



Criteria for the management partnership model in Croatian seaports

Ana Perić Hadžić, Alen Jugović & Marko Perić

To cite this article: Ana Perić Hadžić, Alen Jugović & Marko Perić (2015) Criteria for the management partnership model in Croatian seaports, Economic Research-Ekonomska Istraživanja, 28:1, 226-242, DOI: [10.1080/1331677X.2015.1041775](https://doi.org/10.1080/1331677X.2015.1041775)

To link to this article: <http://dx.doi.org/10.1080/1331677X.2015.1041775>



© 2015 The Author(s). Published by Taylor & Francis



Published online: 01 May 2015.



Submit your article to this journal [↗](#)



Article views: 487



View related articles [↗](#)



View Crossmark data [↗](#)

Criteria for the management partnership model in Croatian seaports

Ana Perić Hadžić^{a*}, Alen Jugović^a and Marko Perić^b

^a*Faculty of Maritime Studies, University of Rijeka, Rijeka, Croatia;* ^b*Faculty of Tourism and Hospitality Management, University of Rijeka, Opatija, Croatia*

(Received 5 May 2013; accepted 6 February 2015)

The aim of this article is to define the relevant criteria for the evaluation of public–private partnerships (PPP) for the implementation of the management partnership model in Croatian seaports. Previous studies have indicated a number of effects that PPPs need to achieve in order to ensure sustainable development. However, partnership in seaports in the Republic of Croatia is a poorly researched issue and the relevant criteria required for positive effects have not yet been defined. We have defined five groups of criteria: economic-financial, organisational, technical-technological, social criteria and criteria aimed at harmonisation with European Union policies (currently characteristic for Croatia). To determine the relevance and importance of these criteria, it was necessary to collect data by using the method of interviewing experts from different scientific areas and of diverse professional competences. Regarding the relevant stakeholders (public interest, private interest and the interest of the broader community), research analysis has provided multiple research results which have pointed out that technical-technological and organisational development are the key criteria for a successful partnership model. The results obtained in the research can be applied to future management models in Croatian seaports that will be based on PPPs.

Keywords: public–private partnership (PPP); management model; seaports; criteria

JEL classifications: L22, L33, M10, M13

1. Introduction

The strong effects of the globalisation and liberalisation process on the performance of maritime transport, which has acquired a monopoly position in global foreign trade when it comes to mass transit cargo, have brought about radical changes in ports, especially from technical, technological, legal and economic aspects. Today, nearly 70% of the container terminals in the world are operable through public–private partnership (PPP) models. Practices in the implementation of the PPP model in seaports differ widely around the world, depending on the traditional model of port structures, as well as on cultural and historical heritage.

Private-sector capital investments in the port system are clear indicators of interest for PPP models in seaports and their implementation. In the last 20 years, in almost 60 developing countries, over 350 projects with private sector participation have been implemented in world-famous ports. The largest numbers of PPP projects have been implemented through the model of concession agreements (48%) and greenfield

*Corresponding author. Email: ana@pfri.hr

investments (40%). Less popular models are management and lease contracts (7%) and the sale of interests in equity (6%) (The World Bank Group, 2013). The most common private partners are global terminal operators, regional operators, stevedores, shippers, transportation companies (rail, agents), equipment manufacturers, industrial conglomerates and financial institutions. On the private partner side, port authorities (China, Singapore) are also emerging as 'private investors'. There are more and more networked container terminals which are under the management of several shipping companies. For example, only five global carriers or stevedores or hybrids companies (HPH, PSA, APMT, DPW and Cosco) hold and control more than 50% of the container market share (Drewry, 2012, p. 34). It appears that market domination by a few 'players' and a strong potential market concentration is characterised by an imperfect market form (oligopoly).

Despite these considerations, the largest and most efficient ports in the world are still public ports, but only a few of them are publicly managed (Čišić & Perić, 2005, p. 104). Today, the principle of landlord structure is the most common form of port organisation. Therefore, many world ports, such as Rotterdam, Hamburg, Los Angeles or Pusan Klang, are organised according to this principle. Under a landlord approach the public sector is responsible for port planning, regulatory functions and ownership of port-related land and basic infrastructure (Juhel, 2001, p. 163). The private sector is, in turn, responsible for marine and terminal operations and the construction, acquisition, and ownership of superstructure and equipment. This model, based on different PPP models, has gained popularity because of increased port efficiency and end-user oriented management, and because of the flexible triple structure between government, employees and private management.

Previous studies have indicated a number of effects that PPPs need to achieve in order to ensure sustainable development. However, these models have not been implemented in the port sector in Republic of Croatia, although the popularity of PPPs in other sectors has grown over the last decade.

Considering the above, the aim of this article is to define the relevant criteria for the evaluation of PPPs for the implementation of the management partnership model in Croatian seaports. Based on an analysis of the present knowledge as well as on their research experience, we have defined five possible groups of criteria and tested the relevance and importance of selected criteria.

The article contains five sections. In the first section, entitled Theoretical Background, we provide a brief but inevitably incomplete review of the literature, emphasising the gaps that will be the focus of this article. In the second section, Research Methodology, we explain the selection of criteria and the method of data collection used to determine the relevance and importance of selected criteria. The third section analyses in detail the theoretical results for the evaluation of PPP criteria in seaports. The fourth section focuses on the results of empirical research. The article finishes with conclusion remarks.

