A career capital approach in the training and development of merchant marine seafarers: The case of South Africa

Samrat Ghosh[1] , Dr. Shaun Ruggunan[2]

1. Australian Maritime College (University of Tasmania), sghosh@utas.edu.au, Australia
2. University of Kwazulu-Natal, Ruggunans@ukzn.ac.za, South Africa

Abstract: The South African state in 2014 launched a maritime focused economic revival programme known as operation 'Phakisa'. Inspired by Malaysia's 'Big Fast Results' method of economic revival, the South African state, hopes to treble the maritime sector's current R60 Billion-Rand contribution to the economy by 2033. Part of the strategy is for the maritime sector to create between 800,000 and 1 million direct jobs. This is part of a wider African renaissance of the continent's maritime economy. The purpose of this paper is to assess the extent to which job creation of merchant marine seafarers is possible within this broader economic strategy. This paper argues that the ambition to grow South Africa's seafaring labour market to 19,000 by 2019 may represent political rhetoric rather than reality. It does not fully take into account a dysfunctional secondary and tertiary education system, and a racialised and iniquitous labour market. This paper argues that a more sophisticated understanding of career choices of potential seafaring cadets is needed. Drawing on a sample of 120 South African cadets at various levels of their academic training the paper demonstrates that the biggest predictor of whether young people chose a career at sea is dependent on them having a family member in the present or past that has also worked at sea. Given that black South Africans were not allowed to train as officers until 1994, and that black officers only entered the labour market in significant numbers recently, there is limited generational history of seafaring amongst the current cohort of black cadets. Further students are making career decision based on instrumental decision making processes rather than viewing the occupation as a 'calling'. The qualitative data allows us to apply the theory of career capital as a more sophisticated way of understanding career choice amongst cadets. The paper concludes that policies targeting greater racial equality in the labour market, quality teaching in mathematics and science, and greater experiential education and exposure to occupations at sea ought to be pursued. A focus on these will increase the chances of operation 'Phakisa' succeeding.

Keywords: Training, Seafarers, Policy, South Africa, Career Theory

1. Introduction

The South African state in 2014 launched a maritime focused economic revival programme known as operation 'Phakisa'. Inspired by Malaysia's 'Big Fast Results' method of economic revival, the South African state, hopes to treble the maritime sector's current R60 Billion-Rand contribution to the economy by 2033 (Operation Phakisa, 2014). Part of the strategy is for the maritime sector to create between 800 000 and 1 million direct jobs. This is part of a wider African renaissance of the continent's maritime economy. The purpose of this paper is to assess the extent to which job creation of merchant marine seafarers is possible within this broader economic strategy. Operation 'Phakisa' is a policy intervention aimed at aiding South Africa to achieve goals set in the National Development Plan first promulgated in 2011. The intervention is based on two specific sectors of the economy: the 'oceans' economy and the health sector. For the purpose of this paper, we will focus on a component (growth of seafaring labour) of the oceans economy component of the policy strategy. The Oceans Economy pillar of operation 'Phakisa' is composed of (1) Marine Transport and Manufacturing, (2) Offshore Oil and Gas Exploration, (3) Aquaculture Work and (4) Marine Protection Services and Ocean Governance (Department of Planning, Monitoring and Evaluation, 2014). A common thread running through these four ocean economy priorities is the need for a reservoir of maritime labour and specialised seafaring labour to support the deliverables across these streams. Seafarer training and development is not explicitly stated as part of Operation Phakisa's goal but is rather seen as an aligned goal to support the development of these four maritime sectors. The South African International Maritime Institute (SAIMI) contends that seafarer training and development is key to 'for the successful implementation of the

Operation Phakisa" [as well as to] to grow South Africa's participation in the "blue economy' (SAIMI, 2014).

This paper argues that the ambition to grow South Africa's seafaring labour market may represent political rhetoric rather than reality. It does not fully take into account a dysfunctional secondary and tertiary education system, a racialised labour market and the pragmatic political dynamics of a global labour market. We believe that a career capital approach (that emerged from the qualitative part of this study) captures a more nuanced understanding of training and development of South African seafarers than the states rhetorical and over simplistic promise of growing seafaring numbers exponentially. For example, the national cadet training scheme rarely exceeds training more than 140 cadets per annum (and this is before these cadets have secured training berths). Our paper cautions that whilst the job creation goals of operation 'Phakisa' may be laudable, especially given South Africa's 26% official unemployment rate, more exploratory work needs to be done that examines key bottle necks in producing cadets as well as well as the psychological and sociological profiling of potential cadets that will allow for effective recruitment and retention strategies.

