Sales and supply chain risks mitigation: a study of some companies at the peak of Boko Haram insurgency in North East, Nigeria

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Abstract. This paper discusses the risk mitigation strategies of some Nigerian companies that make and/or import and distribute their products in the North Eastern part of the country where the Boko Haram (BH) religious insurgency has been very active. The aim of the study is to understand how some of the affected companies adopted mitigating strategies to remain resilient in the region during the peak of the Boko Haram insurgency (between 2012 and 2015). A secondary aim of this study is to add to the body of knowledge on supply chain risk management practices in a developing economy. A qualitative research methodology involving case studies of four companies operating in the region was adopted. The findings indicate the sectional risk mitigating strategies adopted by the companies to contain the disruptions included a combination of the various options of risk avoidance, retention, reduction and transfer. Based on the findings obtained from the study, there is the need for companies to consider the conceptualization and implementation of supply chain risk management structure, policies and processes to guide against any form of risk in their operating areas.

Keywords: Supply Chain Security; Risks; Boko Haram; Insurgency; Product Distribution.

1. Introduction
Traditionally, many manufacturing and service organisations operate within the national boundaries of their countries. Most of the companies source for materials locally or through imports and focus on meeting the consumer’s needs largely in the domestic market. In this context, the conventional approach to managing the supply chain vulnerabilities revolve around the protection of goods and assets such as the factories, some basic operational issues relating to employee strikes, import processes, loss prevention, funding and information flows. The advent of globalization has greatly enhanced the spread of most businesses beyond the national boundaries driven largely by the desire to remain competitive by sourcing inputs from cheaper locations and also selling to consumers in far flung markets. For example, a company head-quartered in a particular country could produce in other countries by relying on materials and components supplied from countries other than the firm’s location, while at the same time sell the finished products to consumers in different geographic markets far away from the place of manufacture. The resulting network of supply sources and distributors may result in complexities from transport infrastructural challenges, regulations and uncertainties due to the diverse nature and different
socio-cultural and economic settings of the network. The uncertainties associated with the resultant global supply chain network include those directly related to suppliers of funds, materials and services, movement across border and the channels of customers and consumers. This brings to focus the need to have a sustainable physical and socio-cultural infrastructure upon which operational activities of the private and public sectors thrive. The success of the global supply chain network entails the application of robust management innovations that would enable the company to proactively respond to emerging opportunities and threats in the different supplier and consumer markets, failing which the prospects of survival in the global era is reduced. One of such management innovations is the concept of supply chain risk management which is crucial for the success and achievement of business goals of any firm be it manufacturing or service.

Extant literature shows an increasing interest in the area of supply chain risk management over the past decade [1], [2]. This is mostly attributed to the upward swing in the intrinsic vulnerabilities of modern supply chains to risks due to increasing levels of uncertainty of the business environment, shorter product life cycles and complexity of the chains [3], [4], [5]. Khan and Burns [6] maintain that in developing supply chain risk management strategies, organizations tend to focus more on cost reduction, and in some cases, may depreciate the risks from supply chain disruptions by transferring them to third parties. These attitudes to risk management are generally informed by the nature of the business as well as individual style and behaviour [7]. In the assessment and selection of risk mitigation options, managers tend to be influenced by system-bounded rationality biases, most specifically to the structure and availability of information for optimal decision making with respect to project net present values [8]. However, as opined by Sunstein [9], there is no justification for neglecting the opportunity costs, whilst trying to strike a balance between financial exposure and risk mitigating efforts. In this perspective, Sheffi and Rice [10] argue that for an enterprise to become sufficiently resilient, strategic risk management initiatives become a priority in order for it to maintain and increase its competitiveness in the marketplace. This will require building optimal levels of redundancy in materials supply via industry-wide collaboration efforts enhanced by proximal positioning within an organization’s supply network, elevating firm-level readiness and responsiveness in the wake of supply chain disruption by harnessing modern technology [11], [12], [13], and proactive purchasing planning [14].