2. Theoretical background

The sustainability approach of funding through PPPs in seaport systems is not self-serving. Previous studies have indicated a number of effects that PPPs in ports need to achieve to ensure the sustainable development of the port community; for example, they need to increase efficiency and technological equipment; obtain additional capital and better value for money; introduce private management; improve relationships with

employees; foster trust and cooperation and better private participation; reduce the role of the public sector and public deficits; enable risk-sharing; promote the cross-transfer of public and private sector skills, knowledge and expertise, etc. (Asian Development Bank, 2001; Drewry, 2012). Regardless of their type, PPPs in port activities, as a kind of alternative mode of privatisation, should promote two major points (Perić Hadžić, 2012, p. 114):

- (1) From the standpoint of public interests, PPPs need to ensure better performance of port activities, in terms of greater efficiency and productivity, better management, etc. At the same time, the public authorities (government) hold the land and the basic infrastructure, help the private partner in carrying out capital investment, promote economic regulation and the adoption of port policy measures, improve the port's hinterland, take care of the protection of the maritime domain, etc.
- (2) From the standpoint of private interests, PPPs need to ensure all benefits (motives, purposes) of private businesses. The private sector provides the public sector with personnel, operational, commercial, financial, marketing, and managerial support.

PPPs in Croatia have had a particularly important role in the development of infrastructure projects and the provision of quality public services. Over the last decade, more challenging PPP projects have emerged in practice, especially in terms of transportation, education and sciences, sports facilities, public administration buildings, and the development of health and social welfare (Madir & Vrana, 2012). In the Strategic Framework for the Development of Public–Private Partnerships in the Republic of Croatia (Ministry of Economy of the Republic of Croatia, 2009) adopted by the Croatian government, the basic framework and goals of PPPs have been set out. Furthermore, the Strategic Framework notes that the key to the successful establishment and application of PPPs is the best value for money, which includes: (1) risk distribution; (2) the greatest possible gain from the efficiency, expertise, knowledge, skills, flexibility and innovation of the private sector; (3) the principle of preserving the integrity of the provision of public services and the availability of the public good; and (4) the principle of transferring expert and professional knowledge from the private to the public partner.

Although many important professional and scientific papers deal with PPPs in Croatia (Barković & Širić, 2010; Kušljic & Marenjak, 2011; Madir & Vrana, 2012; Marenjak, Skendrović, Vukmir, & Čengija, 2007), very few of them are related to the management partnership models in seaports (Čišić & Perić, 2005; Oblak, Bistričić, & Jugović, 2013; Perić Hadžić, 2012). Furthermore, they do not analyse or systematise any criteria for a successful partnership in seaports, although studies have already been made in other industries, such as tourism and hospitality (Perić, 2009).

3. Research methodology

The lack of scientific and professional research papers in the field of PPPs in the seaports system, together with the lack of possible criteria for evaluating a model, was the main reason that prompted us to analyse potential criteria for the evaluation of PPPs in seaports with the purpose of evaluating the preliminary phase of PPP projects as well as their implementation, controlling and monitoring phases.

The selection of criteria was based on our desk research of relevant documents, on scientific and empirical knowledge, and on the practice of PPP implementation in world ports. The possible criteria in the evaluation of PPPs have been systematised into five main groups: economic-financial criteria, organisational criteria, technical-technological criteria, social criteria, and criteria of harmonisation with the EU policies. Each of these criteria is also divided into sub-criteria.

We used the method of an online questionnaire to collect data on the relevance and importance of selected criteria. The survey was conducted during April and May 2012. The online questionnaire was sent to 169 email addresses of people who we judged could be classified as experts of the PPP problem. The selection of experts was based on several criteria such as relevant scientific and professional papers (books) published, experience in the implementation of PPP projects in the transport area, good knowledge of port management issues as well as legal provisions concerning the management of the maritime domain, etc. The sample selection may seem relatively small (169 experts), but it was not a typical market testing. The aim was to test key experts in Croatia in order to obtain results relevant for scientific research. Respondents from several areas were included, as shown in Table 1.

The study was conducted to define the criteria and their importance (weight). Respondents were asked to identify the importance (impact or weight) of the offered criteria. In accordance with their opinions, the respondents rated the criteria on a scale from 1 to 10, where 1 was assigned to the criterion which was considered completely irrelevant, and 10 to the criteria of the utmost importance for the evaluation of PPPs in Croatian seaports.

The survey was divided into three parts: basic demographic data, analysis of the criteria for the evaluation of PPPs, and the estimation of the power of certain interest groups. It is important to emphasise that the overall analysis of criteria using the statistical software SPSS was made from the perspective of all stakeholders, of all groups of

Table 1. List of experts/institutions involved in the online questionnaire.

