THE RELATIONS BETWEEN THE PORT BUSINESS FRAMEWORK AND THE QUALIFIED MANPOWER COMPENTENCIES – LITERATURE REVIEW AND PROPOSED GUIDELINES

Florin NICOLAE¹ Rosen IVANOV² Cătălin POPA³ Filip NISTOR⁴ Alexandru COTORCEA⁵

¹Professor, PhD, "Mircea cel Batran" Naval Academy, Constanta, Romania, florin.nicolae@anmb.ro

² Professor, PhD, University of Ruse, Bulgaria

³Associated Professor, PhD, "Mircea cel Batran" Naval Academy, Constanta, Romania

⁴ Associated Professor, PhD, "Mircea cel Batran" Naval Academy, Constanta, Romania

⁵ PhD attendee, "Mircea cel Batran" Naval Academy, Constanta, "Transilvania" University of Brasov, Romania

Abstract: The maritime, inland and river transportation framework counts as essential component of the international trade and of the global business environment nowadays, more than 80% out of the global or regional exchanges being basically grounded on these means of goods' relocation, due to the lowest level of unit prices of the services. In this context, the sustainable development of the naval transportation system alongside the Romanian-Bulgarian cross border area, became both countries' challange, in order to achieve the desired business competitiveness, among other European states and not only. Implicitly, aiming for the economic productivity has became very relevant to build strong profiled human resources, accordingly qualified, based on adapted professional competencies in terms of its skills, abilities and knowledge, correlated with the required qualifications on the labour market in the naval sector. The authors have identified those professional and transversal competencies required by the port business sector, by investigating the nowadays international tendencies in rebound for the new technological and business developments for the freight services logistics. In the paperwork the author have shown how the research results will support the learning goals, using facts' data, concepts, theories, models but also practices, procedures, operations, intention and solutions techniques. The research results as initially drafted have been further validated by the relevant Romanian port business entities, in order to be adopted and implemented in the curricula definition process for the future, carrying the endeavour of defining the adapted skills, abilities and knowledge for the port adapted qualification framework. The paperwork is a scientific output of the POSDRU/161/2.1/G/140706 project implementation, entitled "Facilitating the insertion into the labour market of naval education" financed within FSE-POSDRU-Priority 2, Linking lifelong learning and labour market, POSDRU – 2.1 Key Area of Intervention Transition from school to active life. Keywords: port business, maritime education, maritime transports, logistics

1. Induction

Starting with the latest decade of the last century the worldwide ports had undergone more development stages, from the traditional interface, settled on the sea/channel – land route, simply adapted to the freight required services, to the complex logistic platform, focused on added value services integrated within an effective and efficient supply chain. Obviously, in this evolution the ports behave as a binder element for all types of transportation, including the maritime and the multimodal ones, both of them valuing specific logistic processes, with peculiar inputs and outputs. Moreover, the ports represent functional socio-technical systems with a high rank of complexity and with a relevant role within the international trade. From this point of view, the ports constitute complex locations where the raw materials, the commodities or the products, no matter the form of batching and packaging implemented, are loaded/unloaded on/from the ships. Also, the ports are used as depots or distribution centres where the added value activities are overtaken, such as: labelling, marking, wrapping, packaging, palletization, containerization and so on (Notteboom & de Langen, 2015).



Figure no.1: Port – centric logistic concept

On its turn, the ports are integrated alongside the international logistic chain, due to the assumed responsibilities regarding the added value logistic services related to the freight shipping and forwarding, on import/export operations on trade (Acciaro, 2015). Thus, the ports are usually considered nowadays as complex logistic nodes, where different types of transportation are connected on common platforms for goods services and transfer, handling or stevedoring operations, important flows of information, financial resources and goods being managed into effective and efficient manner. Today, the competition is not posed only among the service providers but also between supply chains, as the general opinion states that the economic and technical efficiency is higher when the port is integrated within a supply chain then functioning under insulated (Mangan, et. all., 2016; McKinnon et.all., 2015). Once this perspective accepted, the ports should focus on permanent basis toward performance improvement in order to adapt to the new challenges, including in the area of manpowering. The human resources play an important role in supporting the ort efficiency, bringing in the business framework the required expertise to exploit the technical, informational and financial resources.

2. The relation between the port's evolution and employees' skills and competencies

2.1. Quantitative and qualitative changes in port activity development

Significant changes in port development recorded throughout the time, have directly determined the professional requirements in terms of specialized knowledge, skills and abilities, the training programs facing adaptive changes accordingly (Monios, 2016). These changes have determined market competition sharpening between port terminals, or between ports or against other types of transportation. (Ducruet, 2016; Álvarez-SanJaime, 2015; Notteboom, et. all., 2015).

A good example of such competition should be the Romanian and Bulgarian port businesses onshore the Black Sea region, against the Central and Western European port services providers. This frame ask for an enforced efficiency on operational and managerial level, based on optimum labour productivity, supported both by the technical and administrative infrastructure and by the employees' valued abilities, skills and knowledge (Nicolae, 2015; Panayides, 2015).

