LİMAN KAPASİTESİNİN REKABETTEKİ ARACI ROLÜ: KAYNAK TEMELLİ YAKLAŞIM

Dr. Seçil GÜLMEZ

1. GİRİŞ

Liman rekabetinin çok boyutlu bir kavram olması ile birlikte liman fiziki varlıklarının ve kapasitelerinin rekabete etkisini tartışan çalışmalar oldukça sınırlıdır. Bu bölümde, limanların fiziki kaynaklarının ve bu kaynakların kapasitesinin rekabetteki aracı rolü tartışılmıştır ve liman rekabeti fiziki varlıklar ve kapasite düzeyinde incelenmiştir. Çalışma kapsamında terminal tasarımı ve planlamasının amaçları ve stratejik rolü, kaynak temelli yaklaşım ve liman kaynakları incelenmiş, liman kapasitesine ait genel kavramlar değerlendirilerek literatür doğrultusunda limanlarda rekabet ve rekabetçi faktörler açıklanmıştır. Son olarak, liman fiziki varlıkları ve bu varlıkların kapasitesinin rekabet ile ilişkisi *erişilebilirlik, bulunurluk (availability) ve yeni hizmetlerin sağlanabilirliği, fiyatlandırma, performans ve verimlilik ve kapasite yönetimi* başlıkları kapsamında açıklanmıştır. Çalışmada limanların teknoloji ve bilgi sistemleri dışındaki operasyonel altyapılar, temel liman altyapıları, liman üstyapıları ve liman ekipmanlarına odaklanılarak bu fiziki kaynakların kapasiteleri dikkate alınarak değerlendirilme yapılmıştır.

2. TERMİNAL TASARIMI VE PLANLAMASI

Deniz ticaretine olan ihtiyacın artması, teknolojik gelişmeler, gemi boyutlarında sürekli artış, limanların kendini sürekli olarak geliştirmesini ve planlanmasını zorunlu kılmaktadır. Liman gelişimi, yeni liman kurulumunu veya kurulu bir limanın genişleme faaliyetlerini içermektedir (Tsinker, 2004). Yatırım, kapasite tasarımı, operasyon, strateji ve politika konuların aynı anda ilgilenilmesini gerektiren bir alandır. Bu özelliğinden dolayı, mühendislik bilimlerini, işletme yönetimi, coğrafya ve çevre bilimleri gibi birçok alanı kapsamaktadır (Bichou, 2013).

Limanların gelişmelerine yönelik amaçları, limanın bölgesel rolü, durumu, mülkiyet, yasal ve finansal durumlarına göre değişiklik göstermektedir. Örnek vermek gerekirse, özel liman veya terminaller, kar maksimizasyonu ve maliyet minimizasyonu gibi amaçlar taşırken, yerel yönetimlere ait limanlar, yerel

Cho ve Kim (2015)'e göre her ne kadar somut varlıklar rakipler tarafından kopyalanabilseler de, soyut varlıklar kolaylıkla taklit edilemez. Bir işletmenin yüksek düzeylerde performans ve sürdürülebilir rekabet avantajı elde edebilmesi için diğer işletmeler tarafından taklit edilmesi zor heterojen kaynaklara sahip olması gerekmektedir (Azevedo ve Ferreira, 2011). Limanların fiziki kaynakları temin edebilmesi ve geliştirebilmesi için yüksek maliyetli yatırımlar getirmektedir. Fakat bu durum kaynakların rakipler tarafından kopyalanamayacağı anlamına gelmez. Zott (2003)'te de belirtildiği üzere, kaynak yönetim süreçlerindeki farklılıklar, benzer kaynaklara sahip olan ve benzer çevre koşullarında faaliyet gösteren firmalar arasında tamamen farklı sonuçlar doğurabilir. Bu doğrultuda değerli, nadir olan ve rakipler tarafından kolaylıkla taklit edilemeyen kendine özgü kapasite yönetimi becerisi, fiziki kaynakların sürdürülebilir rekabet elde edebilmesinde aracı rolünü üstlenebilir. İşletmeler yalnızca daha iyi kaynakları elinde bulundurmaları sebebiyle değil, aynı zamanda mevcut kaynakların daha etkin kullanımını sağlayacak yetkinliklere sahip olmaları ve böylelikle yüksek performans seviyelerine erişebilmeleri sebebiyle de rekabetçi avantaj elde edebilir (Azevedo ve Ferreira, 2011).

Kaynakça

Anderson, C. M., Park, Y. A., Chang, Y. T., Yang, C. H., Lee, T. W., & Luo, M. (2008). A game-theoretic analysis of competition among container port hubs: The case of Busan and Shanghai [1]. *Maritime Policy and Management*, *35*(1), 5–26.