Experts/institutions involved in the online questionnaire	
Public institutions: Agency for Public-Private Partnerships, Agency for Export and Investment Promotion, Croatian Chamber of Economy, Ministry of Finance – Department for concessions and PPPs, Ministry of Maritime Affairs, Transport and Infrastructure, Ministry of Regional Development	Port authorities for ports of outstanding (international) economic importance to the Republic of Croatia – Rijeka, Zadar, Šibenik, Split, Ploče and Dubrovnik
University/Faculty: Faculty of Economics – University of Rijeka, Faculty of Economics – University of Split, Faculty of Civil Engineering – University of Osijek, Faculty of Tourism and Hospitality Management – University of Rijeka, Faculty of Maritime Studies – University of Rijeka, Faculty of Law – University of Split	Port authorities for ports of county importance: Bakar-Kraljevica, Cres, Crikvenica, Korčula, Krk, Mali Lošinj, Novalja, Novi Vinodolski, Opatija-Lovran, Poreč, Pula, Rab, Rabac, Rovinj, Senj, Umag – Novigrad, Vela Luka, Port Authority of the County of Dubrovnik – Neretva, Port Authority of the County of Split – Dalmatia, Port Authority of the County of Šibenik – Knin, Port Authority of the County of Zadar
Private companies: AGIPLAN d.o.o. Zagreb, Agit d.d., Adriatic Gate d.d., Jadroagent d.d., Luka Rijeka d.d., MAERSK, Enhancing SME Performance Project	

Source: Authors.

criteria and of the specific criteria, requiring long and complex data processing. That means that all groups of criteria and every specific criterion have been analysed regarding the interests of the public sector, the private sector, the broader community and all stakeholders.

4. Theoretical results for the evaluation of PPP criteria in seaports

The potential criteria for the evaluation of PPPs have been systematised according to the sequence of the research and are presented in Figure 1. The criteria have been systematised into five main groups: economic-financial criteria, organisational criteria, technical-technological criteria, social criteria, and criteria of harmonisation with the EU policies. Each group of criteria is divided into sub-criteria.



Figure 1. Potential criteria for PPP evaluation in the port system. Source: Authors.

4.1. *Economic-financial criteria*

The economic-financial criteria seek to assign certain financial and economical values to the possible models of PPPs:

- (1) Contribution to GDP – the realisation of PPP models can have a significant impact on the increased flow of investment and increased government spending or on the income for the state, profit and amortisation.
- (2) Economic growth acceleration can be related to the construction of new capacities, increased flow of transport incomes/expenses, which occur in all phases of the project cycle. The multiplier effect has been noted in particular (Kesić & Jugović, 2006, p. 90). Entities involved in the production of port services and logistics services through their services and realised incomes are creating direct multiplicative financial impact on the national economy.
- (3) Smaller public expenditure is related to the position of the state to reduce expenses (costs) of the public sector, as much as possible. Investments in seaports are always underpinned with government investments, especially in terms of infrastructure. For example, the Croatian government planned to invest €531 million in the seaport system for the period from 2006 to 2013 (Perić Hadžić, 2011, p. 113). Of course, the realisation of this investment cycle did not transpire. If private capital were to start investing in seaports through the PPP model, the share of public investment would be drastically reduced.
- (4) Long-term budgetary sustainability of the public sector. PPP projects in ports make it possible to increase fees from concessions, use budgetary resources more efficiently and reduce the public deficit.
- (5) Invested capital return is an indicator which is important for the public sector but even more for the private sector in PPP projects. Most commonly it is measured by the return on equity or internal rate of profitability and with some other method of project evaluation.
- (6) Facilitated provision of capital refers to the ability to facilitate the provision of capital to the public sector, if there is a partnership. This applies to the approach of non-credit sources of long-term financing, attracting private investment and the development of attractive financial projects on the market.
- (7) Allocation and risk management is a very important indicator, because the public sector in partnership projects expects a joint distribution of risk. In PPP projects, large parts of the risk are transferred to the private sector, but the public sector has to accept their role in the allocation and management of the risks (political, economic, generally) and has to support the private sector.

4.2. *Organisational criteria*

Organisational criteria should contribute to the improvement of organisational elements in the seaports systems by using PPPs. For the purposes of this research, a number of important organisational sub-criteria have been allocated as follows:

- (1) Improvement of management functions is related to the transfer of global management standards, the implementation of know-how, and the training of port managers in the case of partnerships. When it comes to partnerships, these activities are carried out by the private sector, which is usually non-politically

oriented and whose experience and skills can significantly improve the management function in ports.

- (2) Increment of the beneficiaries' participation is an extremely important sub-criterion. Usually, on the private sector side, shippers, cargo owners, terminal operators, inland carriers and logistics companies are the main users of port services. Their interest in good and long-term business is more than obvious.
- (3) Intellectual capital refers to the understanding that human capital represents the main source of the competitive ability of an organisation in market competition (Marimuthu, Arokiasamy, & Ismail, 2009; Njuguna, 2009).
- (4) Partnership duration affects the stability of the partners' relationship. Long-term relationships create long-term partnerships and trust between partners. When evaluating the organisation, trust is now one of the new indicators that is to be considered.
- (5) Business processes control is related to measuring, monitoring and analysing the execution of business processes. Business processes depend on productivity, formal communications, organisational processes, system quality, implementation of a quality management concept in monitoring critical control points, document management systems, etc.

