

## **Industry School Partnerships in Vocational and Academic Training- a Resource Dependency View on the Regional Maritime University in Ghana**

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### **Abstract**

This paper reports on an example of positive industry-university/school partnerships developed over several decades and seen through the lenses of resource dependency theory. It makes references to the specialised training needs of the maritime industry (seafarers, harbour pilots and tugboat crew, and lately professionals in the oil and gas sector), highly essential jobs for the further capacity development for a country like Ghana. In the paper, we address the general challenge of inadequate funding for education and training characterizing many (African) educational institutions. This inadequacy usually leads to frustration, difficulties, politicization and in the end, a fight for survival. However, this can also lead educational institutions to be innovative. Over the years, The Regional Maritime University (RMU) has survived on innovation to sustain its unique combination of academic and vocational training, which is quite usual for Maritime Education and Training (MET) institutions worldwide. The paper addresses the well-known arguments on capacity development through practice-oriented training but also research and development where the educational institutions rely on network-based synergies with external actors. This is illustrated in the newest example in the Oil and Gas industry in Ghana and the maritime industry.

**Keywords:** Industry-School Partnerships, Networks, Funding, Sustainability

## 1. Introduction

Over the years, several studies have mapped the difficulties of capacity development on a national basis in African countries. Besides, the national educational systems, i.e. the institutions at various levels, have mainly been seen as a potential for leveraging this – however also here discussion has run on why this has been so difficult and what the obstacles might be (see, e.g. Amedome; Yesueneagbe and Fiagbe, 2013; Akyeampong, 2014; Arthur-Mensah and Alagaraja 2013). Allais (2012) have phrased it most directly in her study of South African vocational education: *Will skills save us? Rethinking the relationship between vocational education, skills development policies, and social policy in South Africa?* The question is highly relevant, and the focus also – there seems to be an almost global consensus, that vocational education needs to be reformed and many (African) countries, and that it could be the tool which would propel the lower parts of the populations in the social and economic mainstream by improved employability.

Recently the reform argument has been supplemented with the entrepreneurship and innovation debate. Owuso-Dankwa (2013) carried out a small study of entrepreneurship education in private higher educational institutions in Ghana, and besides mapping all the challenges and gaps, the article argues for a more systematic approach and an expansion of the target groups. This is finally also debated at a more general level by Amponsah and Onuoha (2013) in their empirical study of private universities in Ghana and Nigeria – where the advantages and indeed disadvantages of being a private higher educational institution mount up with the technological transformations characterizing the world today.

The advantages of higher educational institutions (HEI) and firm partnerships are widely documented in the literature (see, e.g. Manuel 2017 for a global maritime overview). Direct benefits include private sector funding, training facilities and equipment, student skills training and work experience through internships, lecturer skills development and real-world research opportunities, access to specialized expertise and technology transfer to the HEI. Such partnerships are usually forged on a win-win basis. As such, industry also benefits from the partnership arrangements. Firms can gain access to specialized and high-level knowledge of researchers and academics, access to future employees whom they have played an active part in training, improved technical solutions for products and processes within the firm as well. However, the sustainability of the partnerships has seen mixed results with some success and failures recorded. Using the examples of partnerships entered into by the Regional Maritime University, we can explain how some of the partnerships are successful, and others are not.

### 1.1 Maritime Education & Training & Partnerships

Modern Maritime Education and Training (MET) - particularly Marine Engineering and Nautical Science - lends itself to a mix of vocational and academic requirements. Having evolved from a purely vocational adventure, the introduction of academic requirements meant that potential seafarers had to do some classroom work before joining a ship for supervised apprenticeship (cadetship) (Manuel, 2017). The combination of vocational and academic training gives the seafarers a chance to take up shore-based jobs when they decide not to sail anymore. However, the opportunity to sail as a cadet borders much on partnerships between industry and schools.

### 1.1.2 The Evolution of Regional Maritime University

In the late 1950s and 1960s, several West and Central African countries, which had attained independence, established national shipping lines. The reasons were to ensure that the newly-independent states took advantage of their access to the sea and the global market place to earn foreign exchange through the export of goods (mainly raw materials), and using the income to build and modernise their countries (Chilaka, 2015). The realisation that the economies of West and Central Africa could not singularly and adequately support maritime education and training in their countries due to its high cost gave birth to the idea of a regional institution where countries could pool resources and effectively train their personnel. Hence, the Regional Maritime University was established.

