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**Modeling Growth - between
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**Corporate Ports Particularities- An Opportunity for Port Management
Development Strategies**

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Abstract: Increasingly, ports are part of global logistics chains, and their public benefits are given regional and global attributes. The value of services provided by regional ports transcends the interests of local users and benefits businesses and communities across regional and national borders. This paper analyzes in detail how the operation and management structure is established in the various ports located on the inland waterways to understand better the particularities and specialties of different port management and operation models. Research developed through this paper states that one of the extended functions of the corporate port model is the development of the port through the involvement of the entire port community. Also, the development of communication between the port and the city positively affects the simultaneous development of the city and the port.

Keywords: shipping; performance; challenges; community

JEL Classification: M16; M21

1. Introduction

Port development is a powerful catalyst for economic growth and job creation. In Europe, this development primarily involves constructing new terminals and enhancing existing port superstructures and infrastructure rather than creating new greenfield sites. As a result, the reform process primarily focuses on ports' organizational and operational aspects, promising a bright future for the region.

Specialization in a particular sector, or uniqueness, makes the flow of cargo stable and predictable. Some examples of uniqueness are fuel handling, heavy goods handling, dangerous goods handling, and

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container handling. Port operators offering these services have a competitive advantage in attracting customers from a wider hinterland.

It is a well-established fact that the labor force is one of the ports' most crucial assets besides suitable facilities and technical conditions. The presence of qualified specialist's adept at operating modern equipment and maintaining existing installations ensures effective operations, especially in older installations prone to breakdowns. Experience and qualification are critical to the excellent management of ports, instilling confidence in the efficiency of port operations.

One critical success factor in all ports is developing a port community that includes port actors capable of proactive and effective communication. This emphasis on communication fosters a collaborative environment and strengthens the city-port connection, contributing to the development of both the port and the city simultaneously.

- 1) infrastructure investments determined by demand
- 2) prices determined by the market
- 3) maximizing income from available assets
- 4) rationalization and improved control of operating costs

One of the options for developing economic activities in ports and growth as a consequence of the flow of goods is creating special economic zones (industrial areas and logistics combined) in larger port areas or adjacent to port areas, where physically possible. Providing favorable conditions for the concentration and spatial distribution of goods, ports are not only transshipment points but centers of various economic activities related to handling goods, including the broadest possible range of value-added services related to goods, vehicles, and ships, including their crews. Being such dynamic centers of economic activity, ports are ideal magnets for various manufacturing and logistics industries, provided such industries are provided suitable settlement conditions in the port area or the areas adjacent to the ports.

2. Governance of the Port Infrastructure in the Danube Area

It is very important to analyze in detail how the operating and management structure is established in the various ports located on interior waterways to better understand the peculiarities and specialties of different models of port management and operation (Marcu, 2020).

According to Ordinance 22/1999 and the report prepared by the Bank World, "Alternative Port Management Structures and Ownership Models", there are five main responsibility-based port management models in the public and private sectors:

- public services port;
- instrument port;
- the port of the owner;
- corporate port;
- private service port.

Our in-depth analysis of the various models of port management and operation in the Danube region is a crucial step toward understanding the unique characteristics and intricacies of each. This research, based on a thorough review of the specialized literature, reveals that the import-export operations on

inland waterways are not solely the responsibility of a few administrations but a highly complex network of authorities with distinct administrative roles. This complexity underscores the need for a joint strategy.

This section provides a comprehensive overview of the current state of port infrastructure in the Danube area. To transform these ports into efficient and reliable logistics hubs, we must urgently address infrastructure deficiencies in a coordinated manner. This underscores the necessity and importance of a joint strategy and action plan for the development of ports in the Danube area, ensuring that all stakeholders are part of this collective effort.

Many ports are publicly owned and privately operated. Private port operators are not necessarily privately owned companies but may be publicly owned and operate under private company laws. In addition to the portland, the public sector (various levels of government—state, region, municipality) also owns the port infrastructure in most ports. This corresponds to the generally accepted view that port infrastructure is a strategic asset, like highways or railways. A strategic asset is a resource that is essential for the functioning of a system or organization and has significant long-term value. In the context of port infrastructure, this means that it is a critical component of the transportation network, facilitating trade and economic development. This, however, is not a barrier to its exploitation by the private sector.

Almost all analyzed ports are governed by a public entity called port authority, which, in most cases, does not provide commercial port services but plays a crucial role in overseeing port operations. The commercial operation of ports, which includes activities such as loading and unloading of cargo, maintenance of port facilities, and ensuring compliance with safety and environmental regulations, is typically entrusted to public port operators. These operators, often established as separate entities, are responsible for the day-to-day management of the port, ensuring its smooth functioning and efficient service delivery.