4.3. Technical-technological criteria

The technical-technological criteria should contribute to the technical-technological development of the port system. For the purpose of this research, a number of significant sub-criteria are identified:

- (1) Port service quality improvement – The port service quality concept is based on clearly defined terms denoting quality, determined requirements that a port must satisfy on the market, the main port functions (fields of activity), the identification of interest groups and their requirements, the identification of bottlenecks, etc. The European Commission also emphasises the importance of port services quality research. For the first time, a document entitled 'Reinforcing Quality Services in Seaports: A Key for European Transport' (Commission of the European Communities, 2001), also referred to as the Ports Package, provided guidance for access to the market of port services. The fundamental aim of the port development strategy, by the European Commission, was to establish the rules that would set high standards on the market of port services to ensure transparent procedures and high quality (Kolanović, 2007, p. 214). The assumption is that PPPs can enhance some of the segments that measure port services, such as coordination, flexibility, availability of labour, availability of contractors, etc.
- (2) Port infrastructure modernisation relates to new investments in the port infrastructure and the renovation and maintenance of existing infrastructure (breakwaters, quay and other port land areas, buildings, transportation infrastructure, the safety of navigation, etc.).
- (3) Port superstructure and port mobile machinery modernisation applies to new investments in, and maintenance of, active elements in the port area (administrative buildings, warehouses, silos, tanks, port cargo handling facilities, cranes, transport vehicles, floating facilities). Each replacement, modernisation or expansion of existing capacities with new ones results in positive effects, while the

lack or deformation of elements on a technical level leads to the dysfunction and disability of the system.

- (4) The development and application of innovative technologies implies the implementation of ICT and e-business forms for achieving optimal cargo flows, thus ensuring the efficiency, high quality and competitiveness of transport services and the competitive ability of the port. This kind of new organisational approach is particularly effective in rationalising costs and transaction costs, improving administrative processes, spurring the coordination process between participants, and improving business performance.

4.4. Social criteria

The social criteria include criteria that contribute to developing broader social community interests and to creating a welfare society (community).

- (1) Legal regulations change is related to the issues of the maritime domain. Article 5 of the Maritime Domain and Seaports Act (Official Gazette of the Republic of Croatia, 2003) states that the maritime domain cannot acquire ownership or other rights of any kind. Buildings and other structures on the maritime domain, which are permanently associated with the maritime domain, are considered as belonging to the maritime domain. Therefore, it is difficult to imagine serious investments in the maritime domain that are not credited when a lien (mortgage) allows investors the most appropriate guarantee for the repayment of loans. Today's 'anti-ownership' concept of the Maritime Domain and Seaports Act does not address the complex issues of capital investment in the maritime domain and the acquired rights, especially in the field of ports open to public traffic, and it fails to deal with a series of questions concerning the legal nature of the property.
- (2) Reducing the impact of the public (state) sector – by introducing PPPs, the government sector outsources certain parts of activities (marine and terminal operations, construction, acquisition, ownership of superstructure and equipment) and leaves them to the private sector, which is more efficient. The state continues to carry out the development policy and the method and intensity of PPP promotion, and it sets the legal framework that provides safety and business attractiveness to investors, especially with regard to foreign capital.
- (3) Local government involvement is based on the relationship between the port and the city. In the so-called port cities (such as the City of Rijeka), the port has a very important role in the promotion of the city and in the development of the region. Because a considerable part of the population of the city and its surrounding areas is linked to the maritime industry (the shipbuilding industry), the development of the port leads to the development of the region.
- (4) Ecologically sustainable development – the delivery of PPP projects in seaports must be based on the principles of ecologically sustainable development and on the social well-being of the majority of the population. Unfortunately, while they are exploited, natural resources are not amortised in GDP calculations. How do you compensate for a part of the coast that is lost after being converted into a quay? What is the cost of ecological sustainability? Clearly, the aim must be to achieve optimal economic and social development (ensuring sustainable growth and development through strengthening the competitive capacity of the seaport sector).

4.5. Criteria for harmonisation with European Union policies

At present, criteria for harmonisation with European Union policies are very important for the Republic of Croatia. The main sub-criteria are as follows:

- (1) Privatisation increases private sector participation in the ownership structure. As a model of the sector's cooperation in resolving current problems and difficulties, government property privatisation is an especially important process for the affirmation and expansion of partnerships. The privatisation of ports had important economic consequences. Through the sale of shares to employees, privatisation has led to a more collaborative and productive workplace, to new sources of capital and has created preconditions for profitable investments in the port system (UNCTAD, 1998, p. 12). Although different in their nature, privatisation and the establishment of partnerships can significantly improve economic performance and help to promote domestic and foreign private investment.
- (2) Ensuring open access to market and market competition is based on the idea of a single market, that is, on regarding the EU as a unified territory where there is free movement of people, money, goods and services, which encourages competitiveness and trades and helps to increase efficiency. Regarding ports and granting concessions for port areas, it is necessary to ensure open access to the market and market competition, as well as to provide equal opportunities of access and survival on the port market.
- (3) Defining an optimal level of subsidies (payments). State aid control, as a component of market competition, needs to ensure equal business conditions and an opportunity for success. Summed up in the well-known catchphrase 'less and better targeted aid', the state aid policy of the European Union focuses on the elimination of market failures. When it comes to the port sector, the support of the government is necessary for the construction of a basic port and hinterland infrastructure, which is essential for an optimal cargo flow. However, state subsidies should be within tolerable limits. The introduction of private partners in the port management structure releases part of the state subsidies to ports and leaves the state space for the quality investment of its support.
- (4) Protection of the public interest and maximising the added value is about achieving overall stability and country prosperity to the satisfaction of all citizens. In this sense, the government appears as an instrument to improve the community and increase its overall well-being. The European Union and its orientation to liberalism have created a European model of a society based on the Lisbon strategy. For services that the public interest is satisfied with, public authorities will bear the ultimate responsibility for their performance and will ensure adequate quality of service.