In 1983, RMU was made a regional institution for maritime education through the efforts of the Maritime Organisation for West and Central Africa (MOWCA) supported by the United Nations Development Programme (UNDP) to train competent officers and crew for the national shipping lines of west countries that existed then. Since 2007, it has functioned as a fully-fledged university with a presidential charter ushering in the introduction of bachelor and master degree programmes. The school is governed by five (5) Anglophone West African countries, namely Ghana, Liberia, Sierra Leone, The Gambia and Cameroun. Ninety per cent (90%) of the Student population is Ghanaian, with a few students from other member states and non-member states like Ethiopia, Congo and Nigeria.

For more than 50 years of existence, RMU like most maritime institutions does not have the resources to purchase, maintain and crew a training vessel. It has had to find innovative means of getting funding and resources. The regionalisation of RMU in 1983 was important due to resource constraints. The history and present-day Industry School Partnerships (ISP) of the RMU can give us more insight into the success or otherwise of the partnerships. We adopt Flynn's (2015) definition of (ISP); thus, formal and informal arrangements, cooperation or agreements aimed at achieving mutually beneficial goals.

## 2. Theoretical Framework

### 2.1 Resources Dependence Theory

Studying an institution like RMU – with its trans-national origin and ownership; relatively long historical ties to the national educational system and public authorities in Ghana and not least its close ties with the various private sector companies in the supply chain, maritime and latest oil and gas industry, we rely on the classical open systems model of resource dependency theory formulated initially by Pfeffer and Salancik (1978 and 2003). In Klein and Pereira's (2016) conceptualisation of Resource Dependence Theory (RDT), we use it (in conjunction with Flynn's (2015) ISP framework) to explain direct network survival, i.e., to gain new understandings into RMU's partnerships and the sustainability of the partnerships.

The central proposition of RDT is organisations who lack specific resources will have to establish relationships with those who have in order to obtain the needed resources. The perspective in other words both rely on arguments about organizations as embedded in networks and social relationships – as formulated originally by Granovetter (1985), and arguments around strategic choices with intra- as well as inter-organizational power implications – see, e.g. Child (1972), Emerson (1962) and Blau (1964).

More recently, Davis & Cobb(2010) have provided an overview of reasons why organisations enter into inter-organisational partnerships. When these have a strategic choice, the argument

tends to be based on increased product market competition because of globalization, limited credit supply due to the global financial crisis, and raw materials and energy shortages. The authors further formulate the core ideas of the resource dependency theory this way: (1) social context matters– we interpret it here as being in the maritime and allied sectors (including Ghanaian public authorities) ; (2) organizations have strategies to enhance their autonomy and pursue interests – here exemplified by the large variety of partnerships between different actors and RMU; and (3) power (not just rationality or efficiency) is vital for understanding internal and external actions of organizations – here political interests associated with RMU, seen from a local-regional and a national level (we do not look into internal power-aspects of RMU in this paper). In the paragraph below, we introduce Flynn’s ISP framework and couple it with RDT to achieve our stated objective of gaining an understanding of RMU’s partnerships and their sustainability.

## 2.2 Flynn’s ISP Framework

Flynn’s framework for understanding ISPs theorises that ISPs such as those between RMU and its numerous partner organisations are part of an ecological system structure (macro, meso, exo and micro). In the structure, the different system levels interact and exhibit interconnectedness which contributes to ensuring that ISPs can achieve their objectives. The framework identifies four basic principles -commitment, partner demand, power balance, equity and risk. These principles are operationalised in terms of efficiency, effectiveness, sustainability and equity to achieve the benefits/aims/outcomes of the ISPs (Flynn, 2015).

