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EFFECT OF MARITIME DEFENCE ON OPERATIONAL EFFECTIVENESS OF SHIPPING COMPANIES IN RIVERS STATE, NIGERIA

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ABSTRACT

This study investigated the relationship between maritime defence and operational effectiveness of shipping companies in Rivers State, Nigeria. The study was conceptualized using maritime defence as predictor to flexibility, responsiveness and innovativeness components of operational effectiveness. The study adopted the descriptive survey research design with a correlational type of investigation. The questionnaire method was used to collect relevant data to the study. The study population comprised of the twenty (20) functional shipping companies operating with physical offices in Rivers State, which are also enlisted on Finelib.Com Nigerian Directory. The sample size was the same as the population since the population is not too large. However, the researcher adopted a census sampling technique to administer copies of structured questionnaire to four (4) managers in each of the shipping companies. This means that a total of 80 respondents were used for the study. After data cleaning only 71 copies of the questionnaire were used for the data analysis. Pearson Product Moment Correlation was used in testing the various hypotheses with the help of the Statistical Packages for Social Sciences (SPSS) version 23.0. Findings from the study revealed existence of significant and positive relationship between maritime defence and operational effectiveness of shipping companies in Rivers State Nigeria. The study therefore, concluded that maritime defence significantly relates with operational effectiveness of shipping companies in Nigeria. The study recommended that managers of shipping companies should adopt maritime defence strategies to mitigate threats within the maritime environment, this will impact on operational effectiveness; managers of shipping companies should implement maritime defence measures to ensure operational effectiveness.

Keywords: *Maritime-Defence, Operational-Effectiveness, Shipping-Companies, Rivers-State*

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INTRODUCTION

The maritime sector of Nigeria economy holds great potentials for the growth of national economic development (Lloyd, et al., 2020). The sector boasts of numerous resources which cover both aquatic and marine spaces, including oceans, seas, coasts, lakes, rivers and underground waters. It is on this basis that the maritime sector is being repositioned by the Federal Government of Nigeria to take a lead as one of the viable alternate sources of revenue for growing the economy (Salau & Falaju, 2018). Considering the enormous budgetary and legal provisions made over the years to secure and sustain the oil sector, for potentials of the Nigerian maritime resources to be fully harnessed, there is also the need for the maritime sector to be secured and sustained.

Abubakar (2019) notes that the hallmarks of blue economy would not only establish pathways for the diversification of the Nigeria economy. However, theft of commodities, illegal importation of firearms, armed robberies, and other crimes of a similar nature are unfortunately widespread in our water ways and port terminals; and these affects the Nigeria economy at large. It should also be noted that the Nigeria Maritime Administration and Safety Agency (NIMASA), the designated authority, implemented the International Ship and Port Facility Security (ISPS) code in the ports to prevent crimes like armed robbery, cargo pilferage/theft, stowaways, and other similar activities. However, anecdotal evidence suggests that thefts of commodities, illegal importation of firearms, armed robberies, and other crimes of this sort do occur in our port terminals, despite the presence of NIMASA and other agencies (Abubakar 2019).

According to Brewin (2018) maritime defence refers to the measures that countries take to protect their territorial waters and exclusive economic zones from external threats such as piracy, smuggling, and terrorism. Maritime defence is an important aspect of national security, as countries depend on their maritime resources for trade, transportation, and economic growth. One of the key aspects of maritime defence is naval power, which is the ability of a country to project military force at sea. Naval power includes the number and capability of a country's navy vessels, such as warships, submarines, and patrol boats. It also includes the training and expertise of naval personnel, as well as their ability to conduct operations in different environments and under different conditions. Adebayo (2018), infers that Nigeria naval power has been on the rise in recent years, with the acquisition of new vessels and modernization of existing ones. The Nigerian Navy has been investing in new capabilities such as unmanned aerial vehicles (UAVs) and maritime surveillance systems to enhance its maritime domain awareness and deter piracy and other maritime crimes.