5. Results of empirical research and discussion

Out of 169 questionnaires, 59 questionnaires, representing 35% of the selected sample, were completely filled out and analysed. The study included 16 experts (27.12%) from the government sector (Ministry and public administration, port authorities). Fully 49.14% of the respondents (29 experts) felt that they do not represent the interests of either the state or the private sector, but rather their own attitudes and thoughts. Therefore they have been categorised as the broader community. The private sector, in terms

of shipping organisations, shipping premises and logistics organisations, accounted for seven experts (11.87%). The 11.87% of respondents who did not respond to the questions could not be categorised in any of the stakeholder subgroups. Instead, their responses have been presented in the group of all stakeholders. Top managers account for 20.34% of respondents, while middle and operational management account for 47.63% of respondents.

Part of the results of processing criteria values from different points of view (all stakeholders, public sector interest groups, private sector interest groups and broader community interest groups) are presented in Table 2.

Table 2 shows the values of average and standard deviation of the criteria for different interest groups according to the analysis of the online surveys. If we try to display the mentioned data graphically, the graph will show the difference between the average values of the respondents. These data are presented in Figure 2.

Figure 2 outlines the deviation from the estimated values of the criteria. Because of the sample size, it is difficult to estimate the statistical differences among sample subgroups, but, certainly, significant differences, compared to the average, can indicate the attitudes of the subgroups. For example, the private sector has not shown great interest in contributing to macroeconomic indicators, such as GDP growth or long-term budget sustainability, while clear interest is shown in indicators pertaining to the users' participation in the port system, ensuring open access to the market and improving various technical-technological criteria.

Moreover, all the criteria have been filtered due to the highest average value and 15 of them have been selected. The first five priority criteria derive from the technical-technological criteria group. Generally speaking, the standard deviations in this group are quite small thus indicating that all stakeholders are quite homogenous in criteria evaluation. This suggests that all stakeholders are aware of the fact that problems relating to technical-technological equipment have hindered the development of the port system. Although the survey did not focus on problems concerning the port hinterland and the development of other transport modes (for example, railway transport) to ensure normal port service operations, the opinions of experts regarding such problems would most likely have confirmed the above-stated fact.

Of the organisational criteria group, four criteria have been ranked within the top 15 criteria: improving management function, intellectual capital, partnership duration and control of business processes. This indicates a collective opinion on the possibilities of improving organisational components in Croatian ports. The port system needs capable non-political managers who are able to apply global management standards and are aware that human capital is the main source of achieving competitiveness and creating new value. The duration of a partnership is also recognised as an important criterion because it contributes to long-term relationships and to partnership stability for a longer period of time, in compliance with the conditions specified in the main contract. In the case of concession agreements for port terminals, the partnership can last 30 years at least, while in the case of greenfield projects, the time period is theoretically unlimited.

There are only two economic-financial criteria among the top 15: the facilitation of raising capital (outside the original public budget) and the acceleration of economic growth. Furthermore, among the criteria for the convergence of EU policies, only two criteria have been pointed out: the protection of public interests and ensuring open access to a market, which is very important in the context of accession to the European Union. Two criteria of the social criteria group hold the last two places; these are ecologically sustainable development and legal regulations change.

Table 2. Results of criteria analysis for the evaluation of PPPs in Croatian ports by interest groups (stakeholders).

Criteria	Criteria value by the public sector			Criteria value by the private sector		
	mean	Sd	Sdm	mean	Sd	Sdm
Economic-financial criteria						
Facilitated capital raising	7,73	1.94	-0.21	6.29	3.82	-1.65
Economic growth acceleration	7.53	1.85	-0.16	5.57	2.64	-2.12
Invested capital return	7.00	2.27	-0.68	6.71	2.06	-0.97
Smaller public expenditure	7.36	1.65	0.09	6.00	2.31	-1.27
Allocation of risk management	7.53	1.46	0.34	5.86	1.68	-1.33
Long-term budgetary sustainability	6.64	2.47	-0.38	5.57	1.62	-1.45
Contribution to GDP	6.86	1.66	0.45	4.00	2.58	-2.41
Average of the group	7.24	1.90	-0.08	5.71	2.39	-1.60
Organisational criteria						
Management improvement	7.80	1.21	-0.05	7.43	2.30	-0.42
Intellectual capital	7.40	1.99	-0.35	7.43	2.07	-0.32
Partnership duration	7.67	1.35	0.13	6.71	1.70	-0.83
Business processes control	7.40	2.53	-0.06	7.71	1.98	0.25
Average of the group	7.57	1.77	-0.08	7.32	2.01	-0.33
Technical-technological criteria						
Port service quality improvement	8.47	1.51	-0.08	8.00	1.79	-0.55
Port mobile machinery modernisation	8.07	1.44	-0.45	8.17	1.83	-0.35
Port superstructure modernisation	8.36	1.22	-0.13	7.67	1.63	-0.82
Development and application of innovative technologies	7.86	1.51	-0.54	8.17	1.83	-0.23
Port infrastructure modernisation	8.13	1.73	-0.11	8.50	1.76	0.26
Average of the group	8.18	1.48	-0.26	8.10	1.77	-0.34
Social criteria						
Ecological development	7.20	2.31	-0.18	7.00	2.58	-0.38
Legal regulations change	7.71	1.64	0.79	6.43	1.99	-0.49
Local government involvement	7.64	1.60	0.70	5.71	2.93	-1.23
Reducing the impact of public sector	6.73	1.87	-0.22	5.71	1.80	-1.24
Average of the group	7.32	1.86	0.27	6.21	2.33	-0.84
Criteria of harmonisation with European Union policies						