2. Method

We engaged in a mixed methods study. The quantitative part of the study employed a cross-sectional survey using a self-developed questionnaire to provide an insight into the biographical details of student cadets at a South African University. Some items included in the data collection instrument were quasi-adopted from similar studies carried out in Brazil (Lobrigo & Pawlik, 2012) and; Greece and China (Pallis & Ng, 2011). The study sought to elicit information; apart from the demographics profiles, about the prospective cadets' sources of funding for their studies, the importance of funding for their eventual graduation, the awareness levels of their chosen careers and likelihood of them remaining in their chosen careers at sea after graduation. After acquiring the results from the quantitative study, we followed up with six focus groups from the same sample of students. The focus groups were purposively sampled and consisted of six participants per focus group, accounting for a total of thirty participants for the qualitative component of the study. The aim of the focus groups was to probe participants and investigate their reasons for becoming seafarers as well as to obtain a more nuanced perspective on their career commitment, career motivation, and career choices.

3. Participants and Setting

The quantitative part of the sample census sampled a population of 120 undergraduate cadets and 108 usable questionnaires were obtained recording a 90% response rate. The majority of the respondents were male (63.9%) while females constituted 36.1% of the population with about 20% already in employ as seafarers (16 male and 6 females). In addition, the majority of the participants were in their first year of study (53.7%) and only 13.9% of the sampled students were in their final year (see Table 4). Most of the participants were black Africans (86.1%) followed by mixed race and Indian students who constituted smaller percentages. The majority, specifically 80 out of the 86 respondents who were not already in employ as seafarers indicated that they were the first in their families to pursue a maritime career with the majority of the population citing family (20.4%), the media (19.4%), friends (19.4%) and their high school teachers (14.8%) as their main sources of the maritime career awareness. The mean age of the sample with this study was 21.81 years. Most importantly, Table 1 also shows the registered student cadets' career track aspirations.

		Gender		
		Male (Frequency)	**Female (Frequency)**	**Total Frequency**
Race	B. African	56	37	93
	White	2	0	2
	Mixed Race	4	0	4
	Indian	6	2	8
	Other	1	0	1
T/Berth Secured	Yes	16	6	22
	No	53	33	86
	n/a	53	33	86
Career Aspiration	Deck Officer	23	14	37
	Seafaring Cadet	8	7	15
	Navigator	15	7	22
	Marine Pilot	12	7	19
	officer of the watch	3	1	4
	Master	3	2	5
	Marine Surveyor	1	1	2
	Missing	4	0	4
Total		69	39	108

Mean Age	**Median Age**	**Stan. Deviation**	**Range**	**Minimum**	**Maximum**
21.81	20	4.73	32	17	49

Table 1 Demographic Characteristics of the participants (N=120; n=108)

4. Data Collection Instruments

Career Motivation Scale [CMS: Noe et al., 1990; London, 1993**]** is a quasi-adopted and modified 19-item measure which emphasise feelings and attitudes related to work and career. A sample item is: 'I can adequately handle work problems that come my way.' Noe et al.'s (1990) items focus on behaviours. A sample item is: 'To what extent do you spend your free time on activities that will help your job?' Reasonably high convergent validity has been found between London's (1993) and Noe et al.'s (1990) scales suggesting that the two measure the same construct (London & Noe, 1997). We combine the two measures in order to investigate both attitudes and behaviours of CM. Previous studies reported a Chronbach's coefficient α of 0.84 for this scale (Day & Allen, 2004). The Chronbach's alpha coefficient for the overall CMS and subscales with this study sample was ranged from 0.61 to0.74.

Career Commitment Scale [CCS: Meyer, Allen & Smith, 1993) is an 18-item measure of affective, continuance and normative occupational commitment (six items in each scale). Five items were negatively phrased, and were reversed scored. The items were modified to apply to the seafaring profession. Responses to these items were on 5-point scales ranging from 1(strongly disagree) to 5 (strongly agree). Meyer et al.'s (1993) reported coefficient alphas ranging from .73 to .87 for these scales. In this study, only the overall CCS was adopted because it had an acceptable level of reliability ($\alpha<0.70$).