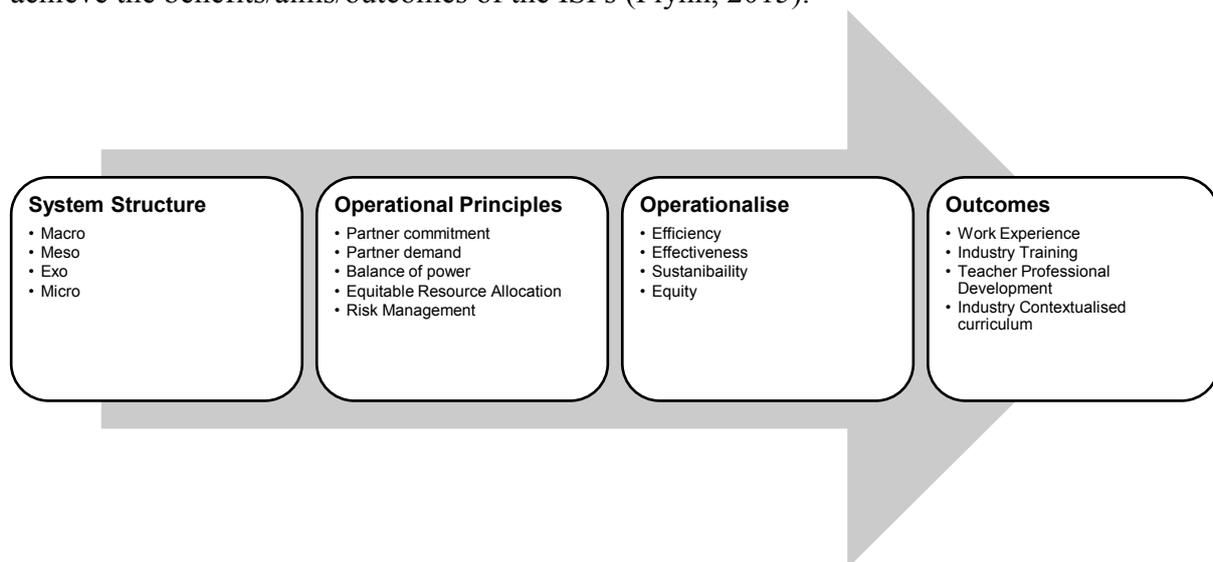


Figure 1: ISP Framework (Adapted from Flynn (2015))

### 2.2.1 Micro level

The immediate setting in which an ISP plans and coordinates the localised daily activities of the ISP. In this study, this will include state maritime institutions in Ghana, Liberia, Sierra Leone, The Gambia and Cameroun, lecturers, instructors and facilitators.

### 2.2.2 Meso Level

relates to stakeholders immediately external to those involved in daily ISP activities. They are not actively involved in all actions but are essential to the health of the partnership. In this study, the Vice-Chancellor and the Board of the University can be considered as the promoters of the ISP but not actively involved in at the micro level.

### 2.2.3 Exo level

This is an expansion of the meso system made up of stakeholders who influence the ISP at the lower levels. The Exo systems in this study relate to the government ministries and commissions that promote or implement through their agencies policies geared towards vocational and academic training. For example, the Petroleum Commission of Ghana and the worldbank, which funded the Oil and Gas Capacity Building project.

### 2.2.4 Macro level

The macro system is the broader societal systems like politics, Economy, Social, Legal, and soon, over which HEIs have little control.

The Regional Maritime University exhibits resource dependence on all of the system structural levels within the framework in figure 1. Recounting its makeup and structure, the school depends on the five member countries for financial and infrastructural resources to fund significant expenditure of the school. Much needed equipment, expertise and training opportunities are acquired through partnerships with players in the maritime and oil & gas industry. This high level of dependence is seen in many higher educational institutions on the globe (Powel and Rey, 2015), and underpins the potential organizational survival or the organization's ability to acquire resources from an environment which can be fluctuating and uncontrollable. One way to meet this situation is, according to the two authors and Pfeffer and Salancik (2003), to build up resource capacity either through adapting and changing to fit environment requirements or to alter the environment to the institution's capabilities (Powel and Rey, 2015, p. 97). Mezirow (2003) explains that there are challenges in establishing an effective ISP due to different partner objectives and frames of reference. Partners can, however, enjoy mutual benefits if they can resolve their differences and come to a common understanding (Flynn, Pillay, & Watters, 2015).

## 3. RMU PARTNERSHIPS

RMU has been a beneficiary of multiple partnerships ~~throughout from~~ its inception ~~to until~~ date. Starting as Ghana Nautical College in 1958, it was the source of labour supply for the defunct national Shipping line of Ghana (the Black Star Line). In that era, training was purely vocational, and part of it took place on board the ship, which had classroom facilities. In recent times, most of the partnerships are formed with private commercial companies operating in the maritime and Oil & Gas industry. A small number of partnerships have been formed with public institutions mostly geared towards internship slots and job placements on completion of studies. Others have focused on the provision of facilities and equipment by the government for capacity development.