(Continued)

Table 2. (Continued).

Criteria	Criteria value by the public sector			Criteria value by the private sector		
	mean	Sd	Sdm	mean	Sd	Sdm
Protection of public interest	8.20	1.15	0.18	7.86	2.41	-0.16
Ensuring open access to the market	7.47	2.00	-0.30	6.57	1.72	-1.20
Defining optimal level of subsidies	8.00	1.46	0.79	7.43	1.81	0.22
Privatisation	7.20	1.61	0.45	5.86	2.12	-0.89
Average of the group	7.72	1.56	0.28	6.93	2.02	-0.51
Average criteria value by all stakeholders						
Criteria	Criteria value by the broader community			Average criteria value by all stakeholders		
	mean	Sd	Sdm	mean	Sd	Sd
Economic-financial criteria						
Facilitated capital raising	8.45	1.48	0.51	7.94	2.10	2.10
Economic growth acceleration	7.93	1.67	0.24	7.69	2.17	2.17
Invested capital return	8.17	1.49	0.49	7.68	1.88	1.88
Smaller public expenditure	7.52	1.88	0.25	7.27	1.94	1.94
Allocation of risk management	7.34	1.67	0.15	7.19	1.64	1.64
Long-term budgetary sustainability	7.61	1.45	0.59	7.02	1.91	1.91
Contribution to GDP	6.64	2.13	0.23	6.41	2.25	2.25
Average of the group	7.67	1.68	0.35	7.31	1.98	1.98
Organisational criteria						
Management improvement	7.93	1.80	0.08	7.85	1.70	1.70
Intellectual capital	8.03	1.70	0.28	7.75	1.82	1.82
Partnership duration	7.71	1.70	0.17	7.54	1.59	1.59
Business processes control	7.34	2.04	-0.12	7.46	2.16	2.16
Average of the group	7.75	1.81	0.10	7.65	1.82	1.82
Technical-technological criteria						
Port service quality improvement	8.68	1.02	0.13	8.55	1.27	1.27
Port mobile machinery modernisation	8.82	1.47	0.30	8.52	1.49	1.49
Port superstructure modernisation	8.67	1.36	0.18	8.49	1.36	1.36

Development and application of innovative technologies	8.71	1.18	0.31	8.40	1.37
Port infrastructure modernisation	8.18	1.47	-0.06	8.24	1.54
Average of the group	8.61	1.30	0.17	8.44	1.41
Social criteria					
Ecological development	7.57	1.95	0.19	7.38	2.10
Legal regulations change	7.50	2.25	0.58	6.92	2.09
Local government involvement	6.96	2.15	0.02	6.94	2.18
Reducing the impact of public sector	7.33	1.86	0.38	6.95	1.96
Average of the group	7.34	2.05	0.29	7.05	2.08
Criteria of harmonisation with European Union policies					
Protection of public interest	7.96	1.64	-0.06	8.02	1.63
Ensuring open access to the market	7.18	2.28	-0.59	7.77	2.08
Defining optimal level of subsidies	7.89	1.75	0.68	7.21	1.71
Privatisation	6.70	2.13	-0.05	6.75	2.04
Average of the group	7.43	1.95	0.00	7.44	1.87

Legend: Mean – Average criteria value.

Sd – Standard Deviation.

Sdm – Standard deviation between mean value of all stakeholders and mean value of each group of stakeholders.

Source: Author's calculation.