A cursory investigation into academic supply chain risk management (SCRM) highlights a lack of tested empirical case studies within the literary domain as the few available have concentrated mainly on conceptual and descriptive analysis using risk models that are still at the early stages of development [15], [6]. Some authors relied mainly on speculative assumptions [16], [7]. Others focused on the risk assessment phase of the risk management spectrum with little or no contextual risk analysis given that risk is context-dependent [17]. Furthermore, most of the literature on supply chain risks have been written largely from the perspective of the developed than the emerging economies. Therefore, this paper seeks to investigate how organizations in a developing economy manage the sale of their products with particular focus on pure risks as a means to close the gap in the literature. This was carried out using case-based studies within the Nigerian supply chain context to analyse and compare the approaches and techniques four companies located in Lagos that sell a sizable quantity of their products in the north east of Nigeria where religious/ political insurgency had being in control between 2012 and 2016.

This paper is organised in five sections. Section two presents the nature of risk and supply chain management. Section three deals with the Boko haram insurgency and research questions. Section four deals with the research method; section five presents the findings, and discussion of the findings and recommendations.

2. The Nature of Risk and Supply Chain Management

Supply chain management has been described severally from different perspectives by authors and trade groups. Council of supply chain management professionals [18] posit that “supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion and all logistics management activities”. Inherent in this definition is the management of all the links (different forms of transport network) connecting the focal company with the channel partners,
intermediaries, other agencies (called nodes) and the flow of funds, materials and information from the origin to the destination. The links and nodes that make up the supply chain are subject to different threats or risks. Any deliberate or unforeseen break in the links or damage to the nodes may negatively impact on the ability of the focal company or partners in the chain to realize their supply chain goals. The negative effects, whether internally or externally induced, produce highly-divergent and disruptive tendencies within the supply chain [5]. Aloini et al. [15] define risk as “…an uncertain event or condition that, if it occurs, has a negative effect on project objectives.” These wanton disruptions have significant adverse effects on the short and long term value of a firm, leading to loss in market position arising from product unavailability and increasing expediting costs [19]. A holistic risk management therefore involves the identification, assessment and mitigation of risks in the most effective and efficient manner [20]. This corroborates the definition by [21] as the “identification and management of risks for the supply chain through a coordinated approach amongst supply chain members to reduce supply chain vulnerability as a whole”. This process is usually embedded within a contextual analysis of risk preference and control strategy, the overall objective being to avoid, defer, reduce, exploit or transfer all relevant risks [22], [5].

Tah and Carr [23] classify risks by adopting a hierarchical breakdown structure using a causal network of likelihood and severity. They delimit risks as both external risks – which are relatively uncontrollable (examples include fiscal fluctuations, natural disasters and terrorism), and internal risks – which are comparatively more controllable (e.g. business operational risks). In this perspective, external risks or in other terminologies (pure risks) are high magnitude, low probability and/or pervasive occurrences that have catastrophic negative consequences on the supply chain [24], [5]. As adduced by Kern et al. [25, 26], a singular occurrence of a pure risk episode can cause a total collapse of the whole supply chain, interrupting the flow of goods or services. Thus, pure risks require more predictive, collaborative and adaptable mitigation strategies in order to effectively contain them as their drivers are mostly exogenous and ubiquitous to a vast majority of global supply chains [17]. Pfohl, Köhler and Thomas [27] state that “Supply Chain Risk Management is a collaborative and structured approach to risk management, embedded in the planning and control processes of the supply chain, to handle risks that might adversely affect the achievement of supply chain goals”. These consequences can impact the firm both directly or indirectly and could include poor service levels, which negatively affect long term customer engagement, higher insurance premiums and other risk effects of supply chain disruption [28].

2.1. Approaches to Supply Chain Risk Management

Wagner and Bode [5] state that two approaches are dominant in the field of supply chain risk management – risk as both threat and opportunity and risk as pure danger. Whereas in the first instance, risk is defined as the variance around the mean of both the upside and downside potential performance measure, in the other case, risk is perceived in the downside potential only [21]. Furthermore, there exists the scientific versus the social constructionist perspectives with respect to risk. Whereas the scientific view regards risk as objective and measurable based on positive or negative probability of occurrence, the later holds risk as determinable by institutional and environmental conditions – and therefore subjective [29]. In identifying and analyzing risks, Norrman and Jansson [30] suggest a structured risk mapping that elucidates risk sources and their potential consequences using the logical “fault tree analysis” (FTA) and “event tree analysis” (ETA). The mapping will require quantitative data in order to technically ascertain the respective probabilities and are then imposed on a matrix to assess the priority levels. These can then be integrated into a business continuity management plan – involving crisis management, disaster recovery, business recovery and contingency planning especially when pure risks are in focus. In addition, Rao and Goldsby [31] suggest a four-prong approach that involves supply management, demand management, product management, and information management – in a collaborative manner with upstream partners. Chopra and Sodhi [32] suggest a proactive mechanism in managing supply chain risks by risk stress testing which can help firms understand and prioritize supply chain risks using scenario analysis to focus on the supply chain one link at a time. They are of the view
that the proactive measure can help identify risk-mitigating priorities in the near, short and long term basis.