Partner	Private/Public	Industry	Partnership Focus	Investment/ provision	Partnership nature
MODEC / Tullow	Private	Petroleum (upstream)	Welder Training for maritime, oil and gas sector.	\$1.6 million welder training centre	CSR
REDAVIA Solar Energy	Private	Energy	Solar Energy provision on campus to enjoy significant savings on electricity bills.	Lease and deployment if 435kWp solar plant on RMU campus. 24/7 Technical monitoring and regular maintenance. Estimated CO <sub>2</sub> reduction after lease period – 3098 tonnes Provision of renewable energy lab equipment for teaching and research (free of charge).	CSR/business
Government of Ghana / World Bank	Public/Private	Governance/ International Finance	Oil and gas capacity building project Technical and vocational training for 1000 people in the oil and gas sector. Provision of maritime, oil and gas training equipment, including additional welder training centre.	Transfer of ownership after 12 years to RMU. Grant of \$3 million	CSR- Skills development
Bernhard Schulte Group (BSM)	Private	Maritime	Supplementary training of RMU graduates (cadets) Job-placement of RMU cadets on-board BSM ships	Building of operations centre. Training centre to be constructed at a projected cost of \$4 million	Skills development and business

				More than 400 cadets placed on over 60 BSM ships to date.	
SMTC Ghana	Private	Maritime/ Petroleum (training provider)	OPTO approved Emergency Response & Skill training for the oil and gas sector	Investment in facilities and equipment including lifeboat launch, HUET training simulator, winch control room and fire-fighting training centre	Skill development and business
Seaweld Engineering	Private	Petroleum (field services provider)	Running oil and gas training programmes Purchase of Full mission DP simulator Train-the-trainer programmes for RMU staff	\$1.3 million agreed for the purchase of DP simulator (yet to be purchased) Basic oil and gas training programmes jointly organised	CSR & Business
Global Diving and Training Institute (GDTI) Ghana	Private	Maritime/Marine	Training divers for underwater cutting, Welding, Non-destructive testing, salvaging operations, near and offshore diving operations, underwater video monitoring, ROVs, & offshore decommissioning of oil and gas installations.	\$8 million agreed on for the funding of the project (yet to commence)	Skills development & business
American Bureau of Shipping (ABS) and Swire Pacific	Private	Classification Society Marine Services	Internships, training, scholarships and employment	Provision of resource personnel for staff and student training. Internship placements for students each year. Scholarships for two high performing students each year.	CSR & Business
SRI-EMAS	Private	Petroleum (field services provider)	Expertise and resource support in Naval Architecture curriculum design and development	Six (6) computers with vessel design software (MAXSURF) donated for training.	CSR

			Industrial support for practical training and internships for students	MAXSURF training for RMU staff and students	
Celebrity Cruises	Private	Maritime	Job placement for deck and engine officers (cadets).	Female bridge and engine officer placement on-board Celebrity Cruise's vessels.	CSR
TechnipFMC	Private	Petroleum (field services provider)	Training of students Research support Facilities and equipment	Resource personnel Research support by Co-supervised company research projects Job placements for high performing students working on research projects Rehabilitation and upgrading of lecture room to teleconferencing facility.	CSR, capacity development, business.
Meridian Port Services	Private	Maritime	Internships and job placements	Over 20 job placements since 2009 to date in Operations and Planning departments	CSR, Business
Ghana Ports and Harbours Authority	Public	Maritime	Internships	Many yearly internship slots, national service placements and jobs provided.	CSR & Business
Mediterranean Shipping Company	Private	Maritime	Internships and job placements	Few job and internship placements since 2007	CSR & Business
Tema Shipyard	Public	Maritime	Internships	Many internships provided	CSR
Bolloré Group	Private	Maritime & Logistics	Practical training of students Research support internships for students	Internships and job placements provided for students Bolloré Staff training provided by RMU.	CSR & Business

Summarizing the examples mentioned above of partnerships at RMU, four main categories emerge, in line with Flynn's ISP framework for understanding industry-school partnerships:

