Managing Risk of Petrol Scarcity in Nigeria: A Test of the Efficacy of Strategic Management Approaches

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Abstract

Petrol scarcity is a malady and a serious economic problem in Nigeria. Successive governments have, often times, used it as a case for political advances, yet petrol scarcity remained an undefeatable macroeconomic monster in Nigeria. The need for petrol, its availability and affordability is obviously important especially as the risks and its attendant effects are undesirable, hence this investigation with focus on strategic management approaches for minimizing its occurrence. From the analysis, excessive corruption, mismanagement of government treasury, etc., were found as causes of petrol scarcity while socioeconomic unrest, hike in transport fare, retardation of economic growth, etc were found as its associated risks. Also government strategies of task force formation, downstream sector reforms, etc were found to have no significant mitigating effect on petrol scarcity. Consequently, the use of balanced score card, SWOT analyses etc were recommended as potent strategic approaches for managing and forestalling petrol scarcity in Nigeria.

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The need for petrol, its availability and affordability is obviously important especially as the risks and its attendant effects are undesirable, hence this investigation with focus on strategic management approaches for minimizing its occurrence. From the analysis, excessive corruption, mismanagement of government treasury, etc., were found as causes of petrol scarcity while socioeconomic unrest, hike in transport fare, retardation of economic growth, etc were found as its associated risks. Also government strategies of task force formation, downstream sector reforms, etc were found to have no significant mitigating effect on petrol scarcity. Consequently, the use of balanced score card, SWOT analyses etc were recommended as potent strategic approaches for managing and forestalling petrol scarcity in Nigeria.

Keywords: risk management, strategic management, petrol scarcity, good governance, economic performance.

1 I.

Introductory Framework erhaps the most complex problem confronting the Nigerian nation is how to make petrol available at all times for local consumption, practical experience over the years have shown that it has not been easy for Nigeria to find a sustainable solution to frequent and protracted scarcity of petrol in the country. It is important to note that several efforts and permutations have been made and are still being made to address the problem, but the solution is far insight. From the time of military administrations to present democratic dispensation, different strategies such as yearly turn-around maintenance of the refineries and importation of refined petrol to supplement local production have been adopted without any positive impact. The problem has

become a recurrent dilemma in the nation's economy. The situation is becoming more complex and dramatic especially given the current security challenges facing the nation. Pump price of petrol in Nigeria are no longer determined by government fiat (where at all times, petrol is found in the filling stations), but at the discretion of the independent petrol marketers. It appears that the more serious and committed the government is poised to put an end to petrol scarcity, the more slippery the problem becomes.

Could it be that our refineries has outlived its useful age, or is it the problem of lack of political will and lack of vision by our leaders? Is it the problem of inability or lack of skills in strategy implementation? Could endemic corruption be a critical factor thereby sabotaging government genuine efforts in addressing this problem? Whatever and whoever is responsible for the nation's woes in petroleum sector of our economy, it should be noted that petrol remains very strategic and most important element in the growth and development of the Nigerian economy.

The importance of petrol as material goods and services cannot be misplaced. It is so important that any contemplation of a possible scarcity or unavailability of the product will no doubt spell doom for the economy of the country. In locomotive activities, petrol is a key resource, in heating and lighting whether in the house or factory or anywhere, petrol is a key resource. Without petrol the world would come to a halt, lives would be made difficult as movement would eventually be impeded. As reported by Rasheed (2010) and Onifade and Ojukwu (2010), without petrol, our world would almost grind to a halt; factories would stop running, so would cars; airplanes would be grounded; tractors on the farm would sputter to a standstill and rust; and people's homes and offices, if not heated by petrol, would freeze in winter. Because petrol is so important, the whole world is affected by what happens to this vital commodity.

Today, petrol scarcity is no longer a new phenomenon in Nigeria. It has become a common feature and got to a crisis stage. In particular, the petrol crisis which started as a joke in December 2009 has now become a feature of the country's socioeconomic landscape. Across the country, Nigerians queue up at filling stations for hours unending for unavailable petrol. The implications have been loss of man-hours and rising cost of living as transport fares and prices of foodstuffs jump up. The recurring instances of petrol scarcity, usually worsens towards the end of the year. In the year 2009 alone, there were at least six instances of petrol scarcity **??**AFRICNEWS, 2009). Petrol scarcity can make it difficult for the government to accomplish that which it proposed to do in the budget.

It is the opinion of these researchers that the time has come for managers of agencies such as Nigerian National Petroleum Company (NNPC) and refineries that extract and refine crude oil to device sustainable approach towards stemming out the menace of petrol scarcity in the Nigerian economy. The researchers therefore investigate and consider the adoption of strategic management approach in addressing the problem. The objective sought to achieve are to: i. identify causes of petrol scarcity in Nigeria ii. assess the effect of petrol scarcity on the lives of Nigerians, iii. ascertain the effects of petrol scarcity on the economy of Nigeria iv. identify the strategies of government in curbing incessant petrol scarcity in Nigeria. v. ascertain the most effective strategic management approach toward managing petrol production and supply by NNPC and other subsidiaries in Nigeria.

