemy and killer pandemic. To break the chain of infection, the world's governments have taken social distancing measures (Balis, 2020), which has led to the lockdown of businesses. The social distancing measure and the widespread lockdown have curbed the spread of the infections in Malaysia with zero infections recorded on July 1, 2020, but these measures have created a profound impact on the Malaysian economy and the marketing efforts of many businesses (Buchman, 2020; Vafainia, 2020). The Malaysian automotive industry, which contributes about 4.3 percent of the gross domestic product in 2019, was also not spared by the lockdown initiated to curb the spread of this killer enemy (Ministry of International Trade and Industry (MITI), 2020). According to an article by (Carsifu, 2020) the movement control order (MCO), implemented by the government of Malaysia on March 18, 2020, has an overwhelming impact on Malaysia's automotive industry. According to (Mahalingam, 2020), the automotive players in Malaysia are affected because their supply chain was affected. According to (Jackson et al., 2020; Vafainia, 2020; Muller, 2020), Covid-19 pandemic has negatively affected global economic growth, which the world never experienced over a century. Even though the assault of this silent enemy and unforgiving killer virus (Covid-19 pandemic) will end soon with the discovery of a vaccine, but its impact on the political, economic, social, technological, cultural and legal environment will not vanish soon. Additionally, the maximum effect will only be recognized when the pandemic's impacts reach its pinnacle (Jackson et al., 2020; Vafainia, 2020; HBR, 2020).

As the silent and invisible adversary (Covid-19 pandemic) has created health concerns among the public, this has caused businesses to transform the way they function to sustain their development in terms of establishing and retaining a steady customer base. The main concern for businesses is how they will entice customers and market their products or services. In order to achieve a steady flow of customers, the businesses' main focus must be on their marketing efforts. Thus, the main purpose of this research is to examine the relationship between the Covid-19 pandemic and the marketing efforts commenced by the marketing managers and executives in the automotive industry in Malaysia.

2. Literature Review

Covid-19 has altered the ways people behave, and businesses operate. This silent enemy has impacted many management and business disciplines. One fascinating area of research where Covid-19 has impacted is marketing concepts and strategies of businesses. Therefore, the following literature gives an insight into Covid-19 and how this silent killer pandemic has distorted the marketing concepts, context and strategies of businesses.

2.1 The Silent Enemy (Covid-19)

In December 2019, a new silent and invisible enemy to humans' activities, which is the coronavirus-2 or (SARS-CoV-2), also known as COVID-19, was initially detected in Wuhan City, Hubei Province, China (Guo et al., 2019; Singhal, 2020). This silent killer (Covid-19) appeared from animal hosts and continued to spread from one human to another through contact. The Covid-19 virus and the Severe Acute Respiratory Syndrome (SARS) virus fit into the same coronaviruses family. The infection rate, as well as the fatality rate of COVID-19, appears to be higher than that for the other infectious diseases, and most critically, this virus has caused a pandemic that affected everyone's livelihoods globe. In Malaysia, the first wave of the silent enemy's attack started on 24 January 2020, and it is still ongoing (WHO, 2020).

2.2 The Covid-19 Outbreak and the Shift in Marketing Concept

The silent enemy (Covid-19) outbreak has affected the lives of many and has also impacted the field of marketing in various ways (Buchman, 2020; Vafainia, 2020; Seligman, 2020). The Covid-19 pandemic has altered and moulded the marketing concepts and philosophies (Seligman, 2020). Although it is difficult to gauge the extent of the damage done by this silent and invisible killer pandemic on the fundamental marketing principles, disciplines and ideologies the devastating scars of the pandemic is being felt by many industries around the world (Starita, 2020). This is evident from the number of organisations being decommissioned and consumers deprived of their needs. Marketing is built on the philosophies and ideologies of the marketing concept whereby marketers endure great efforts to exceed customers' needs, wants and expectations compared to their competitors (Kotler et al., 2019). Besides, knowledgeable and experienced marketers have advocated the societal marketing concept whereby marketers attempt to find an equilibrium between the brief expectations of the customers and the continued outlook of the societies' wellbeing (Kotler et al., 2019). However, the onslaught of the silent enemy (Covid-19) will make customers rethink and challenge these marketing concepts (Starita, 2020). According to (Anwar & El-Bassiouny, 2020) mainstream scholars favoured the long-term marketing efforts while firm owners, entrepreneurs and marketing practitioners are being constricted by the current stresses caused by the Covid-19 pandemic. Therefore, short-term marketing targets have been viewed as more prominent than long-term marketing endeavours.

With the death toll rising to an unprecedented volume, and the society has been lock-down, it is time for marketing practitioners to query their company about its main objectives and core marketing concepts. Additionally, marketers must question the values the companies must provide to customers as well as the means of exceeding customer expectations in order to survive during the Covid-19 pandemic period. For more than fifty years, it is a marketing belief that for products and services to excel, customers' valuations and expressions of the products' and services' values are vital. With the assault of the silent enemy, customers are not propelled by the products' value offer, but customers have shifted to the product or service availability. Furthermore, during the Covid-19 pandemic marketers were more focused on pushing the products in-hand rather than exploring the real needs of the customers who were more involved in panic buying and hoarding as stated by (Lewis, 2020). As such, the car industry was also being affected as marketers were more fixated on physical attributes of their products rather than concentrating on customers' immediate needs which led to the failure of this industry. This is evidence of (Levitt's, 1960) marketing myopia concept. Therefore, marketers will be criticised for marketing hyperopia (Kotler & Singh, 1981) for not recognising the problem in-hand, which is the impact of the silent enemy on their business.