- I. Provision of Facilities and Equipment for Training* - Geared towards providing essential facilities and equipment needed for practical training of students. Resources may also cater to training teachers and instructors regarding new equipment. In such cases, direct funding may be provided for the building of facilities and the purchase of equipment, or facilities and equipment are directly provided by the partner organisation (or a third-party funding organisation).
- II. Complimentary Industry Expertise for Student Training* - This kind of partnership provides the needed expert resource persons who engage with, and train the students as a complement to what has already been taught in the classroom. Usually, the focus is the development of practical skills that are useful post-university. The agreements usually involve resource persons spending time at university laboratories, workshops and training centres for agreed periods of time. Other forms include seminars and co-supervised industry-focused research work.
- III. Internship Placements for Students* - The third type of partnership involves students spending time at a partner companies' facility to gain industrial experience. Internships usually occur during the long university vacation (June to August) each year. Some students have the opportunity of working on-board tug boats, pilot boats, port state control ships or supply ships during their vacations. Practical training is provided in a working environment that allows students to integrate theory and practice, assess their interests and abilities whilst in the field, develop practical and soft skills, build networks and learn to appreciate working in a team.
- IV. Job Opportunities* – As a strategic business decision, some partner companies take steps to be at the forefront of graduate recruitment for the best talents available, by offering national service (mandatory one-year service after graduation) placements to high performing students. Their strategy is to use the period to provide on-the-job training, skills assessment and direct recruitment of high-performing service personnel. The partnerships give companies preferential access to their future employees without going through a traditional recruitment route.

We demonstrate through two case studies of RMU partnerships (one with a government agency and the other with a private ship management company), how social context, organization's strategies to enhance their autonomy and pursue interests; and power have worked to achieve the objectives of the partnership or otherwise.

## 4. CASE STUDIES

### 4.1 Case Study 1 – RMU/Petroleum Commission Partnership

RMU was selected by the Government of Ghana, through the Petroleum Commission (PC), as a centre for the development of capacities in the oil and gas sector under the Accelerated Oil and Gas Capacity Building project (AOGCBP). RMU was selected amongst four other vocational and tertiary technical institutions in Ghana to receive support from the World Bank. The support was in the form of funding worth \$3 million, and the funds were used to procure equipment for upstream oil and gas training including welding equipment, a Well Control

simulator, hydraulics and fluids equipment, offshore crane simulator, refrigeration training equipment, drill fluids lab, electrical lab and many others. Although funding was provided by the World Bank for the project, this particular partnership was between PC and RMU. The partnership between RMU and the PC is mutually beneficial such that PC, through the provision of resources, can work towards increasing capacity of Ghanaians in the oil and gas sector through vocational and technical skills development while RMU gains resources in the form of equipment and staff training that goes towards practical skills development of its student body. As a maritime education and training institution, RMU can duplicate the use of many of the labs obtained through the AOGCBP for its traditional seagoing programmes.