2.2. Boko Haram Terrorism
The events of the Niger Delta militants in Nigeria seem to have precipitated an intense interest among corporate organisations on just how to mitigate such external risks and remain focused on their business goals. Whilst the intent of the militants and their modus operandi are well known, there arose an entirely different religious sect (or socio-political group?) in the North-Eastern part of the country with very different ideology and tactics. This sect is known as Boko Haram (BH) and they commenced operations in Nigeria in 2008, though information from the local news media suggest earlier dates. Boko Haram activities are widely reported in the local newspapers and television media. Information from the news agencies suggest that the sect started their disruptive activities in Bornu State and the eastern part of Adamawa States. The activities of the sect have since spread to neighbouring countries – Cameroun, Chad and Niger Republic. The strategy of the sect as gleaned from the reports of their actions seems to concentrate on Islamisation of Nigeria. Their activities resulted in their temporary creation of some Islamic States out of the existing Bornu and Adamawa States of Nigeria. It is believed that they were in full control of most of the North East of Nigeria between 2012 and 2015. Much as they destroy any form of western life enhancement materials, they leverage the very western-made technology including the social media to share their opinions and claim responsibility for attacks. Boko Haram (interpreted as anti-western culture, education and technology) believe that western culture and education are sins. In other words, they see any form of business activity as sins and have unleashed terror on people, civil society and any business entity on their path to enthroning Islamic way of life in Nigeria. Boko Haram is said to thrive under the influence of fear and greed as the indigenes of the area are both afraid of the sect and the harm they cause in addition to the greed through which they are lured with promises of material gain [33]. Poverty has also been known to play a major role in the recruitment of members for the sect as hungry and idle youth are easy targets for recruitment. Absolute poverty in eight out of the twelve Northern States in Nigeria exceeds the national average of 7 per cent and has remained so, due to terrorist activities that have derailed the Millennium Development Goals aimed at ending poverty and hunger. The unrest has also caused farmers based in the volatile areas to escape, losing their livestock, farm crops and means of livelihood to Boko Haram members in the process, while hunger persists [34]. Sulaiman [35] believes that porous borders help terrorism to thrive as Nigeria’s seemingly unmanned borders allow untraceable movements of terrorists and their weapons in and out of the country. Although Boko Haram activities are restricted to the North-Eastern parts of Nigeria, the effect is felt nationally as the country is painted as an unsafe place for investors and tourists. Terrorism also increases the fringe cost of other services in the country like insurance, taxes, personnel costs, transportation and handling of goods, making them more expensive due to the surrounding uncertainty and increased security risks. The scope of Boko Haram insecurities in the Northern part of Nigeria can be seen through various bombings and attacks, the kidnap of 276 Chibok school girls, the brutal killings of the 59 students of Government College Buni-Yadi, recent murder of foreign aid workers and deaths that have totaled about 15,000 as at 2018. This has caused Nigeria to be put on terror watch and caution lists for foreigners by their Consulates and has led to the loss of income that could have accrued to Nigeria through tourism [35].

Table 1: Indicators of Socio-economic deprivation by zone

| Zone       | Absolute Poverty | No schooling | Adult literacy | Unemployment |
|------------|------------------|--------------|----------------|--------------|
| North-East | 69.0             | 63.7         | 23.0           | 31.9         |
| North-West | 70.0             | 63.8         | 21.6           | 28.8         |
| North-Central | 59.5          | 36.8         | 47.0           | 28.8         |
| South-East | 58.7             | 14.4         | 81.8           | 19.6         |
| South-West | 49.8             | 17.2         | 79.8           | 11.4         |
| South-South | 55.9             | 10.7         | 77.1           | 24.6         |
Meagher [36] opines that poverty, Islamic terrorism and high level of illiteracy in Northern Nigeria have given rise to non-inclusivity among all the geographical zones in Nigeria. This can be seen in the quality of citizens from the Northern area who are not as educated as their Southern counterparts with whom they compete for limited opportunities in the job market.