The Covid-19 pandemic has created a very different marketing environment with a radical shift in customers' values, beliefs, behaviours and habits (Balis, 2020; The Nielsen, 2020). As such marketers have to handle these revolutionary shifts with extra care (Starita, 2020). Marketers are obsessed with creating customer loyalty through values, but with the advent of the silent killer, measures of marketing such as customer values, shares and equity will be undeniably criticised. Even with harsh criticisms, these marketing measures cannot be completely ignored. It is most likely that marketers will customise and improve these measures. Additionally, marketing scholars have elucidated that the marketing panorama is shifting from an evolutionary to a revolutionary state (Potts, 2018). To support this statement, (He & Harris, 2020) have stated that, this silent killer pandemic has speeded up this transformation exponentially causing a devastating impact on the marketing efforts of businesses (He & Harris, 2020). The silent enemy (Covid-19) has revolutionised how sellers and buyers interacted, and the way marketing is conducted. Before the beginning of the killer pandemic, face-to-face contact was the most prominent form of trade, marketing and communications conducted between suppliers and purchasers. However, all this has completely shifted to online interactions (Belzunegui-Eraso & Erro-Garces, 2020; Balis, 2020; Winarsih et al., 2020). Furthermore, trade and marketing are digitised by most businesses as the government of Malaysia and many other governments around the world have started implementing social distancing (Balis, 2020) through forced lock-down. The use of the internet has increased exponentially for every aspect of the human lives due to the lockdown and movement control order according to (Abbruzzese et al., 2020; Godwin et al., 2020). If marketers and customers had not made this attempt to shift the way they traded and communicated, then the silent enemy's impact would have been devastating to an extent where the whole nation would have crumbled. Thus, the use of the internet in marketing has reduced the number of deaths in Malaysia. According to (Winarsih et al., 2020), the digital transformation during the Covid-19 pandemic has resulted in the sustainability of businesses, and this can continue in the future.

2.3 The Covid-19 Outbreak and the Shift in Marketing Context

In the previous section, it was noted that due to the silent enemy's merciless attack (Covid-19) lockdown and the government's intervention was initiated, which has triggered variations to the marketing concepts. The governments initiative to eradicate the silent enemy through social distancing and the forced lockdown has caused a shift to the context of marketing microenvironments of businesses by altering its functions and systems (Balis, 2020; The Nielsen, 2020). The automotive industry's functions and systems were altered to fulfil customers' request, but it came to a standstill due to the impact of the silent enemy on the supply chain of this industry (Woetzel, 2019; Melin & Kim, 2020). The automotive industry is a significant constituent of Malaysia's economic development as it supports both the upstream and downstream supply chains. According to (He & Harris, 2020; Sourcemap, 2020; Haleem et al., 2020), the supply chain was disconnected during the forced lockdown, which affected many industries and sectors. Contrarily, some industries flourished during the lockdown phase. Online businesses and distribution companies were booming as consumers starving for supplies (Hatchman, 2020) were looking forwards for their online orders which distribution companies delivered to the consumers' doorsteps. Media and advertising agencies shifted their operations whereby they needed to design campaigns within days when previously they took longer to develop.

There is also a transformation within the context of competition. The silent enemy (Covid-19) has altered competitors to collaborators (OECD, 2020b). According to (de Menzies, 2020), previous competitors who produced hospital supplies now collaborated to create, produce and deliver the hospital supplies. This solidarity effort will reflect on the advantages of collaboration for businesses in the future (Filippitsch et al., 2020). Therefore, the silent enemy, although devastating, has also taught businesses to work together for the betterment of humanity.

In the context of the marketing macroenvironment, the shift that was caused by the silent enemy will have a profound consequence on businesses for many more years to come. From the context of the economy, most companies were affected by this global pandemic whereby most of them will feel the effect for a very long time even after the silent enemy is exterminated (OECD, 2020a; Renzaho, 2020; Bloomberg, 2020; Bachman, 2020). Based on (He & Harris, 2020) the hard-hit sector, such as the automotive industry will face the waves of fluctuating demand and supply for a long time. From the context of politics, most of the nations around the globe were subjected to new ideologies which are in contrast to policies before the attack of the silent enemy. Peoples freedom of movement were ravished in the name of lockdown, which also had a profound impact on their livelihoods and businesses (Godwin et al., 2020). In some nations, the

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government had to intervene and fully seize the operations of the companies as these companies are government-linked companies and had to be saved. However, the implication of doing so will lead to criticism as nepotism. In the context of technology, the internet was acclaimed as a means of survival for businesses (He & Harris, 2020; Schallmo et al., 2018). The embracement of the internet replaced face-to-face communications during the silent enemy's attack on businesses. Additionally, midst the attack of the silent enemy, individuals and businesses adopted the internet which is a new technology to some; so quickly where in actual sense it takes at least a decade to get acceptance in many countries. In the context of the social factor, the silent enemy has shifted the mentalities and principles of the individuals, societies, groups, governments and businesses (UN, 2020a). In some nations, the killer pandemic has increased inequality, exclusion, discrimination and unemployment (UN, 2020b). Furthermore, the social consequences include the closure of places of entertainments and movies (Ozili, 2020). This closure would have had a tremendous impact on the automotive industry as it relies on these entertainment outlets and movies to advertise and promote its latest products. In the context of culture, everyone's views about themselves and others have shifted during the attack of the silent enemy. Every nation on the globe has its own cultures and subcultures distinctively adjusted to each individual's circumstances; therefore, the adaptation of policies implemented during the Covid-19 pandemic can be arduous to adhere. There would be a transformation in the cultural factors (Vadivu & Annamuth, 2020). This shift would not be vivid to marketers of the automotive industry so soon, but marketers must continuously be vigilant to these changes.

2.4 The Covid-19 Outbreak and the Shift in Marketing Strategies

With the advent of the killer pandemic, Malaysia became one of the worst-performing markets in the South East Asian region (Muller, 2020). Automotive sales in Malaysia fell by over 26 percent (Piparsania, 2020). When the Malaysian Government initiated the movement control order or forced lockdown in mid-March 2020 (Godwin et al., 2020), the automotive sales further plunged by approximately 60 percent. Furthermore, the forced lockdown has caused production to stop operating and dealers closing their outlets which brought the automotive sales to zero in April 2020 (Piparsania, 2020).