In order to attain the objective of this study, the following sets of hypotheses were formulated in the null form: Ho1: Petrol scarcity has no significant effect on lives of Nigerians. Ho2: Petrol scarcity has no significant effects on Nigerian economy. Ho3: Strategies adopted by government have not significantly curbed incessant petrol scarcity in Nigeria.

Ho4: Strategic management approaches available are not effective at managing petrol production and supply by NNPC in Nigeria II.

2 Theory and Conceptual Review

Commodity scarcity has been theorized by different scholars who, in their separate studies, explain the factors that cause scarcity, why people react to scarcity and when scarcity becomes eminent. These theories are the Frustration-Aggression theory, the Hubbert peak theory, as well as the demand and supply theory. The Frustration -Aggression Theory posits that scarcity occurs absolutely when people do not have enough to survive as when petrol scarcity takes place, and relatively when people have enough to survive but have less than those around them.

Another relevant theory is the Hubbert peak theory which explains that when oil is peak, then its production will naturally deplete and scarcity of the product will begin to set in. By this theory, scarcity of petrol follows a natural decline in the production of oil due to its having reached the highest point of production. Because, there are other causes of petrol shortage, this theory only provide an insight into natural scarcity not artificial scarcity of petrol, and as such does not well give superior argument to this study.

The Theory of Demand and Supply is one of the basic and very popular theories in economic. It postulates that whenever the demand for any product is greater than the supply, scarcity is very evidently a sure experience. This theory explains that petrol scarcity is a function of the demand side activity; that when people do not need a thing, the scarcity of the thing cannot be experienced.

3 a) Petrol genealogy, causes of scarcity and crisis situation in Nigeria

Petrol otherwise called gasoline is a byproduct of petroleum or say crude oil. The word was borrowed from French pétrole, which in turn came from Latin petroleum (itself taken over directly into English in the 16th century). This means 'rock-oil'. Carless Capel, a German wholesaler was the first company to register 'petrol' as a trade name in year 1892. It is also called Benzin in Germany which is derived from a chemical named Benzene (Energy Bulletin, 2011). Other byproducts of petroleum are Liquefied Petroleum Gas (LPG), diesel, kerosene, etc. All are energy rich fuels. Initially, petrol was used as cleaning liquid to remove strains. It was available in cans. Petrol is also used for lighting in the form of white gas which is highly purified petrol. By 1950?s oil took over as major fuel from the reigning coal and so started evolution of filling stations. Petrol has been the main reasons for the developments in car engines since last 100 years. Most of the car engines are designed according to the kind of petrol available at that time.

Scarcity happens when there is low supply of something that is in a high demand. When this happens, people are prone to paying more for a product. If all of our products and resources are scarce, then we may see inflation. Petrol scarcity situation in Nigeria is very discerning and ugly. The situation is such that has plagued the nation and caused a lot of pains, anguish and dislocation to economic and sundry activities. There are hardly any individual industries, institutions and organization in Nigeria today that is not severely affected.

On the causes of petrol scarcity in Nigeria, government circles attributed it largely to bottlenecks in the distribution system. This conjectured belief was substantiated by the results of the study conducted by the Departments of Petroleum Resources (DPR, 2012) and Furtado and Suslick (1993). The results indicated that petrol scarcity or crisis in Nigeria is caused by fraudulent marketers who, despite the effort of DPR, encourage and sell adulterated products. The crisis situation worsening day after day when some fuel stations sell petrol in the night to the black markets in which they increase the rate far above the approved price depending on the level of adulteration. Other causes of petrol scarcity were found to include product hoarding, diversion, smuggling, under-delivery of products at retail outlets, conflicting activities of multifarious government agencies, manpower shortage, inadequate funding, lack of materials, legal limitation and, safety of personnel also cause petrol scarcity. In the opinion of Vincent (2013), the petrol shortage is a reflection of bad management.

In all, it may be safer to say hypothetically that the presence or absence of good governance account for the presence or absence petrol scarcity. According to Onwuka (2010), the biggest problem, which we have here, is pipeline vandalism. The issue of vandalisation of oil pipelines as a major cause of fuel crisis could be looked at from the angle of frustration -aggression theory. According aggression, vandalisation of oil pipelines is the outcome of frustration. Gurr (1970) opined that where expectation does not meet attainment, the tendency is for people to confront those they hold responsible for frustrating their ambitions. He further stated, "the greater the discrepancy, however marginal, between what is sought and what seem attainable, the greater will be the chances that anger and violence will result". In other words, crisis or conflict occurs when the governed are frustrated by the way they are governed especially with respect to deprivations of the basic needs of life. This explains why oil pipelines have, many times, been blown up or damage done to many of the oil installations not only by militants in the Niger Delta area but also in many other parts of the country. The worst aspect is that many Nigerians are not patriotic enough to report such vandals. Another major cause of petrol crisis in Nigeria is corruption and nonchalant attitude of some of the leaders. In fact, high level corruption could be seen as the bane of Nigeria's oil industry and the cause of incessant petrol crisis. Historical evidence shows that the First Republic in Nigeria ??1960) ??1961) ??1962) ??1963) ??1964) ??1965) was terminated by military intervention because of the excesses of corrupt politicians ??Ademoyega, 1981). Other causes are inadequate refineries and mal-functioning or under functioning of existing ones (AFRICAN NEWS, 2013).