In addition to naval power, maritime defence also involves the coordination and cooperation of different government agencies and international partners. For example, the Nigerian Navy works closely with the Nigeria Maritime Administration and Safety Agency (NIMASA) to enhance maritime security in Nigerian waters. NIMASA is responsible for ensuring compliance with international maritime security standards and providing support to law enforcement agencies in the fight against piracy and other maritime crimes. The importance of maritime defence has been highlighted by the increasing threats posed by piracy and other maritime crimes in the Gulf of Guinea region. According to Obi (2021), the Gulf of Guinea has become one of the world's most dangerous areas for piracy, with pirates targeting vessels for kidnapping and ransom. This has led to increased international attention on the region and the need for countries to enhance their maritime defence capabilities. Maritime defence also involves the use of technology and innovation to enhance maritime security. In the recent time, Deep Blue Project (DBP) in Nigeria involves the deployment of patrol vessels, aircraft, and surveillance systems to deter piracy and other maritime crimes. This project highlights the importance of innovation and technology in enhancing maritime security. However, this study is

aimed to analyze the effects of maritime defence on operational effectiveness of shipping companies in Rivers State, Nigeria. Other specific objectives include to determine:

- The significant effect of maritime defence on flexibility of shipping companies in Rivers State, Nigeria.
- The significant effect of maritime defence on responsiveness of shipping companies in Rivers State, Nigeria.
- The significant effect of maritime defence on innovativeness of shipping companies in Rivers State, Nigeria.

In order to scientifically evaluate this study, the following hypotheses were formulated as guide to achieve the objectives of the study:

- **Ho_1:** There is no significant effect of maritime defence on innovativeness of shipping companies in Rivers State, Nigeria.
- **Ho_2:** There is no significant effect of maritime defence on responsiveness of shipping companies in Rivers State, Nigeria.
- **Ho_3:** There is no significant effect of maritime defence on innovativeness of shipping companies in Rivers State, Nigeria.

LITERATURE REVIEW

Operational effectiveness is the measure of the key performance indexes of every organization. According to Lorange and Norman (2001), in order to achieve operational effectiveness, it is imperative for a shipping company to efficiently oversee and controls its fleet, crew, cargo, and additional resources. This entails minimising costs while simultaneously meeting or surpassing regulatory obligations and customer expectations. The measurement of a shipping company's operational effectiveness is contingent upon the degree of efficiency and effectiveness it demonstrates in using its resources (Lloyd et al., 2020). According to Igoni (2021), operational effectiveness, alternatively referred to as operational productivity, is a metric that is widely utilised by enterprises globally. Lloyd et al., (2020) posit that the conventional conceptualization of effectiveness pertains to the correlation between marketing outcomes and the level of exertion invested in marketing endeavours. According to Bueger and Edmunds (2017), the primary emphasis on creating effectiveness in marketing was initially driven by the goal of reducing marketing expenditures.

One of the key influence of operational effectiveness in shipping companies is the flexibility in operations. Flexibility can be defined as essentially capacity of adaptation. Mandelbaum in 1978, defines flexibility as “the ability to respond effectively to changing circumstances”. According to this definition, flexibility is related to two kinds of change. First, there are “changing circumstances”; and secondly, there is a “response” to these changing circumstances which involves a change in some state or activity. Flexibility is a multi-disciplinary concept that means different things to different people. Intrinsic to the notion of flexibility is the ability or potential to change and adapt to a range of states. The common ground on which all disciplines agree is that flexibility is needed in order to cope with uncertainties and changes; and that it implies an ease of modification and an absence of irreversible or rigid commitments. Flexibility is more about a potential to change and thus, unlike system performance, it is difficult to observe and measure.