The transformations in the micro and macro environment of the automotive industry in Malaysia due to the attack of the silent enemy (Covid-19) has forced the automotive business to develop marketing strategies. According to some scholars (He & Harris, 2020; Balis, 2020; The Nielsen, 2020), the Covid-19 pandemic is the black swan event which drove marketers to rethink and transform their strategies. As the killer pandemic swept across the nation at tremendous speed with the death rate rising daily between end-March 2020 and mid-May 2020, the automotive industry was quickly trying to mobilize its strategies in order to stay alive in the industry. The killer pandemic was also a blessing in disguise for automotive marketers. As people became aware of the importance of social distancing (Balis, 2020), they opted to use personal transports rather than public transportations. Marketers were able to capitalize on this behaviour and

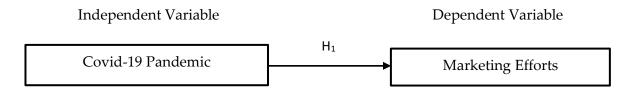
quickly target new markets and reach new consumers. Additionally, the blue ocean strategy has come into play (Kim & Mauborgne, 2004). This strategy has enabled marketers to tap and explore new markets which were unexplored previously.

The silent enemy has also caused a shift to the organization's vision, mission and goals. Therefore, marketers have to re-assess the vision, mission and goals to fit in with customers' behaviour, competitors' offences and defences as well as other environmental changes (He & Harris, 2020; Balis, 2020; The Nielsen, 2020). Automotive marketers have to align and incorporate survival and more meaningful strategies such as societal marketing strategies and market-oriented strategies rather than product and production-oriented strategies (He & Harris, 2020). Additionally, based on (Dooley, 2020) automotive marketers have espoused market-driving strategies to instil, administer and regulate customer behaviour.

No matter the type of strategies implemented to survive the assault of the silent killer pandemic, the impact on the marketplace is irreparable unless a more efficient and effective strategy is implemented. Marketers' best strategy to exponentially increase the customers' interest in their product would be making use of smart digital marketing strategy (Low et al., 2020). Before the silent enemy's attack marketers of the automotive industry mainly relied on face-to-face communication in their showroom but as the assault of the silent killer became obvious marketers shifted to digital means (Butler, 2020; Winarsih et al., 2020). The digital marketing strategy such as digital advertising (Oluyede et al., 2020) and teleworking (Belzunegui-Eraso & Erro-Garces, 2020) will enable marketers of the automotive industry to get real-time customer insights and create and communicate value to customers more effectively (Chaffey & Ellis-Chadwick, 2019). Thus, the best strategy for the Malaysian automotive industry in order to survive the Covid-19 killer pandemic is to shift, embrace and spend in risk-free digital technologies to improve their digital marketing strategies (Low et al., 2020).

2.5 Proposed Conceptual Framework

From the literature search, it was recognised that the Covid-19 pandemic is a crucial determinant of the marketing efforts undertaken by the automotive industry. Hence, built on the literature, this research was designed to investigate the relationship between the Covid-19 pandemic (independent variable) and the marketing efforts (dependent variables) undertaken by the automotive industry in Malaysia. Thus, to carry out this research, the following conceptual framework based on literature is proposed, as shown in Figure 1.





2.6 Research Hypothesis

The hypothesis testing is crucial for this study because acceptance or rejection of the hypothesis developed illustrates the significance of the research variables concerned.

Therefore, based on the literature review and the conceptual framework proposed in Figure 1, the hypothesis of this research is developed as follows:

H0: There is no significant relationship between the Covid-19 pandemic and the marketing efforts undertaken by the automotive industry.

H1: There is a significant relationship between the Covid-19 pandemic and the marketing efforts undertaken by the automotive industry.

3. Research Methodology

The purpose of this study was to collect the responses from the marketing managers and executives in the automotive industry in Malaysia in order to acquire further knowledge on the Covid-19 pandemic's impact on their marketing efforts undertaken. The question this research intends to answer is whether there is a relationship between the Covid-19 pandemic and the marketing efforts carried out by the marketers in the automotive industry. Hence, this research utilised the quantitative method to investigate the marketing managers and executives from twelve automotive companies that are operating in Malaysia. The relationships between the independent variable (Covid-19 pandemic) and the dependent variable, which is (marketing efforts), were examined using the survey technique by commissioning self-administered structured questionnaires. This research will involve a considerably large population sample of marketing managers and executives engaged in marketing automobiles. Henceforth, a considerably colossal volume of data will be processed and scrutinised. This research is crucial and central to many industries and businesses operating during the onslaught of the killer pandemic (Covid-19). In addition, this study creates new knowledge and can support strategies undertaken by marketers, society and the government. Considering these features, the most suitable philosophical paradigm is the post-positivist paradigm which will address the research questions and reach the research purpose (Fox, 2008).

According to (Pham, 2018), the post-positivism paradigm helps to predict results, scrutinise theories and unearth the relationships between the variables in this research. The survey research was realised as the most appropriate approach to gather data. A sum of 450 self-administered structured questionnaires was disseminated via the internet using Google Docs and WhatsApp mobile applications to the marketing managers and executives of the twelve automotive companies. The questionnaire for this research used the Likert scale, which consisted of 5-degree scale with 1=strongly disagree; 2=disagree; 3=neutral; 4=agree; and 5=strongly agree (Nemoto & Beglar, 2014; Likert, 1932; Uebersax, 2006). In order to meet the objective of this study, and to obtain a complete profile, 337 completed questionnaires were collected online from the respondents out of 450 formal standardised questionnaires sent. The data collected will lead towards the analysis and present the findings to answer the research question and attain the main purpose of this