5. Data Analysis

Statistical analysis was carried out using the Statistical Package for the Social Sciences programme (SPSS version 22) described in Pallant (2013). Both descriptive and inferential statistics were used to analyse the data. Thematic analysis was used to reduce and report the focus group data. Only selected results are reported since the institution at which the study was conducted has embargoed results until the full report is presented to them.

6. Ethics

Full ethical clearance was granted by the University of KwaZulu - Natal's ethics committee and each participants signed an informed consent form.

7. Relationships between variables

Results from the Spearman's rank-order correlation tests showed that students' motivation, as measured by the career identity and career planning scales is practically (medium effect) and significantly related to career commitment. The relationship between these measures could indicate that students who have a more positive attitude towards their future as seafarers and identify with the profession are more likely to be more committed than those who don't. In other words, students who scored high in planning for achieving realistic career goals, who reflect an idea of where their seafaring career is going or take extra courses related to the programme, stay abreast with developments in area of specialisation or volunteer in career related assignments are more likely to be committed to their career when they start working as seafarers. Interesting to note is that, all the personal characteristics included in this study except race did not show any significant relationship to either motivation or commitment in the Spearman's correlational analysis. Therefore, influential as it was, race was controlled for in further analyses. Our study outcome confirms the findings from a related South African study by Bagraim (2003) who found demographics characteristics not related to professional commitment amongst actuaries. However, this contradicts other previous studies to found the opposite (e.g. Colarelli & Bishop, 1990; Kaldenberg, Becker, & Zvonkovic, 1995).

8. Focus Group Themes

8.1 Math and Science Anxieties

The qualitative part of the study captured a high level of math and science competency anxiety amongst participants. Participants indicated that even when they have high levels of career interest in seafaring careers, this interest was not matched by concomitant math and science skills. This proved to be demotivating for students and also accounted for up to 50% attrition rates. In order to ensure less attrition and increase the quality of graduates, policy interventions need to be made in the domains of math and science training. For example, maritime education and training (MET) institutes like the Australian Maritime College (AMC) provide seafarer training graduates mandatory maths training and optional maths tutoring classes throughout their study period.

8.2 Professional Calling versus Instrumentalist Career decisions

The results from the focus group discussions reinforced the findings that the more informed cadets are of what to expect from a seafaring career, the more likely they are to succeed at their studies. This is important since over half the participants in the focus group had never even seen an ocean or a ship in 'real life'. The cadet training programme was therefore viewed in a more instrumental way by these participants rather than a professional or vocational calling. The challenge therefore for the South African state is to make information about seafaring careers accessible to students as early as possible. An important theme to emerge from all focus group participants was the theme of ***instrumentalist career decision making (ICDM)***. By this, we mean that participants chose to enter the cadet programme purely because they were motivated by the promise of 'work' or a 'job' after graduating. 'work' and 'job' in this sense substitutes as a shorthand for income. Given the over 40% level of unemployment amongst South African youth, it does not seem anomalous that this is the chief motivator for cadets entering this career. We suspect that this has implications for career commitment and career longevity of seafarers from this institute.

Fei and Lu (2015) who proposed that in traditional maritime nations, seafaring was and still is a "calling" due to the long history and tradition of sailing, the pride and promise associated with it, and the lifestyle it represents. We argue that in South Africa, most determinants of career choice behaviour and motivation and commitment are mostly rooted on socio economic needs which can be in form of tangible monetary and non-monetary rewards. These rewards can be employed from the undergraduate in the

form of bursaries, scholarships and paid training berths for students amongst others. In countries like South Africa which are not traditional maritime nations, a sense of calling may be weaker and the choice of seafaring or working in general is more associated with socioeconomic factors. Therefore, organizations in the maritime sector as well as universities should join forces in providing and tracking student progress and giving as much support as possible to lessen dropout as well risking losing the students to landside jobs not related to the field soon after graduation or after a short service into the career. To maintain a balance between male and female cadets more attention can be given to female cadets (74% indicated that they are likely to leave their careers at sea) as they are likely to leave work at sea for in land jobs as early as around 30 years of age.