3. Research Questions
The aim of the study is to explore the mitigating strategies deployed by four Nigerian companies operating in the region, to achieve their sales goals during the peak of the Boko Haram insurgency (between 2012 and 2015). A secondary aim of this study is to add to the body of knowledge on supply chain risk management practices in a developing economy. The study sought answers to three research questions:

RQ1. What mitigating supply chain strategies were adopted during the peak of the BH insurgency in the North East?

RQ2. How effective were the strategies?

RQ3. What recommendations can be offered to safeguard distributive trade in the region?

4. Research Methodology
Literature on research methods suggest very many approaches depending on the nature of the study and the research questions. Generally, two major methods seem to dominate and they include qualitative and quantitative methods. However, combinations of the two methods have opened up a variety of research topology which include multiple variants of the mixed method (i.e. partly qualitative and quantitative) approach such as sequential and embedded mixed methods [37]. A qualitative research method involving case studies of four companies operating in the region was adopted. The method adopted would help in this study since the issues at stake have not been examined within the context of Nigeria as far as the authors are concerned.

Whilst there are manufacturing and sales companies in the region, there are other companies located in the southern parts of Nigeria who also produce and distribute products in the North East. In a bid to reduce the incidences of kidnapping and/or outright attack by the insurgents (since it was not always clear who actually is a member of the sect on the streets in the area), the research was limited to those companies located in Lagos, that had distributive outlets in the North East and were willing to take part in the study. In order to gain an insight into the sales activities and performances of the companies, a qualitative approach involving semi-structured interviews of the head of sales and/or logistics of the selected companies were conducted. Documentary reviews of local newspapers were also explored. The interview protocol is in Appendix 1. All confidential issues were discussed and agreed upon prior to the dispatch of the interview questions. The degree of confidentiality covered the following:

- The name and specific features of the products of the companies must not be reported.
- The company names must not be mentioned, but a general description of what they make is permitted.
- Name of Logistics staff must not be mentioned.

Only one company attempted all the questions and provided clarifications during the interviews. The rest provided minimal clarifications at the interviews, but relied more on the sales data. Due to the agreed issues on confidentiality, the companies were labelled as C1, C2, C3 and C4. The stock keeping units were labelled as C1.1, C1.2; C2.1, C2.2; C3.1, C3.2; C4.1, C4.2 and so on for each of the companies.
5. Findings and Discussions

The findings on the companies including the graphical representations of the sales data are discussed below:

5.1. Company details, key personnel, experience in the trade distribution and Logistics being interviewed.

- C1: is among the top four dairy, beverage and household consumable manufacturing company in Nigeria. Personnel interviewed has twenty-six years of experience in distribution logistics, planning and transportation management.

- C2: is one of the beverage and personal products companies in Nigeria with one or two popular brands. Personnel interviewed is quite experienced with at least 10 years cognate practice in the sector.

- C3: is one of the pharmaceutical companies in Nigeria. Personnel interviewed is also quite experienced in the sector and has worked for other pharmaceuticals as well.

- C4: is cell/mobile phone service provider in the company. Personnel had limited experience given that telecommunication industry was at the growth stage.

With the exception of the interviewee from C4, all others showed remarkable level of knowledge and understanding of their company and the economic sectors.

5.2. Number and nature of company’s product types and utility to the consumers.

- C1: Product types – C1 has ten stock keeping units (SKUs) comprising two beverages, two food seasoning and six dairy products. They are produced at the Lagos factory and sold in the different regions of Nigeria. Some are sold in neighbouring countries of Chad, Cameroun and Niger Republic through independent dealers.

- C2: Product types – C2 has ten stock keeping units (SKUs) made up of two beverages, two juice drinks, one dairy product and five personal care items. The personal products and some of the beverages are imported as finished SKUs while the rest are made and distributed locally.

- C3: Product types – produces, markets and sells ten SKUs of pharmaceutical products in tablets and suspension forms. They are primarily over-the-counter (OTC) products.

- C4: Product types – imports, markets and sells ten SKUs made up of phone recharge cards and accessories.