research. The data were coded and processed using SPSS Version 26. Data screening was performed when a respondent did not answer or has overlooked a certain question. Then the questionnaire was reverted to the respondent before the data is entered. As the questionnaire was self-conducted, the validity test was carried out. To examine the content validity, the questionnaire was validated by experts in the field of marketing. The committee incorporated five academics and three marketing directors who approved the questionnaire with a slight adjustment in the constructs. For the pilot study, 120 questionnaires were distributed to the marketing managers and executives of the automobile companies. The responses assisted in modifying the questions and the questionnaire's design. When the reliability was examined, the Cronbach's Alpha values were all between $0.7 < \alpha < 0.8$, which showed the internal consistency of the questionnaire. In terms of presenting the analysis, factor analysis was used for data reduction to test the validity of measures. The regression technique was used to test the relationship between the two quantitative variables Covid-19 and marketing efforts to determine if there is a theoretical basis for a cause and effect between these two variables. Next, the correlation procedure was applied to test the strength of association between the two quantitative variables, Covid-19 and marketing efforts undertaken by the marketing managers and executives in the automotive industry.

4. Findings and Interpretation

The following sections present the results obtained from the research on the relationship between the Covid-19 pandemic and the marketing efforts undertaken by marketers in the automotive industry in Malaysia.

4.1 Demographic Profile of Marketers

The profile of the marketers in the automotive companies studied is presented in Table 1.

Table 1: Marketer's Profile				
Demographics	Numbers	Percentage		
Gender of Marketers				
Male	211	62.6%		
Female	126	37.4%		
Ethnicity of Marketers				
Malay	98	29.1%		
Chinese	116	34.4%		
Indians	74	22.0%		
Others	49	14.5%		
Educational Level of Marketers				
SPM/STPM (Secondary)	39	11.6%		
Diploma	136	40.4%		
Undergraduate	141	41.8%		
Postgraduate	21	6.2%		
Length of Tenure of Marketers				

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1 - 3 years	56	16.6%	
4 – 6 years	132	39.2%	
7 – 10 years	63	18.7%	
>10 years	86	25.5%	
Job Position of Marketers			
Senior Manager	41	12.2%	
Manager	128	38.0%	
Assistant Manager	87	25.8%	
Executive	81	24.0%	

In terms of gender, the majority of the marketers are males (62.6%), Based on the ethnicity the majority are Chinese marketers (34.4%), With regards to the educational level of the marketers the majority are undergraduates (41.8%), A majority of (39.2%) of the marketers have been working in the automotive industry between four to six years. The sample comprised a majority of (38.0%) of marketers who held the position as managers.

4.2 Factor Analysis

Using factor analysis, the critical variables that will illuminate the framework of associations within a group of variables can be ascertained. Factor analysis is often employed to reduce data to catalogue a small number of variables that explain the variance in a higher number of visible variables. Table 2 highlights the factors, the items and factor loading of each item used in this research.

Factors	Items	Factor
		Loading
Covid-19	Due to the Covid-19 pandemic:	
Pandemic	1. I have to temporarily shut down the operations of my company.	0.726
	2. My clients were reluctant to make a booking on automobiles	0.917
	3. I reduced logistic services	0.941
	4. I have problems with infrastructure. i.e. internet access, road blocks, etc.	0.716
	5. It is difficult to access inputs domestically	0.739
	6. Sales of automobiles reduced	0.961
	7. I reduced investment. i.e. advertising, promotions, etc.	0.924
	8. It was difficult to communicate and convince customers.	0.973
	9. I was losing revenue.	0.775
	10. Operations delayed because staff are subjected to MCO (forced	0.868
	lockdown)	
Marketing	I adopted the following marketing efforts:	
Efforts	1. Teleworking to promote the products (automobile) to customers	0.637
	2. Rescheduling of bank loans for customers who booked their automobile.	0.774
	3. Designed and used online advertising.	0.908
	4. I tried to give low interest credit line to customers to increase sales.	0.793
	5. I used live streaming as a digital marketing method to communicate and	0.652
	convince customers.	
	6. I used online digital showroom as a one-to-one video call to customers.	0.983
	7. I used contactless test drive to create customer interest.	0.828
	8. I provided e-agreement signing facility instead of face-to-face interaction.	0.615

Table 2: Factor Analysis

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9. After-sales interactions were done online. i.e. warranty extensions,	0.762
disinfection of automobile, etc.	
10. Used big data systems to analyse changes in customer's behaviour.	0.807

4.3 Relationship between Predictor Variable Covid-19 Pandemic and the Dependent Variable Marketing Efforts Undertaken by the Marketers in the Automotive Industry

Table 3: Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.591ª	0.349	0.347	1.102

a. Predictors: (Constant), Corona Virus

b. Dependent Variable: Marketing Efforts

Table 4: ANOVA ^a				
Sum of Squares	df	Mean Square	F	Sig.
218.523	1	218.523	179.851	0.000 ^b
407.032	335	1.215		
625.555	336			
	Sum of Squares 218.523 407.032	Sum of Squares df 218.523 1 407.032 335	Sum of SquaresdfMean Square218.5231218.523407.0323351.215	Sum of SquaresdfMean SquareF218.5231218.523179.851407.0323351.215

a. Dependent Variable: Marketing Efforts

b. Predictors: (Constant), Corona Virus

Table 5: Coefficients ^a								
		Unstand	ardized	Standardized			95 %	6 CI
		Coeffi	cients	Coefficients			fo	r B
Mode	el	В	Std. Error	Beta	t	Sig.	LB	UB
1	(Constant)	5.938	0.253		23.464	0.000	5.440	6.435
	Corona Virus	-1.877	0.140	-0.591	-13.411	0.000	-2.152	-1.601