Responsiveness refers to the extent to which firms react rapidly to changes in a business environment to seize potential opportunities (Bernardes & Hanna, 2009). This responsiveness reflects “the efficiency and effectiveness with which firms sense, interpret, and act on market stimuli (Garrett, Covin & Slevin, 2009), and has been treated as a competitive advantage. For example, Wei and Wang (2011) proposed that this responsiveness represents a competitive marketing advantage by deploying resources to satisfy customer needs. Inman Sale, Green, Jr and Whitten (2011) noted that a firm with a high level of responsiveness outperforms its competitors in terms of operations. Inman *et al.*

(2011) noted that a firm with a high level of responsiveness outperforms its competitors in terms of operations.

Innovativeness reflects a firm's, tendency to engage in and support new ideas, novelty, experimentation and creative processes (lumpkin & Dess, 1996) that may result in new products, services, or technological processes and which may take the organization to a new paradigm of success Further, Bwisa, Kihoro and Patrick (2013) explained innovativeness as the propensity of a firm to innovate or develop new products that meet and / or exceed customers' expectations or the extent of unmet market needs as reflected in its uniqueness in comparison to similar products offered in the market. Giudici (2013) suggested that innovative practices be represented by the number of new products developed. An innovative mindset describes all the behaviours by which an individual can influence the innovation process, particularly focusing on behaviours oriented towards the generation and application of ideas (De & Den, 2007). In SMEs perspective, it has been found that entrepreneurs with innovative mindset will prioritize innovation as a tool to achieve business success and use strategic management practices and intellectual capital management as opposed to an SME owner-manager who lacks an innovative mindset (Volna, Kohnova, Bohdalova, & Holienka, 2015).

This study adopted the theory securitization which was developed by the Copenhagen School of Barry Buzan, Ole Wœver, Jaap de Wilde and others in the mid-1990s. According to the proponents of this theory, when issues are construed as extreme security that need to be dealt with urgently, they transform from normal, everyday issues to 'dangerous', 'threatening', 'alarming' that need to be addressed quickly with appropriate security measures (Stritzel, 2014). The implication is that security issues are just 'out there' but rather must be articulated as problems by securitizing actors. For instance, immigration of people from one country to another may be a normal everyday occurrence. However, if an individual or group of individuals considers the act as a 'security threat' and start advancing their views on the same, then migration shifts from being a low priority concern to a high priority issue that requires appropriate security action like securing borders. The securitizing actors are often concerned with the security of the state and often focused on analyzing the military and political stability.

However, securitization often goes beyond these limited realms to include other types of threats that are non-military in nature such as human security. The proponents of this theory have subsequently largely focused on five sectors namely economic, societal, military, political and environmental sectors. In the context of this study, this theory relates various activities which in some instances may be taken as normal become serious security issues which is going by the main tenet of this theory, become securitized. For instance, IUU and pollution of the marine environment which for a long time remained non-concern issues have in the recent years become major security concerns due to securitization of the issues by different players like politicians, security professionals and environmentalists.

The application of securitization theory to the study of maritime security and operational effectiveness of shipping companies in Rivers state, Nigeria is justified by the significant challenges faced by the maritime industry in the region. Rivers state is a hub for maritime activities in Nigeria, but it is also susceptible to a range of security challenges such as piracy, armed robbery at sea, and oil theft. These security threats can have a significant impact on the operational effectiveness of shipping companies, as they must take steps to mitigate risks and ensure the safe delivery of goods.

Notwithstanding, many studies have examined the effects of security challenges in Nigeria maritime sector such as Adegbie et al. (2017) explored the impact of maritime security challenges, including piracy and theft, on the operational effectiveness of shipping companies in Nigeria. The study found that piracy and theft incidents negatively impacted the

operational effectiveness of shipping companies, leading to delays, increased costs, and reputational damage. The authors recommended that shipping companies implement effective security measures to mitigate the risks of piracy and theft and improve operational efficiency. Another study conducted by Kapsali and Psaraftis (2016) examined the impact of security measures on the operational efficiency of container terminals in the Mediterranean region. The study found that security measures, such as access control and surveillance systems, can improve the operational efficiency of container terminals by reducing cargo handling times, minimizing disruptions, and enhancing safety. In a study conducted by Abdelgawad and Shehab Eldin (2021) in Egypt, the authors explored the role of stakeholder collaboration in enhancing both maritime security and operational effectiveness. The study found that effective collaboration among stakeholders, including shipping companies, port authorities, and government agencies, can lead to improved security and operational effectiveness in the maritime sector. The authors recommended that stakeholders work together to develop and implement comprehensive security strategies and protocols.