In the section, we defined, based on the specialized literature, what portland ownership means and the responsibilities of the portland owners, the port infrastructure owners, the port authorities, and the port operators in Table 1. In that case, we can see what percentage of port governance belongs to each owner category.

The data presented are the result of a study carried out by a group of experts within the project “Danube Ports Network - Daphne” financed by the Danube Transnational Programme and summarized in the report “Ports Infrastructure & Industrial Development” (2022), within 19 main ports along the Danube. The ports that will be referenced are the following:

- Austria- Enns, Vienna
- Slovakia: Bratislava and Komarno
- Hungary: Budapest, Baja, Dunaujvaros and Gyor-Gonyu
- Croatia: Vukovar and Slavonski Brod
- Serbia: Belgrade and Novi Sad
- Bulgaria: Lom, Ruse, and Vidin
- Romania: Drobeta Turnu Severin, Giurgiu, Galați, Brăila, Tulcea and Constanța

Table 1. Governance of the Port Infrastructure in the Danube Area

	Port land ownership	Port infrastructure ownership	Port authorities ownership	Port operators ownership
Stat (public)	79%	58%	79%	5%
Mixt (public + privat)	11%	11%	0%	16%
Privat	5%	21%	11%	68%
Municipality	5%	10%	10%	11%

Source: adapted by Saša Jovanović et. al., (2022)

When considering port land ownership, it's clear that the majority of Danube ports are state-owned. This is due to the limited and strategic nature of port land, which necessitates governance by the public sector at various levels. This underscores the need for a comprehensive understanding of port ownership and governance.

Regarding the ownership of port infrastructure (pools, shore protection, breakwaters, quays, wharves, docks, etc.), the state owns 58%, the municipality owns 10%, and private ownership of infrastructure was reported at 21%.

Regarding the bodies and/or entities responsible for governance owned by the port authorities, 79% are state-owned bodies or enterprises, while 10% and 11%, respectively, belong to the municipality and private bodies.

In most cases, the commercial exploitation of ports is entrusted to private port operators. From this perspective, 13 port operating companies were privately owned, while three ports hosted a mix of public and private port operators. The municipality owned two port operators, and only one port had a state-owned port operator using the port.

Most ports maintain a clear separation of port governance and operation functions. This deliberate division of public (governance, administration) and private (operations, exploitation) functions is not a sign of conflict, but a testament to the industry's commitment to a balanced approach, utilizing strategic assets such as ports.

It's important to note that the fact that private operators usually operate ports does not necessarily mean that private shareholders always own these port operators. Public companies, operating under private company laws, can also successfully operate ports, provided they are effectively incorporated or marketed. This opens up new possibilities and ensures a diverse and competitive port industry.

3. Ports Corporatization

The corporate port management model is characterized by public land ownership, leading to investments in public infrastructure. When European and national programs are available that can develop water transport infrastructure, the application of this model is remarkable for the success factor that can attract significant investments hard to find in the private sector in ports that do not involve emerging development, as seen in table 2. There is a direct relationship between the development of the transport infrastructure, port development, and economic development of the region it is a part of.

Table 2. Characteristics of Corporate Ports

Characteristics	Description
Financial self-support	Revenues for port authorities come from fees charged for shipping operators (port charges) and land concessions. The corporatization of the port allows access to capital markets, thus reducing or eliminating the need for state infrastructure investment.
Investments in port development based on commercial needs	In countries such as Belgium and Germany, much of the investment in port infrastructure is financed by government authorities. In a corporate port, investments are made based on commercial reasoning. This consideration includes that the port authority does not access necessary financing for development (mainly in infrastructure) from the authorities at the national or international level.
Operated by landowner	The central role of the port landowner is to develop a set of cluster activities within the port. Port authorities need the technical capacity to provide all necessary port services, but most can be outsourced. The port authorities must decide the size of the outsourced services so that the land owner can focus on exploiting the port property.
Ability to negotiate long-term lease/concession contracts	Corporatized ports sign leases and concessions with operating companies that may include clauses for minimum performance levels. The port authority treats concessionaires as customers because they often share a strong interest in attracting more cargo to the port.

Source: adapted from the World Bank, (2007)

The corporate port management model underscores the crucial role of the port administration's tasks. These tasks involve not only promoting, but also applying for and implementing transport infrastructure development projects. This is a key strategy to enhance the connection with other means of transport, thereby improving the overall efficiency of the port.

The increasing global presence of private port service providers, further accentuated by the formation of strategic alliances, presents a promising future for the global maritime and port services industries. These alliances, with their significant implications for port financing, regulation, and operation, could potentially lead to improved services and increased efficiency.

