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A Triple Helix Human Development Model for West Africa's Offshore Sector

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ABSTRACT

In the hope of realizing domain efficiency in Africa by the year 2050, West Africa requires a change in her maritime training objectives from what is at the present level to a more strategic position. To date, training in the sub region has focused mainly on the explicit form of knowledge leaving behind the tacit form of knowledge to be acquired at the expense of the graduate or student of maritime studies. In most cases where the student fails to acquire the necessary tacit training required for the job, he may likely focus on job pursuits elsewhere thus further diminishing labour availability in the maritime sub sector. In view of the aforesaid, a defined objective that targets the different sectors of maritime training such as marine engineering officers, mates and masters, marine surveyors of different categories, safety and security officers ,radio officers of in both cabotage ,local content and international seafaring should be sought under an integrated capacity building regime. An integrated training pathway that defines roles and responsibilities for both the academia and the industry by governments is the sure and certain model that will create the right kind of labour for the maritime sector of the future in Africa. For Nigeria's oil and gas sector this stands as the only way to provide the necessary labour required under her cabotage and local content policy. This reassesses training needs in West Africa and posits the integrated human resource development model as the future pathway of development for the sub sector.

1. Introduction

To date the training of seafarers in West African countries have focused on theoretical subjects of the maritime technology with little emphasis on practical experience. The real effect of this approach shows in the low output of seafarers from West African maritime academies. A needs assessment survey carried out in the sub region by International Maritime Organization (IMO) attests to this. IMO (2014) Solutions proffered by the IMO however focuses on short time attachments of fifty cadets for six week training with training ships of developed European training ships in Norway, sponsorship of few indigenes through the award of IMO fellowships to study maritime technology courses in Egypt and Sweden etc. These solutions evidently are short time and provide no permanent solution to the large problem. The problem of absence of seafarers in West Africa is indeed very large when viewed from the backdrop of new policy issues created by major oil producing countries in West Africa. The policies include cabotage and local content policies that automatically reserves first positions to indigenous seafarers in the area of employment. Besides, the ever expanding offshore industry in this region attracts major technically sophisticated vessels in the likes of FPSOs, OSVs and PSVs into the sub region. This fleet expansion is also visible in the deep sea fishing sub sector of West Africa's maritime economy. Reports from IMO show that Africa's contribution to the approximately 1.5 million seafarers worldwide is still very negligible.

1.1. Objective

In line with the African Union's (AU) Integrated Maritime Strategy 2050 (AIMS 2050) which recognizes that Africa's mar-

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itime domain has vast potential for wealth creation and that support is needed in the effort to boost intra-African trade, this work seeks to invent best human resource development growth models from an integrated maritime fishing and oil and gas framework that will propel West Africa to her dream of producing competent seafarers.

2. Literature Review

Major universities in West Africa offering courses in Maritime Technology include: Federal University of Technology Owerri, Nigeria (Maritime Management Technology with options in Maritime Technology and Shipping Management);Rivers State University of Science and Technology, Nigeria(Marine Engineering); Akwa Ibom State University, Nigeria (Marine Engineering);Delta State University, Nigeria(Marine Engineering) etc.

Among the seafarer dedicated institutions who produce cadets for the maritime profession in West Africa are; Regional Maritime University Accra which serves five Anglophone countries in the sub region including Ghana, The Gambia, Cameroun, Liberia and Sierra Leone; Federal College of Fisheries and Marine Technology Lagos, Nigeria; Maritime Academy of Nigeria Oron, Nigeria; Delta State school of Marine Technology Burutu,Nigeria; Nigeria Marine University, Okerenkoko, Warri, Delta State, Nigeria etc. Wikipedia (2014)

A third group of training centers are focused on providing on the job training for existing and intending seafarers. These include foreign assisted training centers run by maritime based government organizations and those established by private organizations basically for IMO mandatory courses. Some of these will include Joint Maritime Training Centre Ojo Town, Lagos run by the Nigerian Navy with the assistance of UK Navy, etc.