4 b) The Risks and Effects of Petrol Scarcity on Citizens and Economy of Nigeria

The incessant fuel crisis has led to long queues of vehicles at several filling stations across the country, in addition to sky-rocketing, deviating pump price and racketeering. Also, the scarcity of fuel has led to a huge rise in the cost of living, while making it almost impossible for millions of Nigerians to move with their merchandises for exchange. Furthermore, the stifling scarcity has led to many avoidable accidents, both on the roads and in homes, with fatal consequences as motorists load extra fuel in their vehicles and store them in their residences. The effect of petrol scarcity in Nigeria was so biting such that several questions were raised, although they were mere rhetoric. Such questions included "what sort of government is this that sits idly by as citizens go through untold hardship? Is it not a shame that a government that could not meet its promise to Nigerians to deliver 6,000 megawatts of electricity by the end of the year has now inflicted more pain on them by its inability to even guarantee abundant petrol supply? For how long will Nigerians have to endure this multiplying hardship? (Business World, Feb. 8th 2010). The escape route for many businesses and households in the country from the stranglehold of energy crisis, which has resulted in the epileptic supply of electricity in the country, has been petrol and diesel. But with petrol and diesel now becoming as scarce as gold, many households and businesses

160 are having it very rough, and this has resulted in many businesses now operating at levels that are far below
161 their installed capacity. As a consequence, of course, is low productivity and downsizing.

162   Some unscrupulous marketers usually seize the opportunity of the situation to hoard the commodity in
163 anticipation of government announcement of a rise in pump price. To say that the fuel crisis has made Africa's
164 largest oil-producing nation-Nigeria-a laughing stock in the comity of nations is an understatement. It is common
165 knowledge today that the fuel scarcity will escalate inflation and worsen the problem of poverty in Nigeria. Many
166 workers will lose their jobs as companies will find it difficult to cope with it. The risks of petrol scarcity of which
167 their severity are tested in this work could be summarized to include the paralysis of social and economic activities,
168 socio-economic unrest, increased transport fare, sky-rocketing of market prices of food and materials, high rate of
169 inflation, excessive corruption and mismanagement, retardation in economic growth, wasteful spending of money
170 on importation of petrol, fire and, road accident, diversion of petrol among others.

5   c) Strategic management approaches applicable to managing petrol scarcity

173 Strategic management analyzes the major initiatives taken by a company's top management on behalf of
174 owners, involving resources and performance in internal and external environments (Nag, Hambrick and Chen,
175 2007). Strategic management is concerned primarily with responses to external issues such as in understanding
176 customers' needs and responding to competitive forces. Academics and practicing managers have developed
177 numerous models and frameworks to help managers make strategic decision and understand the infinitely complex
178 macro-economic environments. Some of the core strategic approaches considered in this study are discussed below.

179   SWOT stands for strengths and weaknesses, opportunities and threats. It is one of the most basic and widely-
180 used strategic management approach which is often used to examines both internal elements (strengths and
181 weaknesses) of the organization-and external elements (opportunities and threats). Strengths and weaknesses
182 are often internal to your organization, while opportunities and threats generally relate to external factors. For
183 this reason the SWOT analysis is sometimes called Internal-External (IE). SWOT Analysis is a useful technique
184 for understanding your Strengths and Weaknesses, and for identifying both the opportunities open to you and
185 the threats you face. By using SWOT analysis the incessant scarcity of petrol could be reduced. This is because
186 the internal and external analysis would be able to identify other strategic areas of making gains apart from
187 involving in unethical petrol marketing practices like hoarding, smuggling and adulteration of the product all of
188 which result in petrol scarcity. As would be tested in this study, SWOT analysis is expected to provide alternative
189 strategic management solutions to the problem of petrol scarcity in Nigeria. e) PEST analysis and management
190 of petrol scarcity PEST is an acronym for politics, economics or environment, social and technological factors.
191 This strategic management approach examines macroeconomic environmental factors such as politics, economics,
192 social factors, and government regulation. Other known acronyms derived from PEST are: STEEP, PESTLE,
193 PESTEL, and STEP. The PEST acronym is well known and used all over the world as a basis for external
194 analysis. One of the causes of petrol scarcity in literature was government and environmental related in terms
195 of corruption, poor governance and access road. The application of PEST would help dealers and managers
196 of petrol resources to identify those political, economic, social and technological factors that impeded free and
197 smooth supply of petrol product in Nigeria.

198   f) The balanced scorecard and management of petrol scarcity

199   The Balanced Scorecard attempts to measure the performance of an organization from the perspective of
200 various stakeholders. The balanced scorecard is also valuable in strategic management because it helps to define
201 and maintain competitive advantage. The scorecard lets them introduce four new management processes that,
202 separately and in combination, contribute to linking long-term strategic objectives with short-term actions.
203 The first new process-translating the vision-helps managers build a consensus around the organization's vision
204 and strategy. The second processcommunicating and linking-lets managers communicate their strategy up
205 and down the organization and link it to departmental and individual objectives. The third process-business
206 planning-enables companies to integrate their business and financial plans and, the fourth process-feedback and
207 learning-gives companies the capacity for what we call strategic learning. By this strategic management approach,
208 managers and dealers in petrol would come to term with the realities of the time being the fact that profitability is
209 not a short term goal. And using short term tactics that are not sustainable would not in the long run guarantee
210 organizational profit. By this knowledge they would be able to deploy appropriate management approach that is
211 not only more sustainable but strategic in order to facilitate the attainment of organizational profit in both the
212 short and long run.