If the most relevant ports worldwide analysed, it would be observed a high level on investments carried on specialized equipments and transfer systems, the specialization being shifted from

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general cargo toward containerization. This business behaviour has determined important consequences against the port workforce inquired qualifications, including the managerial or supervising and monitoring expertise positions. New knowledge, skills and abilities were inquired to carry out the new and adapted tasks and responsibilities, on all levels.

As main conclusion drawn from the literature review as carried out by the authors, the dynamic adjustments of the qualifications assumed by the port labour will be decisive and will make the difference for building a future competitive advantage in the sharp challenging context induced on the port services market, by the evolving technologies and logistic chain modern flows (Monios, & Wilmsmeier, 2013; Bichou, 2014; Merk & Hesse, 2012).

The structural changes implemented alongside the supply chains have enforced a complex approach of the logistic activities, where the ports have taken an important role, as an integrate node of logistic operation throughout the international trade distribution function. Therefore, the port labour force needs to be professionally adjusted, not only in regard of the updated knowledge about the port operations, but also in regard of the logistic operations in relations with all complex functions within the supply chain, for a connected professional perspective of inbound and outbound logistic operations.

As noticed, the ports cover a wide range of services, supply relations and client oriented supportive activities and consequently, the professionals should achieve suitable knowledge, abilities, competencies, attitudes and skills, adapted to the new port technologies and operations in respect of the goods and ships provided services.

In the present stage of its development, the port networking concept have been initiated, based on the strategic business partnership integrative approaches, as a core functional principle of the supply chain management on international level. The competition is not longer established between individual ports, but rather between supply chains, whereas the ports as transfer nodes of the "hub and spoke" system, kept an important functional position (Magala et al., 2008; Blonigen, 2006; Ng, et al., 2014). Chang et al. (2008) and Yeo et al. (2014) have shown that the port choice as transfer node became an option straight dependant on its integration rank within a determined supply chains. The choice is ultimately a matter of the supply chain efficiency, the port node becoming in this framework just a variable, significantly affected by the entire logistic network performance.

On the other hand, a deeper detailed analysis could conduct to the idea that, in Western Europe, in South-Eastern Asia and in North America the ports and the inland terminals have already developed a significant role bringing an active contribution and functional support within the supply chains, taking over the extensive function of distribution (Magala & Sammons, 2008). In this context, the recorded evolution and applied changes have underpinned the continuous need for implementing a wider spectrum of knowledge, skills and abilities for the port employees and professionals, lean on the new updated status of the harbour area, as logistic centre within functional supply chains. Moreover, during the last decade, the port industry has been focused to implement advanced technological solutions, with higher productivity, less dependent on the human factor, pushing consequently for updated professional skills assumed for work force profile (Porter, 2014; Di Francesco et.all., 2015).

2.2. The present development level of the professional competencies in the port industry

It is widely recognized, in care of all business sectors, that the human resource is very important in respect of achieving the organizational performance improvement (Sanghi, 2016; Cummings and Worley, 2014). As result of the carried research in the area of the professional profile depiction within the maritime industry and embracing a comprehensive overview, the professional authors consider that the competency should be defined as a complex process of building a qualification counting together the selection, blending and usage of knowledge, abilities, values and attitudes. individually attributed and shaped as a dynamic and integrated manning profile, in order to assure an efficient and effective capacity of the employee to solve a situation, within a specific environment. An interesting perspective has been built by Marin (2012) who has defined the competency as being the employee's capacity to solve successfully a work task/assignment/query or to fulfil an individual responsibility on a specific work place, according to the assigned manning table. However, this functional approach should be completed with a structural approach of a professional qualification in terms of specific designed abilities, skills or individual condition. In its issued studies regarding the education and training, the European Commission have shown that any competency is built by featuring cognitive and practical abilities, knowledge including the latent ones, motivating structures, values' approach, or attitudes and behavioural variables that could be mobilized on individual action and performance (European Commission, 2000).

In his paperwork, Wilensky (2015) has disclosed that a distinctive professional competency constitutes an internal resource, because offers a unique capability to the company valuable in the competitive advantages terms, when facing the market challenges due to the knowledge based society nowadays (Wilensky, 2015). Within the chain management supply the inquired professional competencies are related to the planning and management processes of the logistic activities, supplier relations management, clients services management and distribution policies, to achieve an integrative approach throughout the entire chain, from the inbound vectors to the end user, looking for quality, effectiveness and flexibility (Ross, 2013; Wisner, et. all., 2014)

The same point of view has been shared also by Monczka et al. (2015), Gattorna (2015), Davila et al. (2012) who proved the stringent importance of the employed human resources, the high investments in latest technologies being useless in the absence of a qualified manpower, as enabler for performance and efficiency alongside the supply chain. The study of the previous practices in this area of knowledge concluded that on traditional perspective, the employee should be focused on managing punctually, each logistic activity, from information management, to storage, handling, or transportation. Hence, in present times and in the future the logistics professionals would be able to operate individually or insulated anymore, but will be connected or integrated in inbound and outbound processes, horizontally and vertically, with other departments, and with the business suppliers or clients as well (Monczka et al., 2015).