With these changes at the global level of shipping and services ports, port authorities will face more and more challenges in defending their public and local interests. Container terminal operators with global coverage, sometimes in alliance with the major shipping lines, may be tempted to take advantage of their dominant position to consolidate the network, thus reducing the scope of competition mainly to the detriment of public interests. Furthermore, 'countervailing powers', which are entities or forces that can counteract the actions of others, at the international level that have yet to emerge are expected to do this soon due to the absence of national regulatory structures. A strict organizational separation of commercial tasks and regulation of port management is needed at the port level to protect public interests.

4. The Importance of the Efficient Administration of the Economic Activities of the Port Unit of the Danube Area

The primary purpose of river transport and trade is to ensure the safe movement and on-time of goods nationally and internationally with economic efficiency and by conventions, rules, and provisions of general agreements. The main elements of the system necessary to achieve the goal mentioned above are:

- The ship was a means of transporting goods by river.
- Goods for river transport.
- Transport companies.
- Ports are entry, transshipment, and storage nodes of the goods
- The specific economic and legal basis at the national level and international

In this subsection, an overview of the active and principal components of river transport, especially from an economic point of view, to understand the role of details in river-sea freight transport is offered.

Economic activity is of national and global importance; its role as a motor in the development of civilization can only be realized by the scientific concept of its main components that can guarantee efficiency and effectiveness.

Ports play an essential role in the development of international trade. They must be constructed, equipped, and operated to permit the rapid movement of goods through ports and in the country and to offer a very high flow capacity. As the volume of foreign trade transported by water increases, ports become an important link in the maritime transport chain.

Ports are very different in terms of:

- size,
- organizational form,
- location,
- infrastructure functions,
- superstructure functions.

Many of the differences mentioned above are due to a series of order factors:

- geographical,
- political,
- social,
- commercial.

Geographical factors are essential in creating and achieving the physical characteristics of

- ports:
- surface,
- How the infrastructure is built,

- the ability to adapt to current international trade requirements
- adapting to new types of vehicles, especially the newest types of ships, which have different characteristics in terms of fuel, power supply, dimensions, etc.
- Water depth and the possibility of dredging operations to ensure safe anchoring and transshipment.

Regardless of the physical characteristics of the port, the port office includes:

- the structure of port activity and services, resulting in the highest port productivity,
- internal roads,
- closed or free storage,
- market requirements for further development.

On the other hand, the port's geographical location must perform some basic functions and provide the minimum services needed by ship owners. For the services mentioned above, the port must be approved under appropriate conditions and facilitate its functions:

- Improving infrastructure and superstructure through various constructions such as:
 - 1) access roads
 - 2) railways,
 - 3) places for storage,
 - 4) office buildings, etc.
- Installation and repair of operational materials (tractors, trailers, detachable cranes, etc.) for machines, machinery, and mobile equipment.
- Other services are less critical but play a role in providing the necessary conditions for good port indicators, such as:
 - 1) public food,
 - 2) green space,
 - 3) medical care services,
 - 4) material security,
 - 5) business services for the sale of goods

5. Recommendations

Port networking, a key characteristic of new-generation ports, offers significant benefits. By joining forces, ports can create partnerships that foster increased cooperation among port communities on the same trade route. This leads to mutual growth and development and opens up exciting opportunities for the future.

Developing hinterland connections is a perpetual challenge for all ports. The pace of development can be accelerated with robust financing opportunities and easy access to funds for major port projects. With their streamlined decision-making processes, private service ports often have easier access to finance,

enabling them to make faster progress. In contrast, state companies with hierarchical investment structures may experience delays or refusals for project financing, dampening participant motivation.

The expanded features of the corporate port management model, which are distinct from simple land management, have been a critical focus. This model's success factors, such as its comprehensive approach and emphasis on community involvement, provide reassurance about its effectiveness.

Specialization in specific sectors, or uniqueness, is a critical strategy that makes the flow of goods stable and predictable. Some examples of uniqueness are fuel handling, heavy cargo handling, dangerous cargo handling, and container handling. Port operators offering these services have a competitive advantage in attracting customers from the wider hinterland, instilling confidence in their business strategy.

The corporate port management model has evolved from simple land management to a more comprehensive approach that emphasizes the involvement of the entire port community in port development. This inclusive strategy fosters the port's growth and enhances communication between the port and the city, leading to the simultaneous development of both entities.

In contemporary society, access to and analysis of information are crucial. Knowing how to work, who your competition is, and what rules must be followed can bring success to port operators. The larger the circle of communication, the more valuable the information obtained. It makes sense for businesses to make significant investment decisions based on detailed information.

The corporate port management model is characterized by public ownership of land, which leads to investment in public infrastructure. When European and national programs are available to develop water transport infrastructure, the application of this model is remarkable for its success factor, which can attract significant investments that are difficult to find in the private sector in ports that do not involve emerging development.

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