6   g) The Porter Five Forces Analysis

214 This strategic management approach helps to determine the competitive intensity and therefore attractiveness
215 of a market. Named after Michael E. Porter, (Porter, 1996), this model identifies and analyzes five competitive
216 forces that shape every industry, and helps determine an industry's weaknesses and strengths. The five forces
217 are supplier power, buyer power, competitive rivalry, threat of substitution and, threat of new entry. Arguably,
218 regulation, taxation and, trade policies make government a sixth force for many industries. Five forces analysis
219 helps organizations to understand the factors affecting profitability in a specific industry, and can help to make

decisions relating to whether or not to enter a specific industry, to increase capacity in a specific industry and, to develop competitive strategies. This approach helps in explaining the relationship between the supplier and buyer in the petrol distribution chain. In the context of petrol scarcity, the supplier plays a major role by ensuring the supply of the product to buyers, failure of which will culminate into scarcity situation. When this strategic approach is applied, this relationship would be examined critically and possible avenues of inefficiency identified and provided for in the overall management decision concerning petrol availability and affordability in event of a soured relationship between the supplier and the buyer.

7 III.

8 Methodological Framework and Data Presentation

Survey and secondary research design were adopted. This is because by its nature, the study involved the use of questionnaire methods as well as archival retrieval technique and document analysis. In terms of Population, the 2013 Fact Books of the Independents Petroleum Marketers Association of Nigeria (IPMAN) and that of National Union of Petroleum and Natural Gas workers (NUPENG) indicated the total number of its members to be 7792 and 18 members from the Major Oil Marketers Association of Nigeria the research. Putting the figures together it becomes 7960. This figure formed the population from which a sample of 396 was selected using Taro Yamen's formula given as: $n = N/I+N(e)2$ where n = sample size, N = population, e = acceptable margin of error (5%), I = constant; Therefore given "N" to be 7960 and "e" as 5 percent; n was determined as shown below: $n = 7960/ I+7960 (0.05)2 = 396.0199005 = 396$. Consequently, a total of 396 copies of questionnaire were personally administered by the researcher to the respondents during official hours at their places of work. From the 396 copies of the questionnaire distributed 351 copies were properly completed and returned. This represented 88.64 percent.

In order to score the instrument, a key was developed by which information obtained from the questionnaires was scored. The questionnaire consisted of statements on which respondents were to react according to five (5) point Likert attitude scale as follows:

Strongly Agree (SA) = 4, Agree (A) = 3, Strongly Disagree (SD) = 2, Disagree (D) = 1, Uncertain (UN) = 0.Considering the nature of data collected as well as the hypotheses formulated for the research, the statistical methods adopted were simple percentage frequency statistic and Pearson Product Moment Correlation (PPMC) denoted by "r".

IV.

9 Results and Discussions

From the analyses of the research questions to the test of the research hypotheses, several findings have been made. For purposes clarification and explicitness, and in line with modern research tradition, these findings were discussed according to each of the research objectives. First was the result on the trend of petrol price adjustment in Nigeria as presented in Table 2 and Fig. **??**. Source: Plotted from data on Table 2 From Fig. **??**, the trend of petrol price adjustment which is a reflection or an indicator of petrol scarcity in Nigeria is highly cyclical. The trend exhibit an upward movement to the upper right corner of the curve which means that petrol scarcity caused an upward or increment in the petrol price which is incidental to inflationary tendencies in Nigerian. This finding goes to explain the reason for the ever growing inflation in Nigeria. On causes of petrol scarcity, responses were presented in Table 3. 3 From the figures, it is obvious that excessive corruption and mismanagement is most responsible for petrol scarcity in Nigeria. The next factor found was the removal of fuel subsidy, followed by hoarding of petrol, vandalization of oil pipeline, insufficient/ malfunctioning of refineries and, diversion and smuggling of petrol. This finding is in tandem with those of Birol and Guerer (1993) and Furtado and Suslick (1993) who similarly found that fuel scarcity is caused by many factors such as excessive corruption and mismanagement, oil pipeline vadalisation, insufficient and malfunctioning refineries, petrol diversion and smuggling, petrol hoarding, administrative bottlenecks and legal limitations and, petrol subsidy removal. Two factors that do not cause petrol scarcity were found to be inadequate funding and manpower shortage.