Of the four companies, only C3 and C4 have unique products not stocked by the others. The phones and the accessories are relatively new in the market and therefore, could experience sustained demand, which, is predicated on the fact that Nigeria embarked on mobile phone technology in the early 2000, and the majority of its people were eager to own a phone. Although competitive activities may impact on the company’s products, the preponderance of people owning more than one phone at a time may sustain the demand and the sale of phones and its accessories. However, continued sales of the phones and accessories by any of the competing companies in the area could be affected by the activities of Boko Haram who, as is well documented, targets and destroys telephone and communication masts, open markets, malls and shops that stock western made products. Most of the beverages stocked by C1 and C2 are well known and substitutable and the demand could be affected by competitive actions such as promotions, price reviews, new product introductions and the stages in the product life cycle of the SKUs. Product demand is likely to be affected by recession which occurred in 2016, though the degree of the impact is dependent on the product utility and the availability of affordable substitutes. Attacks on the open markets and malls and the fear of being bombed are threats to the continued sale of these products. The products stocked by C3 are unique and although subject to competitive and other external forces such as recession, their sustained performance is dependent on the risk mitigating strategies of the company.
5.3. How did the company plan for business continuity? Is there an integrated risk management plan or sectional plans (e.g. for Supply Chain, etc.)?

C1: Had a business continuity plan (BCP) for the North East as well as a sectional risk management plan focused on the region. Details of these plans were not available.

C2, C3, and C4 had no BCP and neither had any sectional risk management plans for the North East. Based on this finding, it is reasonable to suggest that the companies were lacking in risk management capabilities and culture and may have reacted spontaneously as the threats broke. Of particular importance is the fact that without the enthronement of sound risk management structure, culture, analytical and predictive competences, it would be extremely difficult to predict the occurrence of risks that emanated from the external sources [17].

5.4. What are the supply chain objectives of the company?

C1: To achieve not less than 99.5 per cent product availability on all key brands and SKUs and fill rate of 98 per cent as well as reduce transportation cost per case by about 3-5 per cent.

C2: No specific supply chain objectives were known, but emphasis appears to be on high level of product availability.

C3: emphasizes product availability.

C4: emphasizes product availability.

Since the four companies are located in the southern parts of Nigeria (about 1,500 kilometers from the North East capital city Maiduguri) and given the products relatively high weight and volume ratios, it is imperative that there is the need to stock the products in depots within the North East if they are to achieve the desired level of product availability and fill rates. With reference to the reduction of transportation cost per unit, long hauls at full truckloads of about 30 tonnes by road of the mix of different SKUs were deployed.

5.5. Structure of channels of distribution and geographical reach in the area including depots, transportation, staffing and tiers of customers and consumers.

C1: Direct shipment to own depot and also, to customers with adequate warehousing capacity. Utilized some transportation logistics service providers and deployed some sales personnel to aid the distributors in the region.

C2: No specific details although third party haulage companies were also utilized to ship to their depot in the region.

C3: Similar to C2 above.

C4: Uses third party haulage companies and quite often took advantage of flights to move cargo to Maiduguri due to the light weight-volume ratio of their products (phones and accessories).

| S/No | Year | Sales Personnel | No. of Distributors |
|------|------|-----------------|---------------------|
| 1    | 2010 | 5               | 10                  |
| 2    | 2011 | 5               | 10                  |
| 3    | 2012 | 3               | 8                   |
| 4    | 2013 | 0               | 8                   |
| 5    | 2014 | 0               | 8                   |
| 6    | 2015 | 0               | 8                   |
| 7    | 2016 | 0               | 9                   |
C1: Based on the sales data in Table 2, C1 had ten distributors and five sales personnel at the Maiduguri depot in 2010 and 2011. In 2012, the distributors and sales personnel were reduced to eight and three respectively, while in 2013 to 2015 the sales personnel were completely withdrawn. These actions were due to the activities of the BH. The action of reducing the sales staff and distributors between 2012 and 2015 point to the risk management strategy of ‘reduction’ and avoidance of loss of personnel. However, C1 allowed the remaining indigenous distributors from the area to continue. However, in 2016 a distributor was added indicating the desire to increase sales due to the drop in BH hostilities. The aggregate sales performance of the SKUs is shown in Figure 1. Sales dropped significantly by over ten per cent between 2011 and 2015 and slightly picked up in 2016. At the SKUs level (Figure 2) the swings varied, although between 2012 and 2015 there were marked decreases in sales in most of the SKUs. These were attributed to ‘unavailability of sales personnel, closure of the border between Nigeria and neighbouring countries, road closure within the state which prevented delivery trucks reaching the distributors in some areas of the region’.
Table 3. No. of Sales Personnel & Distributors (Company C2)

| S/No | Year | Sales Personnel | No. of Distributors |
|------|------|-----------------|---------------------|
| 1    | 2010 |                 |                     |
| 2    | 2011 | 5               |                     |
| 3    | 2012 | 5               | 6                   |
| 4    | 2013 | 5               | 6                   |
| 5    | 2014 | 4               | 4                   |
| 6    | 2015 | 4               | 4                   |
| 7    | 2016 | 2               | 3                   |