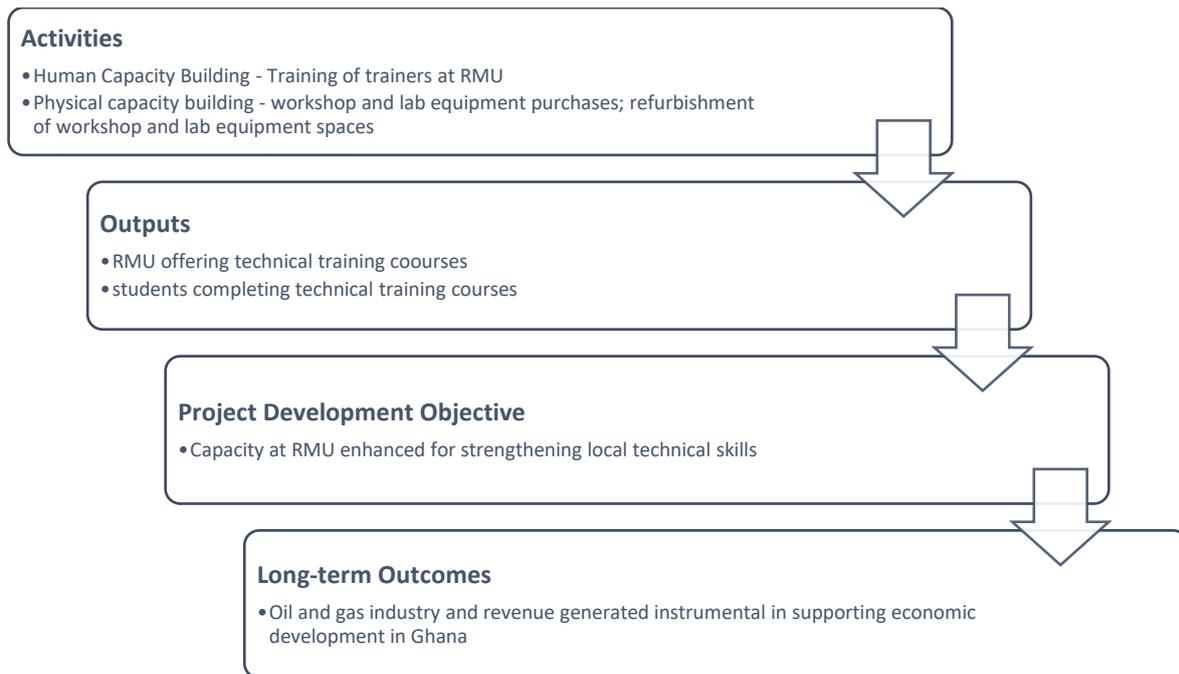


Figure 2: RMU/PC Partnership Scheme under the AOGCBP

#### 4.1.1 Social Context

RMU involvement in the oil and gas industry from the start made it a favourite amongst many institutions to be chosen for capacity development in the sector. At the onset of the industry in Ghana, RMU partnered SMTC Global OF Malaysia to provide OPITO certified safety training to the nascent industry. The industry also had a marine related side which RMU had expertise in.

#### 4.1.2 Organization's strategies to enhance their autonomy and pursue interests

The partnership with Petroleum Commission (PC) to achieve the objectives of the project has can best be described as a Social Responsibility by the PC. We arrive at this conclusion because other than the donation of equipment, there has not been any attempt to help in acquiring the necessary certifications and the continual utility and maintenance of the equipment. The RMU had been left to pursue its own interest with regards to the use of the equipment.

The University in a bid to ensure utilisation established a vocational skills training centre intending to develop business plans for utilisation of the facilities. Welding training courses from basic to advanced levels have been designed and implemented. The mix of course enrollees are individuals interested in pursuing oil and gas careers, and companies sending staff to the centre for basic or advanced training. Accessibility of the courses by ordinary or walk-in clients is prohibitive due to the high cost of the training. Only company-sponsored employees are likely to access the courses due to the prohibitive cost. For instance, an

introductory welding course costs as much as \$700 for individuals and advance welding \$1300. The Ghana Navy, GPHA, Newmont (a mining company) are a few of the corporate clients that have expressed interest to patronise the training at the new facilities.

Further, due to the lack of oil and gas expertise at the University, RMU signed an agreement with Seaweld Engineering to run oil and gas programmes, spanning basic introduction to the industry to advanced oil and gas production, drill fluids, confined space entry and many others. The partnership with Seaweld has not achieved its objectives. Significantly few training sessions have materialised. There is a lack of partner focus, commitment and target-based objectives with the partnership evidenced by little communication and planning between the two institutions concerning courses, and unclear procedures and information on courses and timelines.

#### 4.1.3 Power

RMU appears to be seen on a certain pedestal due to its regional status and governance structure which provides it a certain degree of access to funding. However, this assumption is also the bane of RMU because the needed support is usually not realised. The board of the institution are not directly involved in partnerships. The management have the free hand in forming partnerships. However, budgets that may include funds for maintaining and sustaining these projects resulting from partnerships will have to be approved by the board.

A World Bank project report indicated that even though RMU with its unique governance structure has access to funding from its member states, it showed the least progress in lab/workshop certification and student enrolment among all institutions funded under the AOGCBP (World Bank, 2018) The report further indicated that RMU had underutilised the facilities provided and the institution did not focus enough attention on curricula development, utilisation strategies, equipment certification, and train-the-trainer programmes; the net result being zero training between 2017 and 2018.

Several risks to the sustainability of the partnership (and project development objectives/outcomes) were identified. The first is risk identified relates to the utilisation of equipment procured for RMU. Aside from utilisation risk, certification risks have been the bane of the project. In the oil and gas industry, certification of equipment, instructors and curricula by relevant international standards organisations are critical for trainees to obtain the requisite credentials for employment. Lastly, maintenance risk was identified as a sustainability issue. No measures were put in place to address the financing and execution of routine maintenance of facilities and equipment procured.