Concerning the effects of petrol scarcity on lives of Nigerian, Table 4 Correlation is significant at the 0.05 level (2-tailed)

Source: SPSS generated result From Table 6, all correlation result shows a significant positive effect of petrol scarcity on lives of Nigerians except fire and road accident. The rest of the results indicate that petrol scarcity caused not less than 80 percent of the plight that Nigerians suffer. As it is a positive result, it means that more petrol scarcity would lead to more suffering for Nigerian; hence the rejection of the null hypothesis which stated that petrol scarcity has no significant effect on lives of Nigerians and the acceptance of the alternative hypothesis. The most devastative effect of petrol scarcity on lives of Nigerians is presented pictorially in Fig 3. 4 As shown therein, the highest and ofcourse the most devastative effect of petrol scarcity on lives of Nigerians was poverty and sufferings followed by high transportation, and the next was socioeconomic unrest, immobility of goods and people and heavy consumption burden. However, against the conjectural responses the correlation results specifically indicates that the highest problem petrol scarcity has caused Nigerian is socioeconomic unrest which Balouga (2012) explained to mean that people are made to sleep at petrol stations for weeks if not months for purposes of being able to purchase the product even at a high price to continue their daily economic activities

so as to earn a living. This is clear indication of how restless every Nigerian would be whenever there is scarcity of petrol.

Another effect was found to be stagnation of goods and people. That is a state of being immobile. When petrol is scarce, there would be shortage of vehicular movement and this will stop people from moving with their produce to market. Explaining further, Femi (2013) said that petrol scarcity also affect civil servants, businessmen, students and lectures adversely. They arrive at their places of work late; even some students are unable to attend lectures consequent upon a high transport fare. Another effect was poverty and sufferings. When people could not make ends meet during normal economic conditions, the scarcity of petrol which anchors most on the peasant economic engagement of the rural poor will further exacerbate the impoverished condition of Nigerians.

Moreover, high consumption burden was found to be another effect of scarcity of petrol on Nigerians. Femi (Ibid) also stated that petrol crisis paralyze social and economic activities and bring about socio-economic unrest which result in increase in transport fare and sky rocketing of market prices. What this implies is that the extra cost of petrol bought during scarcity is transferred to the consumers of the product that consumers buy.

And this places a heavy burden on them as they would have to struggle in order to be able to pay for such goods. Another effect was found to be hike in transport fare. It is no news that during scarcity of petrol, transporters who are most affected will have to increase their transport fare so as to recover their money. This still boils down to the consumer having to bear the burden of high cost consumption.

Another thrust of the study was to assess the effect of petrol scarcity on the economy. Responses on this were captured in Table 7; the data for the test of hypothesis two were captured in Table 8, and the result of the test of hypothesis two was presented in Table **??**. From the above tables, petrol scarcity show different degree of effects on the economy. The result of the corresponding hypothesis indicated a significant positive relationship between petrol scarcity and performance of Nigerian economy because all R^2 values were positive and significant. Specifically, it was found that during scarcity of petrol, economic growth is retarded by about 98.5 percent (i.e. $R^2 = .985$); inflation peaked at its highest brim with about 88.9 percent (as $R^2 = .889$), economic activities of about 6.54 percent (i.e. $R^2 = .654$) are slowed if not halted; the performance of government was adjudged 87 percent poor since $R^2 = .870$, foreign reserves dwindled by about 80.1 percent (i.e. $R^2 = .801$); about 83.3 percent (i.e. $R^2 = .833$) industries were closed down as was the case of Dunlop and Michelin; infrastructural development was also stalled by about 78.7 percent (i.e. $R^2 = .787$), cost of living was about 77.7 percent higher (i.e. $R^2 = .777$), foreign and domestic investment reduced by about 72.3 percent (i.e. $R^2 = .723$) and unemployment increased by about 74.9 percent (i.e. $R^2 = .749$). This findings conform to that of Ojo and Adebusuyi (1996) and Onyishi, Eme and, Emeh (2012) who said in summary that "as petrol is so important to us in conducting our everyday lives, significant price increases will cause inflation in the economy, both nationally and globally". Pictorially, Fig. 4 presented the highest effect of petrol scarcity on the economy. 6 From Fig. 4, the highest effect of petrol scarcity on the economy was found to be high inflation followed by high cost of living. Others in order of high effect are foreign and domestic disinvestment, poor infrastructural development, increase in unemployment, closure of industries, discrediting government, retardation of economic growth, and dwindling foreign reserves. Response data and the result for the strategies used by government in curbing petrol scarcity in Nigeria were presented in Tables 10, 11 and 12 respectively Source: SPSS generated result