Figure 3. Aggregate sales performance of the SKUs for C2

Figure 4. Sales performance for the ten SKUs of C2

C2: C2 had one depot, six distributors and five sales personnel in 2012. Between 2013 and 2016, the distributors and sales personnel were reduced to three and two respectively due to the activities of the BH. At the aggregate level, sales dropped significantly by over ten per cent between 2013 and 2016. At the SKUs level sales dropped between 2013 and 2016. These were attributed to ‘serious insurgency
creases. It would be reasonable to suggest that C1 may have experienced an increase in sales in 2016, whilst C2 was still having some difficulty in responding to the challenges of BH. From the data in Table 3, it will seem that C2 adopted the risk management strategy of reduction of staff and distributors to limit the degree of exposure of staff and supply chain partner.

Table 4. No. of Sales Personnel & Distributors (Company C3)

| S/No | Year | Sales Personnel | No. of Distributors |
|------|------|-----------------|---------------------|
| 1    | 2010 |                 | 6                   |
| 2    | 2011 |                 | 6                   |
| 3    | 2012 | 1               | 6                   |
| 4    | 2013 | 1               | 4                   |
| 5    | 2014 | 1               | 3                   |
| 6    | 2015 | 1               | 1                   |

Figure 5. Aggregate sales performance of the SKUs for C3

Figure 6. Sales performance of the SKUs for C3
C3: C3 had a depot, six distributors and one sale personnel in 2012. In 2013, the distributors were reduced to one but the sales personnel remained. The sales performances of the SKUs are shown in Figures 5 and 6. At the aggregate level, sales dropped significantly by over ten per cent between 2012 and 2016. At the SKUs level the drop in sales varied. These were attributed to ‘serious insurgency crises. It would appear that C3 operated a lean distribution strategy in the area whereby only a sales staff was deployed. However, the number of distributors were significantly reduced to only one as at 2016, thus, indicating the adoption of reduction strategy of risk mitigation.

| Table 5. No. of Sales Personnel & Distributors (Company C4) |
| --- |
| S/No | Year | Sales Personnel | No. of Distributors |
| 1 | 2010 | 3 | 2 |
| 2 | 2011 | 3 | 2 |
| 3 | 2012 | 1 | 2 |
| 4 | 2013 | 0 | 0 |
| 5 | 2014 | 0 | 0 |
| 6 | 2015 | 0 | 0 |
| 7 | 2016 | 0 | 0 |

Figure 7. Aggregate sales performance of the SKUs for C4

Figure 8. Sales performance of the SKUs for C4
C4: C4 had a depot, three distributors and three sales personnel in 2010. At the aggregate level, sales were on the increase between 2010 and 2012. However, the main telecommunication mast was destroyed by BH in 2012 and the company shut down operations and withdrew completely from the region. Table 5, Figures 7 and 8 indicate the performance of C4 and the subsequent withdrawal of all operations in the region.

5.6. What strategies did the company adopt during the disruption of its channels of distribution?
C1: Deliberate depletion of on-hand stock in Maiduguri depot to reduce risk of product loss in case of attack. Regional hubs were created in four cities (Kaduna, Yola, Kano and Gombe) in the north central states. The distances of the cities from Maiduguri range from 300 to 900 kilometers. Stock was adequately maintained at the hubs to improve response time to Maiduguri area rather than ship directly from Lagos. Delivery trucks delivered to Maiduguri depot from the regional hubs during the day, and stayed overnight at the depot. Distributors in the region were incentivized to pick up orders in unbranded vehicles from the depot. Staff at the depot were allowed the flexibility to make decisions based on their security assessment on a daily basis.
C2 and C3 adopted similar strategies but were not willing to elaborate on them.
C4: Shut down operations and withdrew from the region.