In a study by Amponsah and Amoah (2016), the authors investigated the impact of maritime security on the operational effectiveness of shipping companies in Ghana. The study found that piracy and armed robbery at sea negatively impacted the operational effectiveness of shipping companies, as they led to increased costs for security measures and disrupted the timely delivery of goods. A study by Effiong and Nwokedi (2015) examined the impact of maritime security on the operational efficiency of Nigerian ports. The study found that poor maritime security led to increased costs for shipping companies, as they had to invest in additional security measures to protect their vessels and cargo. This resulted in reduced operational efficiency, as shipping companies had to spend more time and resources on security measures rather than on their core business activities.In another study by Jia and Yang (2018), the authors investigated the impact of maritime security on the operational performance of shipping companies in China. The study found that piracy and armed robbery at sea had a negative impact on the operational performance of shipping companies, as they led to increased costs for security measures and disruptions in supply chain operations.

Ndikom, (2013) conducted a study: A Critical Evaluation of the Challenges and Opportunities of Shipping Line Services in Nigeria, the paper reviewed the nature, characteristics, trends, and problems associated with shipping line services as regards movement of cargos from one port of origin to other port of destination. The paper also analysed the critical challenges and opportunities of the shipping lines in terms of freight costs and movement. The maritime industry being one of the world's most international industries is the bedrock of development. Primary and secondary data were used in the work. Interviews were also conducted which where necessary and questionnaires were administered to the respondents. The questionnaires were distributed among the staffs of Maersk Nigeria limited and Ideke Shipping limited. 89 out of the 100 copies distributed were returned. The results showed a significant relationship between government policies and shipping operations, between the activities of pirates and the profitability of shipping lines and that adequate cargo handling machines leads to faster turn-round time of vessels.

Nwokedi, Okafor, Nwaosu, Chinyeaka, Gbasibo and Okeke (2018). An appraisal of maritime safety management practices and organizational safety performance in Nigeria Maritime Domain: The Case of Bourbon Interoil Nigeria Limited. The study was therefore carried out to appraise the maritime safety management practices and organizational safety performance in Nigerian maritime domain using bourbon interoil Nigeria limited and the International Safety management Code (ISM code) as case studies. It was cast to compare the safety performance of the pre and post ISM training

periods at Bourbon and the overall performance of the organization. A mix method was used to carry out the research adopting both historical and survey data while the trend analysis and independent sample t-test statistical tools were used to analyze the data. It was found that; the trend of accident and accident induced losses show a significantly declining trend in the post ISM training period. The independent sample t-test showed that a significant difference exists between the pre and post ISM training periods.

Similar to the Eastern Africa countries and the western Indian Ocean nations, Randrianantenaina et al. (2013) established that with regard to maritime piracy and armed robbery against ships, Madagascar is confronted with analogous challenges. Maritime piracy and armed robbery against marine vessels off the country's coast cost the Madagascar significant amount in terms of lost revenue due to disruption of revenue generation activities. Reform of the country's national legislation on maritime piracy to ensure an arrest, prosecution and conviction of the pirates is one measures proposed in by the researchers to help Madagascar address the problem of piracy off its coast.

None of these studies emphasized the effects of maritime defence on operational effectiveness of shipping companies in Rivers State precisely being the hearth of shipping organsations in the South-South Nigeria with security challenges. This study sought to breach this knowledge gap to provide more literatures and empirical evidence on the effects of maritime defence on operational effectiveness of shipping companies in Rivers State, Nigeria.