8.3 Inequitable access to career capital (race and gender and nationality)

Recurring thick and rich discussions of lack of access to social, cultural, symbolic and economic capital resonated throughout the moderation of the focus group interviews. We have collectively coded these findings as *career capital*. Career capital has emerged in the career sociology and career psychology literature as a more complete way of making sense of why and how young people enter certain careers. It is also a useful way of understanding barriers to access. Participants' experiences of the career capital process can be captured by Figure 1 below:

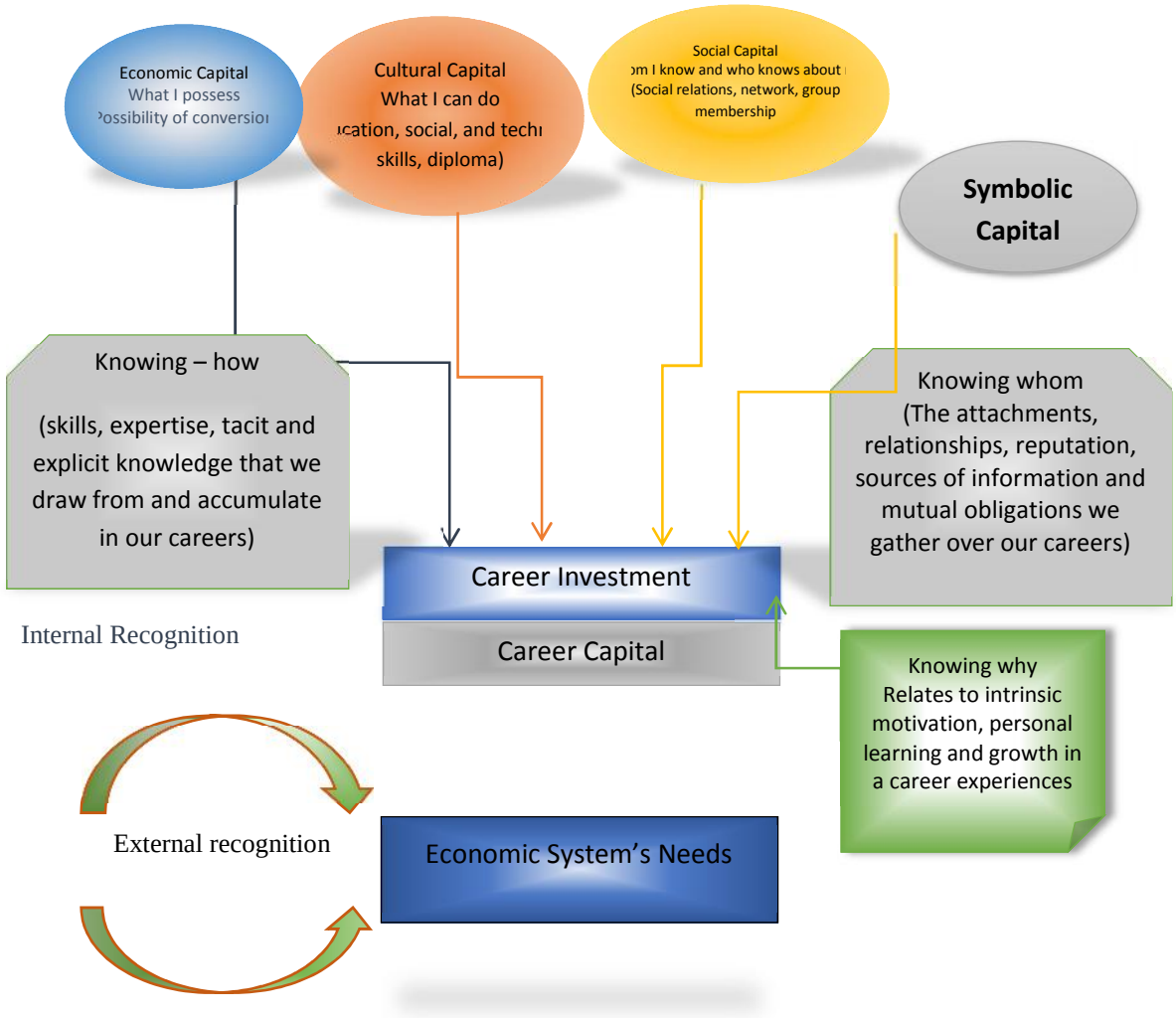

Figure 1 Career Capital (Adapted from Mgaga and Ruggunan, 2015)

9. Conclusion and future research directions

The findings in this study contribute to a growing body of research that illustrates the appropriateness of a multidimensional approach to the study of careers, including those of merchant mariners. It attempts to show that policy makers and politicians often devise policies with quantitative targets that may be more rhetoric than reality. Our exploratory study has shown that in order to achieve the envisioned 19000 seafarers, South Africa has to seriously examine how career capital is accessed and experienced by its youth in the path to becoming a seafarer.