The result showed a negative and significant relationship meaning that all the strategies adopted in curbing petrol scarcity have not been successful. This further means that the more of these strategies, the less the solution to petrol scarcity in Nigeria. These strategies were fuel subsidy removal ($R^2 = -.188$), setting up of task forces ($r^2 = -.327$), introduction of reforms ($R^2 = -.342$), formulation of legislative bills such as petroleum industry bill ($r^2 = -.740$), petroleum support fund ($R^2 = -.339$) and, establishment of NNPC ($R^2 = -.644$), DPR ($-.170$) and PPPRA ($R^2 = -.688$). Apart from NNPC, all other strategies were found to be ineffective. The pictorial view of the various strategies were presented in Fig. **??** Figure **??** : Pictorial Presentation of government strategies for curbing out petrol scarcity Sources: Constructed from summation of all agreed and all disagreed responses in Table 8 As indicated in Fig. **??**, the most used and most ineffective strategy was the introduction of reforms followed by used of task force, creation of the department of petroleum resources (DPR), institution of petroleum support fund (PSF), next was the removal of fuel subsidy, the establishment of NNPC has however, had a marginal effect. Also in support of this assertion are several authors such as Ikponmwosa and Odogwu, (2012), Ozumba (1996) and Ovaga (2012) who asserted that the creation of many agencies and parastatals to manage the nation's oil resources in addition to NNPC is not a healthy development as it is capable of creating operational conflicts and duplication of functions. Again these authors emphatically opined that such creation and development further opens up the sector and the entire economy to fraud and corruption and people who occupy the position would consider it a reward for their political devotion and contribution. They were of the opinion that instead of creating more agencies, the NNPC should be empowered with relevant constitutional provisions to extend operations and regulatory oversight over the distribution and dispensing of petroleum product in the country. Speaking on the challenges in oil sector, Yekini (2011) said, "despite all the efforts of the ministry and parastatals, the NNPC has almost found it impossible to eliminate the activities of saboteurs in the oil industry in the country thereby making the corporation ineffective". Result on strategic management approach for managing risk of petrol production and consumption in Nigeria were those suggested by Stoner (1653). These strategies as explained by Chaffee (1985) include SWOT analysis, PEST analysis, the

balanced score card approach and, the Porter Five Forces analysis. However, indicated in Tables 13, 14 and, 15 were responses, data and the result of the hypothesis four Source: The result above indicates that all the approaches have some level of effectiveness that can help curb petrol scarcity in Nigeria. This is because all the R^2 shows a significant positive value which is above 70 percents. This value is an indication of effectiveness and as such the null hypothesis was rejected while the alternative hypothesis was accepted. Moreover, the result on these strategic approaches was that a number of respondents did not say anything, which may imply that they do not even understand these strategies nor ascertain their application by concerned organizations. These strategic approaches are very important to an organization. This is because of the difficulty of fully comprehending and responding to the complex issues faced by organizations which has led to a proliferation of strategic management models and frameworks. Each of the various models attempts to organize a number of issues and make them more readily understandable.

V.

10 Concluding Remarks and Recommendations

This study has made an in-depth investigation into the concept of petrol scarcity and its attendant risks on the lives of Nigerians and performance of Nigerian economy. The main thrust was to ascertain how managers of agencies and organizations saddled with the responsibility of petrol production and supply could apply modern strategic management approaches in carrying out their operations without incessant occurrence and experience of avoidable petrol scarcity and shortage. This study was informed by the need of the present day economic thinkers to bring petroleum products to all and sundry for their use without unnecessary hiking of the product price and generating a condition of scarcity that paralyze economic activities at both micro and macroeconomic levels. Extensive literature was reviewed; requisite data were also sourced, collected and analyzed with appropriate statistical tools. Based on the findings and discussions made thereof, it is thus concluded that a number of factors are responsible for scarcity of petrol at different degrees of effects and that this menace has influenced Nigerian and the economy negatively. Moreover, government strategies so far adopted have not significantly addressed the problem and the risks of petrol scarcity in Nigeria. Therefore there is need for alternative strategic approach to managing petrol in Nigeria to avert and reduce rampant cases of petrol shortage and scarcity. Based on this conclusion, the researchers wish to make recommendations that follow: i. Management of NNPC and associated agencies should work against the found causative factors of petrol scarcity by applying an appropriate strategic management. The approach suggested here for their application is the Balanced Scorecard. This approach will help organizations operate from the perspective of various stakeholders, taking into consideration the various interests such that the tendency for heinous activities, corruption and mismanagement would be averted. ii. PEST analysis or STEEP analysis or approach should be employed by the managers of petroleum sector. This approach would allow for the examination of the macro-economic environmental factors such as politics, economics, social factors and, government regulations in which case issues that concern the populace would be addressed properly iii. Since the effect of scarcity on economy is more of external than internal the appropriate strategic management approach to be used in order to avert and make the effect of petrol scarcity on economic performance negligible is by applying the Porter's Five Forces Analysis. This approach or framework helps to determine the competitive intensity and therefore attractiveness of a market to both foreign and local investors. When this happens, petrol would be made available as there would be competition. iv. Since it was found that administrative bottlenecks and legal limitations caused petrol scarcity, the petroleum industry bill (PIB) should be passed into law to remove entanglements and empower relevant agencies to operate legally. The Bill will also help in regulating the activities of petroleum dealers in the sector such that any practice found to be inimical to petroleum product availability in the right quality, quantity and price would be discouraged

[1] [2]

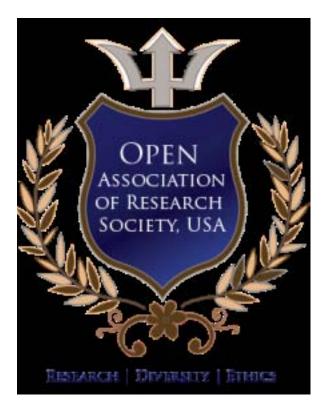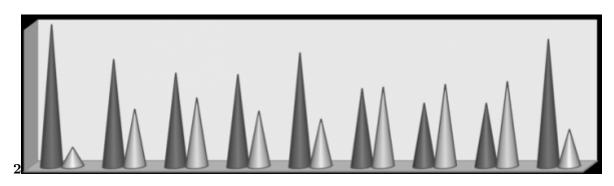[1]Managing Risk of Petrol Scarcity in Nigeria: A Test of the Efficacy of Strategic Management Approaches
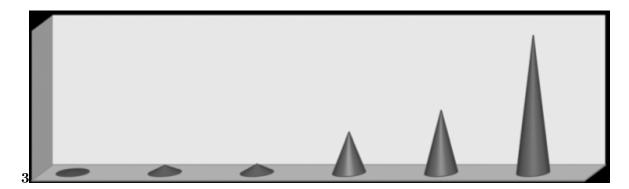
Figure 1: Managing