The theory of clusters posits that development and innovation is propelled by the influence of heterogeneity of knowledge available within the cluster. It is established by research that during the maturity stage of clusters, it is the ability of the cluster to break into new technologies or reinvent itself that sustains the cluster. Otherwise the cluster will descend into a decline stage. Based on this assumption, modeling of a maritime human resource development system must be innovativeness compliant otherwise, it won't be sustainable. In this respect maritime domain policies in West Africa presently based on local content must consider the innovative cluster development model based on research.

To further appreciate this, the maritime cluster definition provided under the project, Europe of the Sea must be imbibed. The work defines maritime clusters as:

"a network of firms, research, development and innovation (RDI) units and training organizations (universities, specialized schools, etc.), sometimes supported by national or local authorities, which co-operate with the aim of technology innovation and of increasing maritime industry's performance"

Development techniques being proffered in this work must be triple helix compliant as required innovative clusters also supportive of the above definition. The triple helix concept holds that innovation networks in clusters depends upon academic and research institutions (Academia); companies, capital and entrepreneurship (Private Sector); as well as favorable framework conditions (Government). Etzkowitz, (2002), Goktepe, (2003), Leydesdorff, Etzkowitz,(2001), Pedro, Teresa and Paulo(2013).

3. Methodology

The method applied in this study is the triple helix model. The model is drawn from the fact that the industry being the direct beneficiary of trained human resources in the maritime domain as part of her social corporate responsibilities local content contributions has a duty to assist in the training of local seafarers in their areas of operation. The model is further supported by the cluster model and triple helix model . Porter (1998b).

4. Report of Findings

4.1. West African Maritime Domain

Research and innovation priorities in West Africa maritime domain so far has concentrated on training of seafarers to man vessels operating under the local content regimes of most of her territorial waters in most cases serving fishing and offshore support vessels. However, the procedure adopted for many years now has produced seafarers that lack sea time due to absence of vessels or rather the unwillingness of vessels to absorb them. This has been a hot topic of debate in most West African countries including Nigeria.

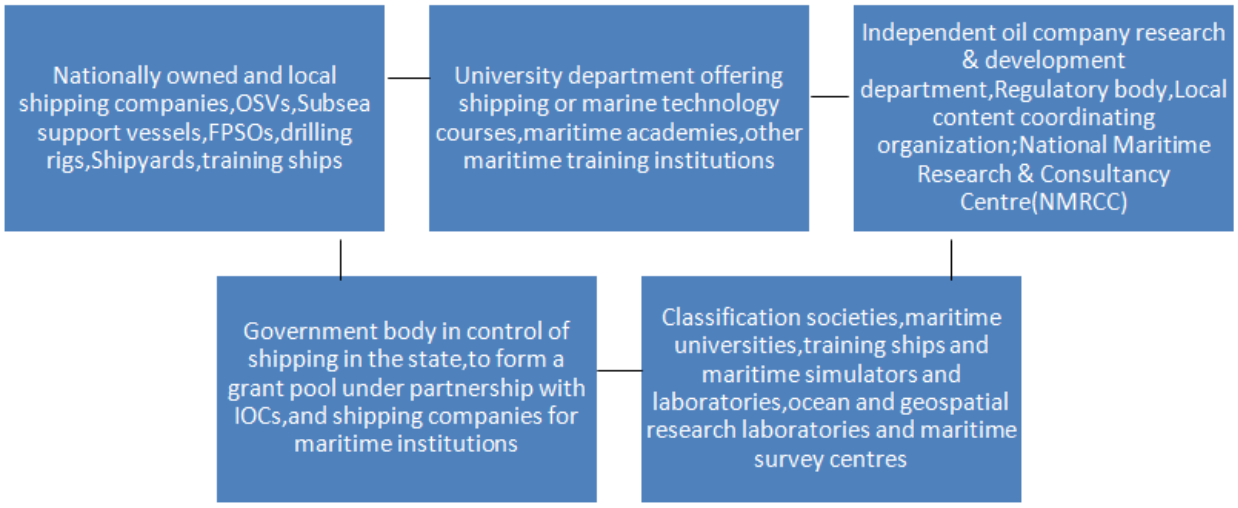
The solution approach adopted by these West African states include placement of laws which require local seafarers to compulsorily replace foreign ones with an alternative provision for heavy fine option where otherwise a foreign seafarer is employed in coastal or cabotage waters. The effect of this has been increased cost of operations in local waters. This high cost regime in cabotage waters of West African states has virtually forced most foreign operators to metamorphose into local companies with majority local shares.