MATERIALS AND METHODS

This study adopted the descriptive survey research design with a correlational investigation type.

The population of this study comprised of the twenty (20) functional shipping companies operating with physical offices in Port Harcourt, Rivers State, which are also enlisted on Finelib.Com Nigerian Directory. The sample size was the same as the population since the population is not too large. However, the researcher adopted a census sampling technique to administer copies of structured questionnaire to four (4) managers in each of the shipping companies. This means that a total of 80 respondents were used for the study. After data cleaning only 71 copies of the questionnaire were used for the data analysis. Pearson Product Moment Correlation (PPMC) was used in testing the various hypotheses with the help of the Statistical Packages for Social Sciences (SPSS) version 23.0.

Table 1: Results of Instrument Reliability Test

S/NO	DIMENSION/MEASURES OF THE STUDY	NUMBER OF ITEM	CRONBACH's ALPHA
1	Maritime Defence	5	0.845
2	Flexibility	5	0.775
3	Responsiveness	5	0.849
4	Innovativeness	5	0.703

Source: Research data output, 2023.

The instrument reliability results as shown in Table 1 depicts that the four constructs used for the study had high reliability values of 0.845, 0.775, 0.849 and 0.703 respectively. This therefore, this entails that the research instruments used for the study have satisfactory constructs reliability.

RESULTS AND DISCUSSION

Table 2: Descriptive Statistics of Maritime Defense

	N	Sum	Mean	Std. Deviation	Variance
We guard our sensitive equipment against unauthorized personnel	71	296	4.17	.756	.571
We have marine police to forestall sea piracy.	71	307	4.32	1.251	1.565
We also have Navy to checkmate terrorist activities and illegal maritime trade	71	300	4.23	1.161	1.348
We have vessel security officers	71	303	4.27	1.230	1.513
Our vessel security officers regularly inspect vessels for safety.	71	318	4.48	.969	.939
Valid N (listwise)	71				

Source: SPSS OUTPUT, 2023.

Table 2 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to maritime Defense. However, it can be seen that question 5 which sought to determine the extent to which vessel security officers of Port Harcourt shipping companies regularly inspect their vessels for safety, has the highest mean score of 4.48. This shows that question 5 has the strongest influence on the variables.

Table 3: Descriptive Statistics of Flexibility

	N	Sum	Mean	Std. Deviation	Variance
We know the requirements for survival in this highly competitive environment	71	321	4.52	.772	.596
Our job allows our staff to leave an hour earlier if they can cover itup on another working day in that week.	71	300	4.23	.831	.691
We have developed capacity for new technologies	71	298	4.20	1.064	1.132
We have adjusted to new working conditions to manage the competition	71	291	4.10	.796	.633
Productivity at work is greater due to flexible working hours.	71	305	4.30	.852	.726
Valid N (listwise)	71				

Source: SPSS OUTPUT, 2023.

Table 3 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to flexibility. However, it can be seen that question 1 which sought to determine the extent to which Port Harcourt shipping companies know the requirements for survival in this highly competitive environment, has the highest mean score of 4.52. This shows that question 1 has the strongest influence on the variables.

Table 4: Descriptive Statistics of Responsiveness

	N	Sum	Mean	Std. Deviation	Variance
Our services are accurate.	71	279	3.93	1.280	1.638
We deliver our transport service at the right time of schedule.	71	257	3.62	1.163	1.353
Wekeep accurate records of bookings and schedules.	71	310	4.37	1.059	1.121
We give attention to customer complaint	71	321	4.52	.772	.596
We treat customer complaints within shortest possible time.	71	308	4.34	.877	.770
Valid N (listwise)	71				

Source: SPSS OUTPUT, 2023.