Figure 2: Figure 2 :

Figure 3: Figure 3 :

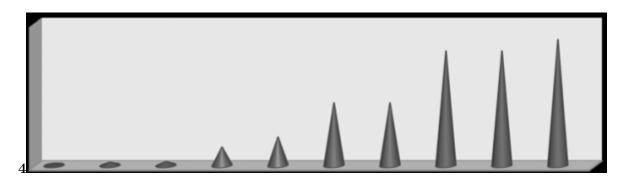Figure 4: Figure 4 :

Figure 5:

2

(MOMAN) in Akwa Ibom State. Judgmentally, a total
number of 150 consumers were chosen to participate in

S/N	Date	Administration	Price	%age Change	
1	1978	Obasanjo	15k	-	
2	1990	Babangida	60k	300%	
3	1992	Babangida	70k	17%	
4	1992	Babangida	N3.25k	364%	
5	1993	Babangida	N5.00	54%	
6	1994	Shonekan	N11.00	120%	
7	1994-1997	Abacha	N11.00	-	
8	1998-1999	Abacha	N20.00	82%	
9	2000	Obasanjo	N20.00	-	
10	2000	Obasanjo	N22.00	10%	
11	2001	Obasanjo	N26.00	18%	
12	2003	Obasanjo	N40.00	54%	
13	2004	Obasanjo	N45.00	13%	
14	2007	Obasanjo	N70.00	56%	
15	2007-2009	Yar"Adua	N56.00	0.07%	
16	2010-2011	Jonathan	N65.00	-	
17	2012	Jonathan	N141.00	117%	
	2012		N97.00	-	48.36
18	2013	Jonathan	N97.00	0.00	
19	2014				
	2014				

Figure 6: Table 2 :

3

0.15 0.60   0.70 1.25 5.00 11.00 11.00 20.00 20.00 22.00 26.00

Causes	SA
Excessive corruption & Mismanagement Oil Pipeline Vandalisation	193
	129
Insufficient/ malfunctioning of refineries	107
Diversion & Smuggling	110
Hoarding Administrative Bottlenecks & Legal limitations Inadequate Funding Manpower Shortage	

Figure 7: Table 3 :

4

Effects	SA	A	?(SA:A)	SD	D	?(SD:D)	UD	Total
Socio Economic Unrest	129	137	266	39	42	81	4	351
Hike in Transport Fare	120	166	286	18	39	57	8	351
Heavy Consumption Burden occasioned by skyrocket market price	130	127	257	28	33	61	33	351
Fire and Road Accidents	61	100	161	51	100	151	39	351
Stagnation of Goods and People	121	140	261	31	42	73	17	351
Poverty & Sufferings	133	162	295	23	27	50	6	351

Source: Field Survey, 2014

Figure 8: Table 4 :

5

Likert Scale Point	(SEU)	(HTF)	(HCB)	(FRA)	(SGP)	(PS)
4	129	120	130	61	121	133
3	137	166	127	100	140	162
2	39	18	28	51	31	23
1	42	39	33	100	42	27
0	4	8	33	39	17	6

Source: Table 4

Figure 9: Table 5 :

6

Effects petrol scarcity on lives of Nigerians	Correlation co-efficient (r 2)	Sig. (2-tailed)
Socioeconomic Unrest (SEU)	.920*	.027
Hike in Transport Fare (HTF)	.801*	.104
Heavy Consumption Burden (HCB)	.855*	.065
Fire & Road Accidents (FRA)	.246*	.690
Stagnation of Goods and People (SGP)	.862*	.061
Poverty & Sufferings (PS)	.857*	.063

Figure 10: Table 6 :

7

Effects on economy	SA	A	?(SA:A)	SD	D	?(SD:D)	UD	Total
Retardates Economic Growth	130	105	235	84	27	111	05	351
Increases Inflation	199	110	309	12	20	32	10	351
Crippled Economic Activities	99	81	180	56	101	157	14	351
Bring Down Government	110	126	236	41	59	100	15	351
Dwindle foreign reserves due to importation of fuel	97	116	213	51	80	131	7	351
Closure of Industries	128	161	289	21	29	50	12	351
Hinders infrastructural Development	119	181	300	19	25	44	7	351
High Cost of Living	123	185	308	12	23	35	8	351
Foreign & Domestic Disinvestment	106	199	305	17	23	40	6	351
Increased Unemployment due to closure of factories	109	190	299	19	29	48	4	351

Source: Field Survey, 2014

Figure 11: Table 7 :