Presently, the local firms involved has been known to prefer foreign trained seafarers in preference to local ones claiming these perform better than local ones and thus absorbing the heavy manning fines imposed by the system.

The implication of this present state of affairs in West Africa's maritime domain is that a new model of maritime human resource development is needed. The model presented in this work draws heavily from the triple helix and innovative cluster approach earlier presented.

The model presented above is the triple helix model for West Africa offshore sector. The model is triple helix compliant since it accommodates the contributions of the research institutions to the entire maritime cluster. The model also supports both natural and innovative clusters thus allowing the role of government to midwife the development of such maritime and oil and gas clusters found in most West African states.

Figure 1. Membership pool of the triple helix model for West Africa's offshore sector



The model requires that the above departments operate as a system with functionally dependent parts and thus as an integrated whole. In this sense where a student needs a place to do her mandatory sea service, his head of department from the university simply contacts the government agency in control who is by regulation required to contact the independent oil company or shipping company as the case may be who is mandatorily required by regulation to provide a place. Also compulsory under the model is a database or common pool of maritime labour and vessels operating in the integrated maritime cluster as well as the establishment of a National Maritime Research & Consultancy Centre. Onyemechi, (2014)

4.2. Maritime Research and Innovation Priorities for West Africa

Research needs of West Africa as a whole surpasses the problem of inadequate manning. Lack of maritime laboratories, simulators and research grants for both lecturer and student researchers are some of the problems hindering research in the region. Two forms of knowledge have been found to contribute to the development of clusters, tacit and explicit knowledge. Explicit knowledge can be transmitted through training while tacit knowledge is developed through the practice of the profession. Both are very vital to the training of seafarers.

One current project in Nigeria is the newly inaugurated Nigerian Content Consultative Forum where shipping logistics sector was created as a sub sector. The role of the sector is merely to advice government on priorities in major projects in Nigeria. Current research interests in Nigeria's maritime sector cuts across Exclusive economic zone fishing optimization techniques for West Africa, Logistics analysis of the offshore wind farm subsector, marine renewable energy, LNG fuel development analysis for diesel engines, biofuel and biodiesel alternatives, dry dock design options for Nigeria and West Africa, offshore support vessel forecast for Africa, subsea support vessel forecasts for West Africa's offshore sector, centre of gravity model assessment of maritime security problems in Africa, lean analysis of West African ports, demand analysis of the Nigerian shipping market, port efficiency modeling in the post concessioning era to mention but a few.

4.3. Maritime Research Institutions for West Africa

Research institutions in the region are merely embedded into existing organizations who carry out routine functions with no exclusive commitment to research. This to a great extent has reduced the focus on innovative research in the region. The region thus requires setting out a research institutional model for the development of her maritime sector. The institution should thus be named " MARITME RESEARCH AND CONSULTANCY CENTRE (MRCC)"attached to a named West African country or the entire region. The focus of the centre should be geared towards improvement in all areas covered by Africa Maritime Domain conference as approved. The centre may be set up at the regional level or by individual countries.

5. Conclusion

In all, research and development for West Africa is still at the elementary level and require radical institutional development strategies to launch the maritime sector to a competitive level. The formation of a regional or country level research institution to be named Maritime Research and Consultancy Centre was recommended in this work. Furthermore, an integrated maritime human resource development model that is both triple helix compliant and innovative cluster compliant was developed for West Africa and developing maritime nations. The work also assessed historical development of maritime education in Anglophone West Africa.

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