#### 4.2 Case Study 2: RMU/BSM Partnership

BSM is a German family-owned ship management business that manages a fleet of 600 ships, with thousands of seafarers and shore-based employees across the world. In 2017, Schulte Maritime Services Ghana (SMSG) was established as a Crew Service Centre in Ghana, situated on the RMU campus. The partnership agreement was signed between RMU and BSM in 2017. The formal agreement has been put in place for several reasons. First, on the part of RMU, the University is unable to raise funds to procure and maintain a training vessel needed for practical skills training of cadets. Second, graduants faced significant challenges in obtaining jobs on-board seagoing vessels without some form of formal cooperation on an institutional level. This was further exacerbated by the lack of practical skills training during the course. BSM, on the

other hand, saw the partnership as an opportunity to have a direct supply of labour force, additionally playing a significant part in curriculum development and training. The partnership involved setting up an operation centre, the building of additional crew training facilities and assured ship placements for RMU cadet officers and ratings.

The outcomes of this partnership thus far have seen improvement in the curricula by adding more practical content (including use of the new welding facility) for engineering students significantly, a focus on leadership, ethics and general cadet training, and improvement in the general level of student performance (due to competition for places on-board BSM ships). The partnership has further popularized the three main sea-going programmes at RMU (Nautical Science, Marine Engineering and Electrical and Electronics Engineering). As at September 2020, BSM had employed over 400 RMU trained seafarers on more than 60 seagoing vessels of various types including LPG/ethylene, container, chemical, platform supply, anchor handling and handy-size bulk vessels.

#### 4.2.1 Social Context

The partnership between RMU and BSM is strong. There seems to be an acceptance by the university community that BSM is an integral part of the University, partly due to the physical infrastructure and presence of company staff on the RMU campus. There is effective communication between BSM and RMU as students are trained and graduate each academic year. Given the long-term nature of such partnerships, the significant risk of cooperation depends on the level of progress of the University. At such time that RMU can afford its training vessel, and therefore able to market its students better, competition from other shipping firms may affect the sustainability of the partnership.

#### 4.2.2 Organization's strategies to enhance their autonomy and pursue interests

In the case of RMU-BSM partnership, BSM have been very active and have clearly spelt out what their intentions are and the responsibilities of each partner. The efforts and innovative approaches to partnering industry in the provision of academic/ vocational education at the RMU have yielded the following general outcomes:

**4.2.2.1 Improvement in cadet performance on-board vessels** – Without a training vessel, cadets at the RMU have to either wait to board a vessel during a summer internship for port/ coastal work or wait until the completion of their studies to board a partner's deep sea-going vessel. As required by the Ghana Maritime Authority, cadets are alternatively taken through simulation exercises throughout their studies. Simulation has shown to improve the affective domain, although it can never be a substitution for a real-life sea experience. An internal study by the Department of Transport at RMU in 2019 sought to determine the level of performance of cadets on-board commercial ships after graduation. The study revealed that cadet performance regarding ship safety, navigational/ engineering watch-keeping and shipboard operations were good on average. Among both engine and deck cadets, safety performance was excellent, but shipboard operations require some further attention.

**4.2.2.2 Increase in class engagement and student output** – With the increase in the number of internship placements for students with partner companies, there has been a resultant increase in general class engagement and output. Students return to the classroom with a wealth of experience which directly impacts the level of class discussions, practical exercises and examination output. The complementary nature of internships does not only allow students to practice what they have been taught in class but also goes a long way to confirm the relevance

or otherwise of the curriculum that is offered at the University. Departments are therefore able to improve upon curriculum at regular periods with industry and student feedback.

**4.2.2.3 Increase in Applied Research by Staff and Students** – Regular interactions with industry often keeps staff and students abreast with current issues. Apart from industry-funded research work at the University, the regular interactions with industry have increased the amount of applied research output of the University by both staff and students. Students, in particular, are more interested in working on research projects that solve specific or practical issues affecting coastal communities, the marine environment, ships, ports and the maritime industry at large.

**4.2.2.4 Increased Visibility of the University and its Programmes** – The specialised nature of maritime education and training has traditionally kept the University off the public radar regarding traditional university activities. Resource dependence and its concomitant strategies and actions have opened up the University to the world. The University has garnered more visibility in the press with the litany of projects undertaken and partnerships established. There is more engagement with the community as students intern at different companies and as companies move to engage with the University at different fora.