8

Likert Scale Point	(REG)	(IF)	(CEA)	(BDG)	(DFR)	(CI)	(HID)	(HCL)	(FDD)	(IU)
4	130	199	99	110	97	128	119	123	106	109
3	105	110	81	126	116	161	181	185	199	190
2	84	12	56	41	51	21	19	12	17	19
1	27	20	101	59	80	29	25	23	23	29
0	5	10	14	15	7	12	7	8	6	4

Source:

Figure 12: Table 8 :

69

Effects of petrol scarcity on economy of Nigeria	Correlation coefficient (r_2)	Sig. (2-tailed)
Retardates Economic Growth (REG)	.985*	.002
Increases Inflation (IF)	.889**	.044
Crippled Economic Activities (CEA)	.654*	.231
Bring Down Government (BDG)	.870*	.055
Dwindle foreign reserves due to importation of fuel (DFR)	.801*	.103
Closure of Industries (CI)	.833*	.080
Hinders infrastructural Development (HID)	.787*	.114
High Cost of Living (HCL)	.777*	.122
Foreign & Domestic Disinvestment (FDD)	.723*	.168
Increased Unemployment due to closure of factories (IU)	.749	.145

Figure 13: Table 6 Table 9 :

10

Strategies	SA	A	?(SA:A)	SD	D	?(SD:D)	UD	Total
Fuel Subsidy Removal (FSR)	31	44	75	109	156	265	11	351
Setting up Task Force on Petroleum Product Monitoring (TFPPM)	8	9	17	111	222	333	1	351
Reforms of the Downstream Sector (RDS)	3	3	6	126	217	343	2	351
Institution of Petroleum Industry Bill (PIB)	4	7	11	20	18	38	302	351
Introduction of Petroleum Support Fund (PSF)	17	13	30	123	182	305	16	351
Creation of NNPC and its subsidiaries (C'NNPC)	99	93	192	43	102	145	14	351
Establishment of the Department of Petroleum Resources (DPR)	21	9	30	186	130	316	5	351
Establishment of Petroleum Product Pricing and Regulatory Agency (PPPRA)	32	41	73	99	107	206	72	351

Source: Field Survey, 2014

Figure 14: Table 10 :

11

Likert Scale Point	(FSR)	(TFPPM)	(RDS)	(PIB)	(PSF)	(NNPC)	(DPR)	(PPPRA)
4	31	8	3	4	17	99	21	32
3	44	9	3	7	13	93	9	41
2	109	111	126	20	123	43	186	99
1	156	222	217	18	182	102	130	107
0	11	1	2	302	16	14	5	72

Source:

Figure 15: Table 11 :

812

Effects petrol scarcity on lives of Nigerians	Correlation coefficient (r 2)	Sig. (2-tailed)
Fuel Subsidy Removal (FSR)	-.188	.761
Setting up Task Force on Petroleum Product Monitoring (TFPPM)	-.327	.592
Reforms of the Downstream Sector (RDS)	-.342	.573
Institution of Petroleum Industry Bill (PIB)	-.740	.153
Introduction of Petroleum Support Fund (PSF)	-.339	.577
Creation of NNPC and its subsidiaries	-.644	.241
Establishment of the Department of Petroleum Resources (DPR)	-.170	.785
Establishment of Petroleum Product Pricing and Regulatory Agency (PPPRA)	-.688	.199

Figure 16: Table 8 Table 12 :

13

Strategic mangement approaches	SA	A	?(SA:A)	SD	D	?(SD:D)	UD	Total
SWOT Analysis of Petroleum	20	28	48	31	33	64	239	351
PEST or STEEP Analysis	13	20	33	40	36	76	242	351
Balanced Score Card Analysis	15	10	25	14	12	26	300	351
Porter Five Forces Analysis	8	12	20	15	6	21	310	351

Source: Field Survey 2014

Figure 17: Table 13 :

14

Likert scale point	SWOT analysis of petroleum	PEST or STEEP analysis	Balanced score card analysis	Porter Five Forces Analysis
4	239	242	300	310
3	33	36	12	6
2	31	40	14	15
1	28	20	10	12
0	20	13	15	8

Figure 18: Table 14 :

1015

Effective strategic management approach	Correlation coefficient (r 2)	Sig. (2-tailed)
SWOT Analysis of Petroleum	.741	.152
PEST or STEEP Analysis	.775	.124
Balanced Score Card Analysis	.704	.185
Porter Five Forces Analysis	.705	.184

Source: SPSS generated result

On the basis of aggregate agreement response for SWOT analysis was 48 (which was about 13.68%) of all the respondents with aggregate disagreement response was 64 (18.23%) of all respondents, but with a total of 239 undecided responses (which was about 68.09%) of all the respondents. PEST had an aggregate agreement response of 33 (9.40%), aggregate disagreement response of 76 (21.65%) and, a total of 242 unexpressed response which represent about 68.96 percent of all respondents. Balanced score card had 25 (7.12%) aggregate agreement responses and 26 (7.41%) aggregate disagreement responses and, a total of 300 reserved comments representing 85.47 percent of all respondents. Finally, Porter five factor analyses had 20 (5.70%) aggregate agreement responses and 21 (5.98%) aggregate disagreement responses and, a total of 310 reserved comments which repr 32 percent of all respondents.

Figure 19: Table 10 Table 15 :

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