Table 4 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to responsiveness. However, it can be seen that question 4 which sought to determine the extent to which Port Harcourt shipping companies give attention to customer complaint, has the highest mean score of 4.52. This shows that question 4 has the strongest influence on the variables.

Table 5: Descriptive Statistics of Innovativeness

	N	Sum	Mean	Std. Deviation	Variance
We use superior technology to achieve efficiency	71	318	4.48	.876	.767
Our services are unique in the market and not easily imitated	71	270	3.80	1.090	1.189
We seek to continuously improve our services to meet our company's varied needs	71	350	4.93	.308	.095
Our services are user friendly	71	239	3.37	.797	.635
We review our processes from time to time to ensure survival	71	261	3.68	1.193	1.422
Valid N (listwise)	71				

Source: SPSS OUTPUT, 2023.

Table 5 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to innovativeness. However, it can be seen that question 3 which sought to determine the extent to which Port Harcourt shipping companies seek to continuously improve their services to meet company's varied needs, has the highest mean score of 4.93. This shows that question 3 has the strongest influence on the variables.

Test of Hypotheses, Results and Discussion of Findings

Test of Hypotheses One: There is no significant relationship between maritime defense and flexibility of shipping companies in Port Harcourt, Nigeria.

Table 6: Analysis of the relationship between Maritime Defense and Flexibility

		Maritime Defense	Flexibility
Maritime Defense	Pearson Correlation	1	.703**
	Sig. (2-tailed)		.000
	N	71	71
Flexibility	Pearson Correlation	.703**	1
	Sig. (2-tailed)	.000	
	N	71	71

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output

The SPSS output on Table 6 reveals a correlation coefficient of 0.703** between maritime defense and flexibility, indicating a strong positive relationship between maritime defense and flexibility. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a strong significant relationship between maritime defense and flexibility. This further implies that maritime defense can be used to achieve flexibility among shipping companies in Port Harcourt. Based on this, we reject the null hypothesis that there is no significant relationship between maritime defense and flexibility of shipping companies in Port Harcourt, Nigeria, and accept the alternate hypothesis that there is a strong, significant relationship between maritime defense and flexibility of shipping companies in Port Harcourt.

Test of Hypotheses Two: There is no significant relationship between maritime defense and responsiveness of shipping companies in Port Harcourt, Nigeria.

Table 7: Analysis of the relationship between Maritime Defense and Responsiveness

		Maritime Defense	Responsiveness
Maritime Defense	Pearson Correlation	1	.886**
	Sig. (2-tailed)		.000
	N	71	71
Responsiveness	Pearson Correlation	.886**	1
	Sig. (2-tailed)	.000	
	N	71	71

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output

The SPSS output on Table 7 reveals a correlation coefficient of 0.886** between maritime defense and responsiveness, indicating a very strong significant and positive relationship between maritime defense and responsiveness. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a very strong significant relationship between maritime defense and responsiveness. This further implies that maritime defense can be used to achieve responsiveness among shipping companies in Port Harcourt. Based on this, we reject the null hypothesis that there is no significant relationship between maritime defense and responsiveness of shipping companies in Port Harcourt, Nigeria, and accept the alternate hypothesis that there is a very strong, significant relationship between maritime defense and responsiveness of shipping companies in Port Harcourt.

Test of Hypotheses Three: There is no significant relationship between maritime defense and innovativeness of shipping companies in Port Harcourt, Nigeria.

Table 8: Analysis of the relationship between Maritime Defense and Innovativeness

		Maritime Defense	Innovativeness
Maritime Defense	Pearson Correlation	1	.612**
	Sig. (2-tailed)		.000
	N	71	71
Innovativeness	Pearson Correlation	.612**	1
	Sig. (2-tailed)	.000	
	N	71	71

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output

The SPSS output on Table 8 reveals a correlation coefficient of 0. 615** between maritime defense and innovativeness, indicating a strong significant and positive relationship between maritime defense and innovativeness. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a strong significant relationship between maritime defense and innovativeness. This further implies that maritime defense can be used to achieve innovativeness among shipping companies in Port Harcourt. Based on this, we reject the null hypothesis that there is no significant relationship between maritime defense and innovativeness of shipping companies in Port Harcourt, Nigeria, and accept the alternate hypothesis that there is a strong, significant relationship between maritime defense and innovativeness of shipping companies in Port Harcourt.