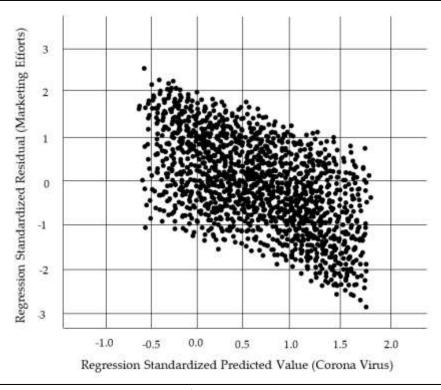
a. Dependent Variable: Marketing Efforts

Table 6: Summary of Pearson's Correlation for the predictor Corona Virusand Marketing Efforts Undertaken by the Marketers in the Automotive Industry

		Marketing Efforts
Corona Virus	Pearson Correlation	-0.591
	Sig. (2-tailed)	0.000
	Ν	337

The one-way analysis of variance (ANOVA) in Table 4 was used to process the data using in, 'F' statistics to test the hypotheses for the sample population (N= 337), F (1, 335) = 179.851, p-value < 0.001. Table F statistics is 3.86936651. The F calculator (179.851) is higher than the F table statistics (3.86936651). Additionally, based on Table 5 coefficients, the p-value is less than 0.001. Therefore, H0 is rejected, meaning H1 is accepted; therefore, there is a statistically significant relationship between the Covid-19 pandemic and the marketing efforts undertaken by the marketers in the automotive industry. The scatter plot Graph 1 also shows that there is a linear relationship between the Covid-19 pandemic and the marketing efforts undertaken by the marketers in the automotive industry. The scatter plot displays a linear pattern of a negative association between Covid-19

pandemic and the marketing efforts of the marketers. Furthermore, visibly, the scatter plot Graph 1 does not show major outliers. Next, Pearson's correlation coefficient was used to test the relative strength of this linear relationship between the Covid-19 pandemic and the marketing efforts undertaken by the marketers in the automotive industry.



Graph 1: Scatter plot

Pearson's Bivariate Correlations testing in Table 6 revealed the following results for the association between Covid-19 pandemic and the marketing efforts undertaken by the marketers in the automotive industry.

Firstly, when Pearson's Bivariate Correlations shown in Table 6 was performed on the predictor (Covid-19 pandemic), the r-value was -0.591, which is more than 0.3 in magnitude and between -1.0 and +1.0. The p-value is less than 0.001. Thus, this implies that there is a negative association between the Covid-19 pandemic and the marketing efforts undertaken by the marketers in the automotive industry. This predictor (Covid-19 pandemic) shows (R2= 0.349, the p-value is less than 0.001) illustrated in Table 3 Model Summary, and this means that 34.9% of the variation in the marketing efforts can be explained by the predictor (Covid-19 pandemic). From Table 5 Coefficients, the standardized coefficient Beta is -0.591, and the B-value, which is the gradient of the regression is -1.877, for b1, t = -13.411, with a p-value of less than 0.001 and the 95% confidence = [-2.152, -1.601]. Therefore, this shows that there is a strong significant relationship between the predictor variable (Covid-19 pandemic) and the dependent variable (marketing efforts undertaken by the marketers in the automotive industry). Thus, from the regression result, the linear regression equation is as follows:

Marketing Efforts = 5.938 -1.877 (Covid-19 pandemic). 95% CI for ⊚1=[-2.152, -1.601]

Thus, for every unit increase of the Covid-19 pandemic cases, the marketing efforts undertaken by the marketers in the automotive industry is expected to decrease by 1.877 units.

5. Discussion

In many aspects, the automotive industry is crucial for the world's economy and its prosperity. With regards to the Malaysian economy, the automotive industry plays a very significant role as it supports both the upstream and downstream supply chains. The outcomes of the analysis in this research suggest that the silent enemy (Covid-19) has a negative impact on the marketing efforts undertaken by the marketers of the automotive industry. This negative impact has affected the automotive sales as well as caused an adverse effect on its supply chains and customers buying behaviours.

Therefore, this research has brought to light and narrowed the gap in the literature revealing that there is a complete shift (impact) in the marketing efforts which are the concepts (Seligman, 2020; Starita, 2020; Balis, 2020), context (The Nielsen, 2020; Menzies, 2020; He & Harris, 2020) and strategies (Dooley, 2020; Low et al., 2020; Oluyede, 2020; Belzunegui-Eraso & Erro-Garces, 2020) carried out by the marketers in the automotive industry.

In terms of the marketing concepts, marketers felt the impact when they did not understand the ways customers behaved during the outbreak of the silent enemy (Covid-19) pandemic. Marketers were using the orthodox concept of pushing the product inhand (Kotler et al., 2019) and not recognizing the real problem in-hand (Starita, 2020; Anwar & El-Bassiouny, 2020). Customers changed the way they purchased the products or services. Customers were interested in real needs products and services, and they were more involved in panic buying, and hoarding and automobile will be the last thing in their minds during a pandemic as mentioned by (Lewis, 2020).

In terms of the context of the marketing microenvironments, the silent enemy (Covid-19) pandemic has impacted the marketing functions and systems (Balis, 2020). Though the marketers counteracted the adverse effect on the supply chain created a tremendous negative impact on the automotive industry, as mentioned by (Woetzel, 2019; Melin & Kim, 2020). Besides, in terms of the social context, the closure of entertainment outlets such as movie theatres has also negatively impacted the automotive industry relied on advertisements and promotions which implants its messages into buyers (Ozili, 2020).

According to (Piparsania, 2020; Godwin et al., 2020; Mahalingam, 2020), one of the hard-hit industries is the automotive players in Malaysia. In terms of the marketing

strategies, the marketers of the automotive industry were quick to mobilize strategies to survive the assault of the silent enemy. Marketers became aware that people are subjected to social distancing, and therefore people have opted to use personal vehicles rather than public transportations. Capitalizing on these new norms by the people, marketers tapped into new customer bases applying the blue ocean strategy (Kim & Mauborgne, 2004). Additionally, due to the negative impact on the marketing efforts, marketers have incorporated societal marketing, market-oriented (He & Harris, 2020) and digital marketing strategies (Low et al., 2020; Butler, 2020; Winarsih, 2020).