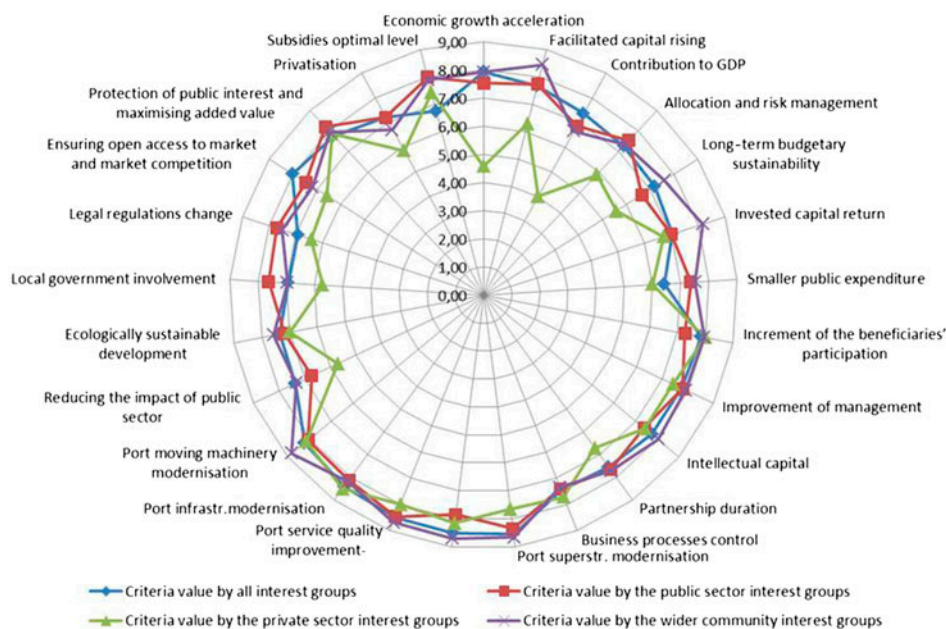


Figure 2. Comparative view of average criteria values for all interest groups.
Source: Authors.

In addition, the survey has analysed the importance of defining a specific set of criteria in assessing and evaluating PPP projects in Croatian seaports. A review of the average values of the criteria groups is presented in Table 1. The table shows that the technical-technological criteria are rated the highest and do not differ too much in relation to the interest groups. Therefore, all interest groups, both the public and private sector and the broader community, have highly rated this group of criteria. There is a similar situation with the organisational criteria, to which all interest groups attach equal importance. In other words, all those interested in PPP projects in ports consider organisational criteria, such as increasing user participation, improving management functions and enhancing intellectual capital, as being important.

When it comes to the economic-financial criteria, differences in the opinions and attitudes of the respondents are important. The reason for this lies perhaps in the fact that the economic-financial criteria seek to encompass potential effects from the standpoint of the private and public sectors. For example, the private sector has not shown great interest in criteria such as long-term budgetary sustainability or growth of GDP, but, on the other hand, has clearly shown interest for the return rate on investment. The situation is reversed when it comes to the interests of the public sector. More emphasis is placed on criteria relating to the allocation of risk, increase in the GDP and the acceleration of economic growth, while the return rate on investment is not a crucial criterion.

The situation is similar concerning social criteria. For some of the mentioned criteria, the state sector has shown a greater interest, for example in environmentally-friendly development or in the involvement of local government. The broader community has great expectations in the field of sustainable ecological development.

The private sector is seeking changes in the legal regulations to facilitate access to PPP projects and in the involvement of the local government.

The state sector has shown the highest interest in criteria of harmonisation with the EU policies, especially in the area of privatisation, as part of the general restructuring of the economy and, in this case, of seaports as well; defining the optimal level of subsidies to certain sectors of the economy; the protection of the public interest; and ensuring open access to the market.

The aim of the last part of the survey was to estimate the power (influence) of certain interest groups in decision-making in PPP projects in Croatian seaports. The question was asked to determine the influence that certain interest groups should have in the decision-making process in projects. It is necessary to emphasise that this is a hypothetical case, that is, what kind of power should certain interest groups have in decision-making? It is important to emphasise that the interests of creditors, as one of the possible interest groups, are also included here.

The respondents have indicated that the power of the stakeholders (public sector, private sector, broader community and creditors) should be balanced – 25% each. This is not the case in the real-world decision-making process in port management systems, where the powers of interest groups are imbalanced. The most important role is assumed by the public sector (39%), as the decision-maker on the implementation of the partnership. The private partner has a significant importance in the decision-making process (25.4%), but must adapt to the requirements of the public sector. Creditors, such as world banking organisations (WB, EIB, etc.), usually have their own terms of financing these PPP projects, from seeking a mortgage, or city or state guarantee for the repayment of the loan, so that their power in the decision-making process figures out at 20.3%. Although the welfare of the community is a major PPP goal, the local community has the least influence in decision-making (15.3%). However, local community power should not be underestimated, because there are examples (Adria Group) where the local community has reacted negatively to certain projects, leading to their collapse.

6. Conclusion

We have focused on defining the criteria for the management partnership model in Croatian seaports which could be used to evaluate partnership project preparation, implementation, control and monitoring. Based on scientific and professional developments, interviews with experts, practice of other countries in implementing partnerships in ports, we have defined five main groups of criteria: economic-financial, technological-technical, social and organisational criteria and criteria for compliance with EU policies.

To determine the relevance and importance of the criteria, an online questionnaire has been used. We have analysed the experts' opinions with regard to the interest they represent in PPP projects in Croatian seaports (public interest, private interest or the interest of the broader community) and how they evaluate the individual criteria and the power (influence) of certain interest groups in the decision-making process.

An interesting study outcome is that the financial criteria are not crucial for a partnership in seaports, while technical-technological equipment and the organisational components of port systems, which need to be improved, are seen as the main obstacles to the development of Croatian ports. The research results also indicate the diversity of opinion of certain interest groups. The private sector does not show a great interest in contributing to macroeconomic indicators (GDP growth or long-term sustainability of

the budget), although it is clearly interested in the indicators of increased user participation and providing open access to the government. Furthermore, the research results have also shown that, although the power of certain interest groups should be balanced, this is not the case in practice.