The recent evolutions pursued within the port business have disclosed a very low involvement as coming from the governmental authorities. Even so, major changes in technology transfer have been recorded, mainly in containership business. These quantitative and qualitative changes have conducted major shifts in port professionals'profile definition, the old longshoreman from the last century being upgraded with an innovative set of competencies, translated in new skills, abilities and attitudes required by the employers.

The containerization and the further developments scored within the port business environment have determined a significant dropping of the personnel number and a broad diversification of the requirements stated in the manning tables, accordingly, but with a great impact against the work productivity and efficiency, the competencies' diversification trading off the lack of large manpower. As result for the structural adjustments new managerial competencies and new operational skills and abilities were required, the job profile for many of the assignments changing radically, the multirole personnel being preferred in many of the cases in recruitment processes.

From another perspective, the communication techniques implemented on the organizational level in many companies have broaden significantly the port operators staff responsibility perception, remarking itself through increasing individual contact with all the business dimensions by many information channels as ITC facilities, documents, internet platforms etc. (Pallis et al., 2011).

All these great changes adapted to the new technological and information revolution led by the digitalization and automation modern principles imposed the idea of new competencies required for the modern professional profiles in the port companies, that would value the supply chain integrative vision, toward common basis in serving the end user qualitative and quantitative requirements. The port business is recognized nowadays as a major and important variable within the supply chain management, the authors looking forward for designing corresponsive professional profile components and variables that could answer to most of the challenges launched by the modern port operation technologies.

3. The competencies' centered professional profile for the port businesses

The primary purpose of this research has been for the beginning to identify the most suitable competencies for the professional profiles in order define to most relevant the required to qualification in relation with the newest port technology and to further support the business performance and corresponsive efficiency and work productivity. As priory defined by the authors, the competencies are managed within a wide array of processes of selection, featuring and implementation of a set of job requirements, translated in proper qualifications and forth described by a specific frame of knowledge, skills and abilities, together bound and mixed together personal transversal with attitudes and personality, social or cultural variables involved. In the research, the port employees were classified in two main categories: port workers and port executives. While the port workers class includes the stevedores, checkers, tallymen and clerical staff, the port executive branch includes the monitoring officers and supervisors, appointed to monitor the terminal operations (McConnell, 2011).

An important concept considered along the research endeavour is related to the research methodology itself who is enabling the description of the used methods, followed by the description

of the proceeded stages, accordingly, as many times using only one approach is not suitable for getting the wide sense of a concept or studied phenomenon. This is why is consider properly to apply different approaches in the study, using the most suitable methods for the available data sets, in order to validate a result. On this respect, the authors have been used the triangulation method, as a research technique recommended in case of logistics studies or transportation services problem solving (Denzin et al, 2012; Govindan et al., 2015).

The committed research applied in port business area should be carried forward, using both quantitative and qualitative methods, in order to achieve a coherent model of competencies attached to the updated professional profiles, as presently required in port industry, peculiarly designed around the concept of *Port industRy cOMPeTencies* (PROMPT).

Conclusions and final remarks

The overtaken research has the starting point in the good practices recognition, as pursued and achieved in the past decades in the area of the seafarers' professional standards, that were suitable designed and implemented on international level, in technological updated and adapted manner to the ships' and goods' particularities (STCW 1995 revised on Manila Amendments). As result of the research, the authors have established the relations between the port operation activities and the port professional requirements as pursued by the companies for the personnel qualification framework. The paperwork depicts the quantitative an qualitative changes recorded and applied in the last years in this sector, supporting the idea of adopting a harmonized professional qualification framework, cantered on the updated required competencies, suitable to the new supply chain realities and standards. In this stage, the research support found a solid ground in the acquired results from the enclosed project of the authors, namely: "POSDRU/161/2.1/G/140706 - Facilitating the insertion into the labour market of the future graduates of naval education. FSE-POSDRU-Priority 2, Linking lifelong learning and labour market, POSDRU – 2.1 Key Area of Intervention Transition from school to active life".

The future research will be pursued based on a strong partnership established together with the port business representatives. The authors intend to combine a broad range of qualitative and quantitative methods for the purpose of defining a model of professional competencies, in order with the international understanding and suitable for the port industry requirements, to finally reside in a coherent training programme suitable to be applied in the specialized companies, as suggested in the concept of "Port industRy cOMPeTencies" collocation (PROMPT).

The conceptual frame in the research process should be structured on the next stages of the scientific approach in order to get a coherent result: the information synthesis from the literature review regarding the professional competencies required nowadays for the port employees both on operational and managerial levels; the analysis of the actual professional training programs applied to the human resources from the port industry; the complex analysis of the professional knowledge, abilities and skills required on the labour market, explored and designed by interviews with the port companies' representatives.

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