This study has proven that there is a significant negative relationship between the impact of the silent enemy (Covid-19) pandemic and the marketing efforts undertaken by the marketers of the automotive industry. The literature and the findings tell us that marketers, no matter how vigilant and ingenious can still suffer the impact of a silent enemy now present amongst us and not easily exterminated. Thus, the analysis of this research has answered the research question.

6. Conclusion and Managerial Implications

This research was initiated to prove the relationship between the Covid-19 pandemic, which is a silent enemy of the human race and its impact on the marketing efforts established by the marketers of the automotive industry. Evidently, from the findings, it can be concluded that the aim of the research has been met and the gaps in the literature have been narrowed. The researcher has found out that the silent enemy (Covid-19) pandemic influences the marketing efforts adopted by the marketers of the automotive industry which supports the findings of the following scholars (Seligman, 2020; Starita, 2020; Balis, 2020; The Nielsen, 2020; Menzies, 2020; He & Harris, 2020; Dooley, 2020; Low et al., 2020; Oluyede, 2020; Belzunegui-Eraso & Erro-Garces, 2020). This enlightens us that the marketers of the automotive industry should shift from the orthodox concept of pushing the product in-hand (Kotler et al., 2019) to recognising the real problem in-hand as elucidated by (Starita, 2020; Anwar & El-Bassiouny, 2020). The marketers should analyse the context of the microenvironment more thoroughly and provide its upstream and downstream supply chains with clear and reliable information about achievable capacities, safeguarding measures and revised marketing plans as elucidated by (Balis, 2020; Woetzel, 2019; Melin & Kim, 2020). Additionally, the marketers should engage in digital marketing strategies to amplify the sales of the automobiles as elucidated by (Low et al., 2020; Butler, 2020; Winarsih et al., 2020; Oluyede et al., 2020; Belzunegui-Eraso & Erro-Garces, 2020). Furthermore, the marketers should capitalise on the customers' concerns with regards to the impact of the Covid-19 and adopt the blue ocean strategy to tap into the customers with the new norms (Kim & Mauborgne, 2004). Marketers could also make use of the moratorium period of six months and sales tax relief (Malaysian National Bank, 2020) given by the government of Malaysia to convince customers to purchase automobiles.

As this research has proven that the silent enemy (Covid-19) pandemic significantly impacts and is negatively associated with the marketing efforts, therefore, the managerial implication is to adopt strategies that are extremely crucial for the automotive industry's survival during and post-pandemic periods. Marketers should shift to a more risk-free strategy such as the utilisation of digital technologies to improve their digital marketing strategies as revealed by (Low et al., 2020). As people become more aware of the negative impact of the Covid-19 pandemic to health and economy, marketers should emphasise on contactless marketing strategies to create and communicate value to customers more effectively (Chaffey & Ellis-Chadwick, 2019). This way, not only the circulation of the silent enemy could be curbed, but the automotive industry could also be revived much sooner.

Finally, it can be deduced that the results from this study and the backing of the literature could contribute to the marketers of the automotive industry as well as academics in terms of offering an exquisite contribution to the knowledge of how the Covid-19 pandemic impact marketing efforts and how this crisis could be incapacitated and eventually bringing about the social change needed to survive and flourish during and post-pandemic phases.

7. Limitation and Future Research

There are multiple challenges encountered by the researcher while undertaking this research study during the second and third phase of the movement control order due to the killer pandemic. Though numerous efforts were undertaken, some inevitable situations could have exaggerated the result of this research. Foremost, the sample size was small. Only 337 marketers responded out of 450 questionnaires disseminated online in the Malaysian Peninsular. This signifies that the researcher cannot generalise the findings to the entire population of marketers in Malaysia, which includes East Malaysia and the Federal Territory of Labuan. Additionally, some respondents were unwilling to fill the questionnaire fearing that they might be leaking confidential information. It was not easy in convincing the respondents with regards to the purpose of this research, especially during the movement control order.

This research was specially designed to analyse the significance of the relationship between the silent enemy (Covid-19) pandemic and marketing efforts undertaken by the automotive industry. However, there are numerous scopes of research which could be worked upon in order to investigate further and analyse the sphere of marketers' marketing efforts. There is a scope for a comparative study on the impact of the coronavirus on the marketing efforts between the west and east Malaysia. Future research could also be conducted in other industries in Malaysia. There is also scope for an in-depth study utilising the predictors of the present study to make an association between two or more industries. Finally, this study could be further widened by conducting a related study with related objectives but on a grander scale especially comparing the impact of Covid-19 on the marketing efforts not only in Malaysia but its neighbouring countries such as Thailand, Singapore and Indonesia.

Conflict of Interest

The author can confidently express that no conflicts of interest are linked with this research, and there has been no significant financial aid received for this study, authorship and publication that could have influenced its outcome. As the author, the researcher affirms that this research is original and has not been published in the past, and it is not currently being considered for publication elsewhere.

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Kumaran Kanapathipillai holds a PhD in Business/Management by the Management and Science University (Malaysia). He is a freelance and visiting professor in Management and Marketing subjects in several local and international universities. He supervises and assesses Masters and PhD thesis. He conducts training on entrepreneurship, creative problem solving and project management in various industries. He is also the founder and director of an educational institution in Malaysia for A Levels program. His main areas of interest and research is on contemporary entrepreneurship, management, and marketing. He is also a peer reviewer for Sage Publications.