Of course our study is limited in that it used a cross-sectional design and relied on self-reports from a small, highly select group of professionals. This study seeks to help both industry and academia understand factors contributing to prospective seafarers' experience of their training and development. We hope that this will address the challenges facing the seafaring industry as well as preparing students and organisations for a future of rapid changes in the industry.

The current findings should be adopted with caution because they are based on a small sample drawn from one institution. Therefore, further studies are required which may also include employers and people already in employ, before any recommendations can be made regarding the importance of personal characteristics in understanding professional commitment. The researchers also aim to replicate this study with seafarers in Australia and compare findings.

References

[1] Allen N J and Meyer J P, "The measurement and antecedents of affective, continuance and normative commitment to the organization", *Journal of occupational psychology*, Vol. 63, No.1, (1990), pp.1-18.

[2] Bagraim J J, "The nature and measurement of multiple commitment foci amongst South African knowledge workers", *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, Vol.12, No.2, (2003), pp.1-13.

[3] Colarelli S M and Bishop R C, "Career commitment functions, correlates, and management", *Group & Organisation Management*, Vol.15, No.2, (1990), pp.158-176.

[4] Day R and Allen T D, "The relationship between career motivation and self-efficacy with protégé career success", *Journal of Vocational Behaviour*, Vol.64, No.1, (2004), pp.72-91.

[5] Department of Planning, Monitoring and Evaluation, "Operation Phakisa", *Department of Planning, Monitoring and Evaluation*, 2014, Republic of South Africa, 7 May 2016, http://www.operationphakisa.gov.za/Pages/Home.aspx.

[6] Fei J and Lu J, "Analysis of students' perceptions of seafaring career in China based on artificial neural network and genetic programming", *Maritime Policy & Management: The flagship journal of international shipping and port research*, Vol.42, No.2, (2015), pp.111-126

[7] Kaldenberg D O, Becker B W, and Zvonkovic A, "Work and commitment among young professionals: a study of male and female dentists", *Human Relations*, Vol.48, No.11, (1995), pp.1355-1377.

[8] Lobrigo E and Pawlik T, "The seafaring labour market in Brazil", *Maritime Policy & Management: The flagship journal of international shipping and port research*, Vol.39, No.6, (2012), pp.621-639.

[9] London M and Noe R A, "London's career motivation theory: An update on measurement and research", *Journal of Career Assessment*, Vol.5, No.1, (1997), pp.61-80.

[10] London M, "Relationship between motivation, empowerment and support for career development", *Journal of Occupational and Organisational Psychology*, Vol.66, (1993), pp.55-69.

[11] Mgaga S and Ruggunan S, *Assessing the role of career capital in influencing women's decisions to choose a career at sea in Durban: A Proposal*, Unpublished paper, University of KwaZulu-Natal, Durban, (2015).

[12] Meyer J P, Allen N J and Smith C A, "Commitment to organizations and occupations: Extension and test of a three-component conceptualization", *Journal of applied psychology*, Vol.78, No.4, (1993), p.538.
[13] Noe R A, Noe A W, and Bachhuber J A, "An investigation of the correlates of career motivation", *Journal of Vocational Behaviour*, 37(3), (1990), pp.340-356.
[14] Pallant J, *SPSS survival manual: a step by step guide to data analysis using IBM SPSS*, 5th Edition, Maidenhead, CA: McGraw-Hill Publishers, (2013).
[15] Pallis A A and Ng A K, "Pursuing maritime education: an empirical study of students' profiles, motivations and expectations", *Maritime Policy & Management*, Vol.38, No.4, (2011), pp.369-393.
[16] South African International Maritime Institute (SAIMI), "Blue Economy", *SAIMI*, 2014, South African International Maritime Institute, 7th May 2016, http://saimi.co.za/blue-economy.html