Discussion of findings

From the analysis results of this study, it was revealed that there is a correlation coefficient of 0.703** between maritime defense and flexibility, indicating a strong positive relationship between maritime defense and flexibility. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a strong significant relationship between maritime defense and flexibility; there is a correlation coefficient of 0.886** between maritime defense and responsiveness, indicating a very strong significant and positive relationship between maritime defense and responsiveness. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a very strong significant relationship between maritime defense and responsiveness; there is a correlation coefficient of 0. 615** between maritime defense and innovativeness, indicating a strong significant and positive relationship between maritime defense and innovativeness. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a strong significant relationship between maritime defense and innovativeness.

These findings are in line with the findings of several similar studies. Specifically, the study findings converge with the findings of Adegbie et al. (2017) as they explored the impact of maritime security challenges, including piracy and theft, on the operational effectiveness of shipping companies Nigeria and revealed that effective security measures mitigate the risks of piracy and theft and improves operational efficiency. The findings also agree with Kapsali and Psaraftis (2016) as they examined the impact of security measures on the operational efficiency of container terminals in the Mediterranean region, their study revealed that security measures can improve the operational efficiency of container terminals by reducing cargo handling times, minimizing disruptions, and enhancing safety.

Similarly, findings of the present study are in tandem with Abdelgawad and Shehab-Eldin (2021), as they explored the role of stakeholder collaboration in enhancing both maritime security and operational effectiveness in Egypt, and revealed that effective collaborative security among shipping companies, port authorities and government agencies can improve operational effectiveness in the maritime sector. In their study, Amponsah and Amoah (2016) revealed that piracy and armed robbery at sea negatively impacts operational effectiveness of shipping companies, as they led to increased costs for security measures and disrupted the timely delivery of goods. Effiong and Nwokedi (2015) examined the impact of maritime security on the operational efficiency of Nigerian ports. The study revealed that poor maritime security leads to increased costs for shipping companies, as they had to invest in additional security measures to protect their vessels and cargo.

Jia and Yang (2018) investigated the impact of maritime security on the operational performance of shipping companies in China. The study revealed that piracy and armed robbery at sea had a negative impact on the operational performance of shipping companies, as they led to increased costs for security measures and disruptions in supply chain operations. Ndikom, (2013) revealed there is significant relationship between government policies and shipping operations, between the activities of pirates and the profitability of shipping lines and that adequate cargo handling machines leads to faster turn-round time of vessels.

Bruno and Giacomo (2016) revealed that as an element of insecurity, maritime terrorism and piracy are serious obstacles to exploitation of resources for economic growth and developed. Randrianantenaina et al. (2013) established that with regard to maritime piracy and armed robbery against Madagascan coasts cost the Madagascar significant amount in terms of lost revenue due to disruption of revenue generation activities. Elisha (2019) revealed that Nigeria faces identical challenges as Ghana with regard to harnessing its blue economy resources.

CONCLUSION AND RECOMMENDATIONS

Sequel to the results of this study and to the extent of its consistency with similar studies, this study concludes that maritime defence significantly relates with operational effectiveness of shipping companies in Nigeria. Thus, maritime defence helps shipping companies to identify to focus on maritime activities that may pose threat to shipping operations in order to mitigate their impact aimed at achieving operational effectiveness.

Based on the conclusion drawn from findings of the study, the researcher puts forward the following recommendations:

Managers of shipping companies should adopt maritime defence strategies to mitigate threats within the maritime environment, this will impact on operational effectiveness.

Managers of shipping companies should implement maritime defence measures to ensure operational effectiveness.

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