References

- Abbruzzese, J., Ingram, D., & Click, S. (2020). The Coronavirus Pandemic Drove Life Online. It May Never Return: What Passes for Normal Life Now Happens Almost Entirely online, NBC News, 28th March, 2020, Retrieved from <u>https://www.nbcnews.com/tech/internet/coronavirus-pandemic-drove-life-</u> online-it-may-never-return-n1169956.
- Anwar Y. and El-Bassiouny N. (2020). Marketing and the Sustainable Development Goals (SGDs): A Review and Research Agenda. In: Idowu S., Schmidpeter R., Zu L. (eds) The Future of the UN Sustainable Development Goals. CSR, Sustainability, Ethics & Governance. Springer, Cham.
- Bachman, D. (2020). The Economic Impact of Covid-19. Deloitte Insights, 3rd March 2020, Retrieved from <u>https://www2.deloitte.com/us/en/insights/economy/covid-19/economic-impact-covid-19.html</u>

- Balis, J. (2020). Brand Marketing Through the Coronavirus Crisis. Harvard Business Review.
- Belzunegui-Eraso, A., & Erro-Garces, A. (2020). Teleworking in the Context of the Covid-19 Crisis. MDPI, 12, 3662: 1-18.
- Bloomberg (2020). China Car Sales Slump 92% in First Half of February on Virus. Bloomberg News, February 20, 2020, Retrieved from <u>https://www.bloomberg.com/news/articles/2020-02-21/china-car-sales-tumble-92-in-first-half-of-february-on-virus</u>
- Butler, C. (2020). How to Survive the Pandemic', Chatman House: The World Today. Retrieved from <u>https://www.chathamhouse.org/publications/twt/how-survive-pandemic</u>.
- Carsifu, (2020). Jump start for Malaysian auto industry after MCO is lifted. Retrieved from <u>https://www.carsifu.my/news/covid-19-jump-start-for-malaysian-auto-industry-after-mco-is-lifted</u>. The Star, April 15, 2020.
- Chaffey, D., & Ellis-Chadwick, F. (2019). Digital Marketing, Pearson: London, UK.
- de Menzies, J. (2020). Coronavirus: F1 team McLaren Develop Protective Equipment for Frontline NHS staff, The Independent, 31st March 2020, accessible at: Retrieved from <u>https://www.independent.co.uk/sport/motor-</u> <u>racing/formula1/coronavirusmclaren-f1-nhsdoctor-equipment-covid-19-formula-</u> 1-a9438526.html.
- Dooley, J. (2020). How Covid-19 has Changed the Automotive Business, and What Volvo is Doing About it. Retrieved from <u>https://www.clickz.com/how-covid-19-has-</u> <u>dramatically-changed-business-at-volvo-and-what-theyre-doing-about-it/261297/</u>
- Filippitsch, C., Goeteyn, G., Rahman, I., & Seuster, M. (2020). Antitrust Compliance in the Covid-19 Crisis. In the Impact of Covid-19 on Brand Advertising and Marketing. ANA & Reed Smith Legal Guide, (2nd Ed.): 33-35.
- Fox, N. J. (2008). Post-Positivism. In Given, L.M. (ed.) The Sage Encyclopaedia of Qualitative Research Methods. London: Sage.
- Godwin, P., Pang, R., Ong, A., & Ong, N. (2020). Covid-19: Governance: Impact of Malaysia's Movement Control Order on Your Business (Malaysia). Legal Briefings, Herbert Smith Freehills.
- Guo, Y. R., Cao, Q. D., & Hong, Z. S., Tan, Y. Y., Chen, S. D., Jin, H. J., Tan, K. S., Wang, D. Y., & Yan, Y. (2019). The Origin, Transmission, and Clinical Therapies on Coronavirus Disease (Covid-19) Outbreak-An Update on the Status. Military Medical Research, 7(1): 11
- Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of Covid-19 Pandemic in Daily Life. Current Medicine Research and Practice: 1-2.
- Hatchman, J. (2020). London's Best Restaurants Offering take-away and Delivery During the COVID-19 Pandemic, The London Economic, Retrieved from <u>www.thelondoneconomic.com/food-drink/london-take-away-delivery</u>.
- HBR (2020). Brand Marketing Through the Coronavirus.

- He, H., & Harris, L. (2020). The Impact of Covid-19 Pandemic Corporate Social Responsibility and Marketing Philosophy. Journal of Business Research, 116 (2020): 176-182.
- Jackson, J. K., Weiss, M. A., Schwarzenberg, A. B., & Nelson, R. M. (2020). Global Economic Effects of Covid-19. Congressional Research Service. Updated July 2, 2020. Retrieved from <u>https://fas.org/sgp/crs/row/R46270.pdf</u>
- Kim, W. C., & Mauborgne, R. (2004). Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant. Boston: Harvard Business School Press.
- Kotler, P., & Singh, R. (1981). Marketing Warfare in the 1980s. Journal of Business Strategy, 1(3): 30-41.
- Kotler, P., Armstrong, G., Harris, L. C., & He, H. (2019). Principles of Marketing (European Edition). London: Prentice Hall.
- Levitt, T. (1960). Marketing Myopia, Harvard Business Review: 1-14.
- Lewis, H. (2020). How Panic-Buying Revealed the Problem with the Modern World. The Atlantic, Retrieved from <u>https://www.theatlantic.com/international/archive/2020/03/coronavirus-panic-</u> <u>buying-britain-us-shopping/608731/</u>
- Likert, R. (1932). A Technique for the Measurement of Attitudes. Archives of Psychology, 140: 1-55.
- Low, S., Ullah, F., Shirowzhan, S., Sepasgozar, S.M.E., & Lee, C.L. (2020). Smart Digital Marketing Capabilities for Sustainable Property Development: A Case of Malaysia. MDPI, Basel, Switzerland, 12, 5402: 1-40.
- Mahalingam, E. (2020). Covid-19 Effect on Car Sales a Concern. The Star, 14 March 2020. Retrieved from <u>https://www.thestar.com.my/business/2020/03/14/covid-19-effect-on-car-sales-a-concern</u>
- Malaysian National Bank (2020). BNM: Loan Restructuring and Rescheduling Upon Repayment Moratorium Expiry. The Edge. Retrieved from <u>https://www.theedgemarkets.com/article/bnm-loan-restructuring-and-</u> rescheduling-upon-repayment-moratorium-expiry
- Melin, Y., & Kim, J. W. (2020). Impact of the Covid-19 Crisis on Manufacturing and Supply Chains. In the Impact of Covid-19 on Brand Advertising and Marketing. ANA & Reed Smith Legal Guide, (2nd Ed.): 36-37.
- Ministry of International Trade and Industry Malaysia (MITI), (2020). Frequently Asked Questions (FAQ) on Movement Control Order, Ministry of International Trade and Industry No.3. Retrieved from <u>https://www.miti.gov.my/miti/resources</u>.
- Muller, J. (2020). Covid-19 Confirmed Cases Malaysia 2020 by State. Statista, Retrieved from <u>https://www.statista.com/statistics/1107426/malaysia-covid-19-confirmedcases-by-state/</u>
- Nemoto, T., & Beglar, D. (2014). Developing Likert-Scale Questionnaires. In Sonda, N., & Krause, A. (Eds.), JALT 2013 Conference Proceeding. Tokyo: JALT.