#### 4.2.3 Power

The RMU is an attractive proposition to BSM due to its regional reach. This gives BSM access to officer cadets from over 5 African countries.

## 5. Sustainability of ISPs

With the RMU experience, the signing of partnerships has often been much more accessible than sustaining them. Where partnerships directly benefit students in terms of training and job opportunities, there is a higher motivation to ensure that students' needs are met. However, partnerships are prone to dissolution or abandonment due to both endogenous and exogenous factors. Endogenous factors include the commitment of partners and the prioritisation of the collaborative efforts, performance and attitudes of beneficiary students/graduates and business decisions not to engage any more students/graduates (saturation). Exogenous factors include changes in the industry, and national policy changes and political influences on relationships.

One interesting example of local partnership failure caused by multi-faceted factors was an agreement between a private container terminal at the Port of Tema and the University such that after each academic year, a certain number of graduating students would be employed for the mandatory Ghanaian one-year national service. It was agreed this period would be used to train and evaluate the performance of students, some of which would be selected to work with the company permanently at the end of the service year. Unfortunately, the agreement died after the first two batches of graduating students were employed. Several reasons can be attributed to the failure, but lack of commitment has been cited as the primary cause of the partnership failure since no member of staff was assigned to manage the agreement and monitor progress. As such, there was no follow up (by the University) on the level of performance of the graduates, no feedback from the partner and no corrective actions taken.

With the first phase of the GPHA's port expansion project which was completed in 2019, it was expected that as the new terminal was larger and traffic was expected to increase, more students would get the opportunity to be hired. However, with the general port policy to create a hub port the West African region, the new terminal sought to improve port efficiency, reduce congestion and increase the general level of competitiveness of the port within the West and

Central African region. The terminal invested mostly in digitisation and automation of processes, which would require less human intervention than before. Therefore, the opportunity for more RMU graduates to be hired was virtually gone, with an added threat of already hired graduates becoming redundant looming. Not only were opportunities for graduate jobs not available due to the expansion, the types and extent of training offered had to be reconsidered by the University. Subsequently, the curriculum is undergoing review to increase the amount and depth of information technology training. Entrepreneurship training has also been included in the curriculum in order for graduates to take advantage of business opportunities that may be available due to the change in operations by the terminal, and indeed the port itself.

### 5.1 Conclusions

The emerging reconceptualization of skills in tertiary education in an African context has in the present case been exemplified through RMU's management of its resource dependence of the environment. It is, in no small extent, an exercise of technological innovation and management strategies through partnerships, as an answer to the shrinking and volatile funding and performance demands placed on universities. Also, RMU is in itself a partner to the Ghanaian government and the various private sector companies and thereby acts as a gatekeeper in the same community; it lives off. RMU has followed the supposed route through a multiple partnerships model stipulated by Samoff and Carrol (2004), which of course has its pros and cons, e.g. to how large a degree is it a relationship among equals in power and authority, and do innovations spill over into pedagogy and curriculum (administratively and teaching wise)? Uys; Nleya and Molelu (2004) argue, that higher education institutions are somewhat conservative and that some have even been very resistant to change when it comes to technological innovations in teaching technologies.

Even though RMU can be noted for a very high level of uniqueness, this is to a lesser extent based on a high level of autonomy. RMU is highly dependent on external resources, but it has to be remembered, that resources are also the number and character of relationships, which an organization has in a particular network. They increase the more connections it has to the elite of the community, as well as how deeply rooted it is in the broader community (among the many students, trainees, employees, external teachers and managers in the maritime sector). This way, the performance assessment of RMU necessarily has to be based on a broader set of parameters that just budget discipline (costs) and production of graduates. Aspects like societal, regional, the impact is just as significant, in particular, the role as the primary network provider of human capital and thereby of knowledge.

With the recent move into the new paradigm of training and vocational education (Anane 2013), where form and contents are based on very recent (learning) technologies, RMU seems to improve its basis for securing relevance, responsiveness and value in the delivery of graduate's knowledge, skills and abilities. Partly based on the close contact to a broad range of companies and public institutions in the sector recruiting these, and partly based on the shared learning taking place within the ongoing partnership. This way, RMU is perhaps to a lesser degree facing some of other higher educational institutions face in the transfer from public service to more market-like behaviours (Jeager and Thornton, 2005).

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