Generally, the strategies adopted by C1, C2, C3 and C4 to contain the disruptions suggest a combination of the various risk treatment options of avoidance, retention, reduction and transfer [22, 5]. Firstly, C1, C2 and C3 adopted risk reduction strategies by reducing the number of distributors in the region. C1 and C2 also reduced their sales personnel. Furthermore, C1, C2 and C3 retained their depots while C4 exited completely. The withdrawal of sales personnel and the simultaneous reduction of the distributors impacted, in most cases, on the sales volume of the companies. Secondly, C1 transferred part of the risk by engaging logistics service providers with competences in haulage and warehousing activities and also incentivized distributors to pick up supplies from the depot. By creating regional hubs in four cities close to the North East, C1 adopted risk avoidance strategies by re-structuring the distributive component of the supply chain through the re-direction of resources to the hubs. This particular action will increase the unit cost of transportation given the two transport links, warehousing, handling and carrying costs compared to direct shipment to Maiduguri from the Lagos factory as shown Figure 9. Thirdly, C4 adopted the avoidance strategy by exiting the region after the destruction of their mast. Whist the strategies deployed by C1, C2 and C3 seem to have helped them remain in the trade in the North East, there is no gain-saying the fact that the activities of the BH significantly reduced sales and therefore, the revenue generated therefrom. However, the effectiveness of the strategies could be assessed from the drive to maintain presence in the market and ensure long-term customer engagement pending the resolution of the insurgency rather than pulling out completely. This represents some form of a trade-off between maintaining presence in the area against complete withdrawal which, may make entry into the area after hostilities quite costly. Unfortunately, C4 pulled out completely rather than maintain presence pending the restoration of normalcy in the area.
5.7 Implications of reduced sales
Reduced sales and therefore, revenue directly impacts on the profitability of any firm. In severe cases, a firm may embark on lay-off of staff to cut down on costs, thus increasing unemployment situation and could fuel issues of insecurity in the economy.

6. Recommendations and Conclusions
The aim of the study is to explore the risk mitigating strategies deployed by some of companies that marketed and sold their products in the North East in order to achieve their sales goals during the peak of the Boko Haram insurgency (between 2012 and 2015). A secondary aim of this study is to add to the body of knowledge on supply chain risk management practices in a developing economy. Sustainable infrastructure development is a key requirement for economic development. In this context infrastructure not only entails the physical (hard) such as transportation and electricity but also includes the soft types generally regarded as social infrastructure – security, education and health. Sustainable social infrastructure requires the state to ensure high level of security among others. In a situation where this is left to the private sector to handle, it automatically translates into high cost of doing business. In order to function, private business either ensure adequate infrastructure in order to function or seek ways to mitigate the impact of their unavailability. Nigeria-based companies are not only exposed to business risks such as exchange rate fluctuations, import-dependency for input materials, frequent regulatory changes and infrastructure deficiencies, but the existence of multi-tribal sects and different socio-cultural communities point to high potentials of pure risk situations in the country.

In this study, it is obvious that the four companies adopted risk-mitigating strategies some of which differed from the others in so far as their peculiar situations demanded. However, those that adopted the innovative risk management concepts and incorporated planned for business continuity were better able to manage the risk. Therefore, based on the findings from the study, there is the need for companies operating in those regions to:

- Consider the conceptualization, development and implementation of supply chain risk management structure, policies and processes to guide against any form of risk in their
operating areas. This framework would help them sense, identify threats and seek ways to avoid them before they become realities.

- Companies should expand the realm of their environmental scanning or seek partnerships with specialist security firms to enhance early surveillance in order to identify risks and proactively manage them.
- There is the need to provide for business continuity, asset protection and individual safety.
- The uncertainties associated with the structure of the nation suggest the need for organisations to take into account this situation in the development of their supply chain network. As an example, the Niger Delta disturbances have prompted most of the oil producing companies to re-locate their headquarters away from areas.

Appendix

Appendix I: Interview questions with the Companies
1. Company details, key personnel, experience in the trade distribution and Logistics being interviewed.
2. Number and nature of company’s product types and utility to the consumers.
3. What are the supply chain objectives of the company?
4. Structure of channels of distribution and geographical reach in the area including depots, transportation, manning and tiers of customers up to consumers.
5. How did the company plan for business continuity? Is there an integrated risk management plan or sectional plans?
6. What strategies did the company adopt during the disruption of its channels of distribution?

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