- OECD, (2020a). Coronavirus: The World Economy at Risk. OECD Interim Economic Assessment, OECD Paris, <u>http://doi.org/10.1787/7969896b-en</u>.
- OECD, (2020b). Covid-19 and International Trade: Issues and Actions. Paris, OECD, Retrieved from <u>http://read.oecd-</u> <u>ilibrary.org/view/?ref=128_1285423ijg8kfswh&title</u>.
- Oluyede, B., Vales, T., & Vandenberghe, W., Digital. In the Impact of Covid-19 on Brand Advertising and Marketing. ANA & Reed Smith Legal Guide, (2nd Ed.): 14-16.
- Ozili, P. (2020). Covid-19 in Africa: Socio-Economic Impact, Policy Response and Opportunities. International Journal of Sociology and Social Policy, Emerald Publishing Limited, ISSN:0144-333X.
- Pham, L. T. M. (2018). A Review of Key Paradigms: Positivism, Interpretivism & Critical Inquiry, School of Education, The University of Adelaide, http://researchgate.net.
- Piparsania, V. (2020). Weekly Update: Covid-19 Impact on Global Automotive Industry. July, 2020. In Insights, Retrieved from <u>https://www.counterpointresearch.com/weekly-updates-covid-19-impact-global-automotive-industry/</u>
- Potts, J. (2018). Futurism, Futurology, Future Shock, Climate Change: Visions of the Future from 1909 to the Present. Journal of Multidisciplinary International Studies. 15. <u>https://doi.org/10.5130/portal.v15i1-2.5810</u>.
- Renzaho, A. M. N. (2020). The Need for the Right Socio-Economic and Cultural Fit in the Covid-19 Response in Sub-Saharan Africa: Examining Demographic, Economic, Political, Health, and Socio-Cultural Differentials in Covid-19 Morbidity and Mortality. International Journal of Environmental Research and Public Health, 17, 3445: 1-14.
- Schallmo, D., Williams, C. A., & Boardman, L. (2018). Digital Transformation of Business Models-Best Practice, Enabler, and Roadmap. International Journal of Innovation Management, 21(8).
- Seligman, J. (2020). Marketing and Response to the Covid-19 Virus. University of Southampton, Conference Paper, March 2020.
- Singhal, T. (2020). A Review of Coronavirus Disease-2019 (Covid-19). The Indian Journal of Pediatrics, 87: 282-286.
- Sourcemap, (2020). How the Coronavirus is Affecting Consumer Supply Chains. Sourcemap, Retrieved from <u>http://www.sourcemap.com/blog/2020/3/29</u>.
- Starita, L. (2020). Adapt Your Marketing Strategy for Covid-19. http://gartner.com.
- The Nielsen (2020). Covid-19: Tracking the Impact on FMCG, Retail and Media. Nielsen, Retrieved from <u>http://www.nielsen.com/us/en/insight/article/2020</u>.
- Uebersax, J. S. (2006). Likert Scales: Dispelling the Confusion. Statistical Methods for Rater Agreement. Retrieved from <u>http://ourworld.compuserve.com/homepages/jsuebersax</u>.
- UN, (2020a). The Social Impact of Covid-19. United Nations, Department of Economic and Social Affairs, Retrieved from <u>https://www.un.org/development/desa/dspd/2020/04/social-impact-of-covid-19/</u>

- UN, (2020b). Shared Responsibility, Global Solidarity: Responding to the Socio-Economic Impacts of Covid-19. Retrieved from <u>https://unsdg.un.org/sites/default/files/2020-03/SG-Report-Socio-Economic-Impact-of-Covid19.pdf</u>
- Vadivu, T. S., & Annamuth, P. (2020). An Awareness and Perception of Covid-19 Among General Public-A Cross Sectional Analysis. International Journal of Modern Trends in Science and Technology, 6(4): 50-52.
- Vafainia, S. (2020). Marketing in the Post Covid-19 Era: A Guide for Marketing Managers. ESCP Impact Paper No 2020-07-EN.
- Winarsih, Indriastuti, M., & Fuad, K. (2020). Impact of Covid-19 on Digital Transformation and Sustainability in Small and Medium Entreprises (SMEs): A Conceptual Framework. In: Barolli, L., Poniszewska-Maranda, A., & Enokido, T. (eds.) Complex, Intelligent and Software Intensive Systems. CISIS. Advances in Intelligent Systems and Computing, 1194. Springer, Cham.
- Woetzel, J. (2019). China and the World: Inside the Dynamics of a Changing Relationship. McKinsey Global Institute, July 2019.
- World Health Organization WHO. (2020). Coronavirus Disease (Covid-19 Situation Reports. Retrieved from <u>http://www.who.int/emergencies/disease/novel-</u> <u>coronavirus-2019/situation-reports</u>.

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