Finally, it is essential that there is a broad consensus in relation to the scope of PPPs and to the process through which PPP projects can be developed because the benefits offered by PPPs in seaports are related to all stakeholders.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Asian Development Bank. (2001). *Developing best practice for promoting private sector investment in infrastructure; Ports*. Retrieved from <http://www.adb.org/publications/developing-best-practices-promoting-private-sector-investment-infrastructure-ports>
- Barković, I., & Širić, M. (2010). Uloga i značaj javno-privatnog partnerstva u Republici Hrvatskoj: izabrani primjeri [The role and significance of public-private partnerships in the Republic of Croatia: Selected examples]. *Ekonomski vjesnik*, 23, 184–202.
- Čišić, D., & Perić, A. (2005). Primjena modela javno-privatnog partnerstva na razvoj luka [The use of public private partnership model in port development]. *Pomorstvo: Scientific Journal of Maritime Research*, 19, 101–113.
- Commission of the European Communities. (2001). *Reinforcing quality service in sea ports: A key for European transport*. Communication from the Commission to the European Parliament and the Council, proposal for a directive of the European Parliament and of the Council on market access to port services, Belgium. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0035:FIN:EN:PDF>
- Drewry. (2012). *Global container terminal operator*. Annual Review and Forecast 2012. Retrieved from www.drewry.co.uk
- Juhel, M. H. (2001). Globalization, privatization and restructuring of ports. *International Journal of Maritime Economics*, 3, 139–174. Retrieved from <http://www.palgrave-journals.com/mel/journal/v3/n2/abs/9100012a.html>
- Kesić, B., & Jugović, A. (2006). *Menadžment pomorsko putničkih luka* [The management of maritime-passenger ports]. Rijeka: Liber d.o.o.
- Kolanović, I. (2007). Temeljne dimenzije kvalitete lučke usluge [Basic port service quality dimensions]. *Pomorstvo: Scientific Journal of Maritime Research*, 21, 207–224.
- Kušljić, D., & Marenjak, S. (2011). Mjerenje uspjeha projekata javno privatnog partnerstva [Evaluating success of public private partnership projects]. *Građevinar*, 63, 1079–1085.
- Madir, J., & Vrana, K. (2012). Public-private partnerships in Croatia. *Law in Transition Online; Funding Public Infrastructure: Challenges and Horizons* (pp. 1–7). Retrieved from <http://www.ebrd.com/downloads/research/news/lit112c.pdf>
- Marenjak, S., Skendrović, V., Vukmir, B., & Čengija, J. (2007). Javno privatno partnerstvo i njegova primjena u Hrvatskoj [Public-private partnership and its implementation in Croatia]. *Građevinar*, 59, 597–605.
- Marimuthu, M., Arokiasamy, L., & Ismail, M. (2009). Human capital development and its impact on firms performance: Evidence from developmental economics. *The Journal of International Social Research*, 2, 265–272. Retrieved from http://www.sosyalarastirmalar.com/cilt2/say_i8pdf/marimuthu_arokiasamy_ismail.pdf
- Ministry of Economy of the Republic of Croatia. (2009). *Strateški okvir za razvoj javno-privatnog partnerstva u Republici Hrvatskoj* [Strategic framework for the development of public-private partnership]. Retrieved from http://www.javnabava.hr/userdocsimages/userfiles/file/STRATE%C5%AOKI%20DOKUMENTI/Strateski_okvir_za_razvoj_JPP.pdf

- Njuguna, J. I. (2009). Strategic positioning for sustainable competitive advantage: An organizational learning approach. *KCA Journal of Business Management*, 2, 32–43. Retrieved from <http://www.ajol.info/index.php/kjbm/article/view/44409>.
- Oblak, R., Bistričić, A., & Jugović, A. (2013). Public–private partnership – Management model of Croatian seaports. *Management Journal of Contemporary Management Issues*, 18, 79–102.
- Official Gazette of the Republic of Croatia. (2003). *Zakon o morskim lukama i pomorskom dobru* [Maritime Domain and Seaports Act], No 158. Retrieved from www.nn.hr
- Perić Hadžić, A. (2011). *Public–private partnerships – The model for accelerated development of the seaports in the Republic of Croatia* (Unpublished Ph.D. thesis). Faculty of Economics, University of Rijeka, Croatia.
- Perić Hadžić, A. (2012). Public–private partnership in Croatian seaports. *Pomorstvo: Scientific Journal of Maritime Research*, 26, 113–137.
- Perić, M. (2009). Criteria for setting up the public–private partnership in croatian tourism and selection of optimal public–private partnership model. *Poslovna izvrsnost*, 3, 111–126.
- UNCTAD. (1998, September 23). *Guidelines for port authorities and governments on the privatization of port facilities*. United Nations Conference on Trade and Development, UNCTAD Secretariat, Belgium. Retrieved from <http://unctad.org/en/Docs/posdtetibd1.pdf>
- The World Bank Group. (2013). *PPI database – Private participation in infrastructure database*. Retrieved from <http://ppi.worldbank.org/>