Aronietis, R., Markianidou, P., Meersman, H., Pauwels, T., Pirenne, M., Van de Voorde, E.&Verhetsel, A. (2010). Some effects of hinterland infrastructure pricing on port competitiveness: case of Antwerp. *World Conference on Transport Research (WCTR)*, 1–23.

Azevedo, S. G., & Ferreira, J. (2011). Competitiveness of the port of Sines: The RBV contribution. *Economic Policy*, (2116), 0–33.

Bandara, Y. M., Nguyen, H. O., & Chen, S. L. (2013). Determinants of port infrastructure pricing. *Asian Journal of Shipping and Logistics*, *29*(2), 187–206.

Barney, J. B. (1991). Firm reources ad sustained competitive advantege. *Journal of Management*.

Bassan, S. (2007). Evaluating seaport operation and capacity analysis - Preliminary Methodology. Maritime Policy and Management, 34(1), 3–19.

Bellsolà Olba, X., Daamen, W., Vellinga, T., & Hoogendoorn, S. (2014). An approach to port network capacity. *International Workshop on Next Generation Nautical Traffic Models*, (November 2015).

Bouchery, Y., Fazi, S., & Fransoo, J. C. (2015). *Hinterland Transportation in Container Supply Chains - Making Global Supply Chains Effective. Handbook of Ocean Container Transport Logistics*.

Brooks, M. R., & Cullinane, K. (2007). *Devolution, Port Governance and Port Performance. Research in Transportation Economics* (Vol. 17).

Bugaric, U. S., Petrovic, D. B., Jeli, Z. V., & Petrovic, D. V. (2012). Optimal Utilization of the Terminal for Bulk Cargo Unloading. *Simulation*, *88*(12), 1508–1521.

Burns, M. G. (2015). Port Management and Operations. CRC Press Taylor & Francis Group.

Chang,Y. T., Lee, S.Y., &Tongzon, J. L. (2008). Port selection factors by shipping lines: Different perspectives between trunk liners and feeder service providers. Marine Policy, 32(6), 877–885.

Chen, P., Fu, Z., Lim, A., and Rodrigues, B. (2004). Port Yard Storage Optimization. IEEE Transactions on Automation Science and Engineering, 1(1), 26–37.

Cheon, S. H., Song, D. W., & Park, S. (2018). Does more competition result in better port performance? *Maritime Economics and Logistics*, *20*(3), 433–455.

Chlomoudis, C. I., & Pallis, A. A. (2002). Trends in investments in port infrastructure in the mediterranean countries: convergence or divergence to EU policies? *Spoudai Quartelry Economic Journal*, *52*(1), 65–82.

Cho, H., & Kim, S. (2015). Examining Container Port Resources and Environments to Enhance Competitiveness: A Cross-Country Study from Resource-Based and Institutional Perspectives. *Asian Journal of Shipping and Logistics*, *31*(3), 341–362.

Da Cruz, R. P., Ferreira, J. J. M., & Azevedo, S. G. (2013). Logistics resources in seaport performance: multi-criteria analysis. *Maritime Policy and Management*, *40*(6), 588–613.

Dekker, S. (2005). *Port Investment: Towards an Integrated Planning of Port Capacity*. Delft University.

Ding, Y. Z. (2010). Throughput capacity of a container terminal considering the combination patterns of the types of arriving vessels. Journal of Shanghai Jiaotong University (Science), 15(1), 124–128.

Dundovic, C., and Zenzerovic, Z. (2000). An optimal capacity planning model for general cargo seaport. Promet-Traffic & Transportation, 12(5–6), 217–221

Dünya Bankası (2016). Port reform toolkit ppıaf, World Bank, 2nd Eds. Erişim Linki: https://ppp.worldbank.org/public-private-partnership/library/port-reform-toolkit-ppiaf-world-bank-2nd-edition Erişim Tarihi: 09.06.2020

Eisenhardt, K.M. and Martin, J.A. (2000). Dynamic capabilities: what are they?, Strategic Management Journal, Vol. 21 Nos 10/11, pp. 1105-21

Fan, L., Wilson, W. W., & Dahl, B. (2012). Congestion, port expansion and spatial competition for us container ımports. Transportation Research Part E: Logistics and Transportation Review, 48(6), 1121–1136.

Foster T (1978) What's important in a port. Distribution Worldwide 78(1): 34.

Frankel, E. G. (1987). *Port Planning and Development*. Canada: A Wiley-Interscience Publication.

Garnett, H. C. (1970). Competition between ports and investment planning. *Scottish Journal of Political Economy*, *17*(3), 411–424.

Gordon, J. R. M., Lee, P. M., & Lucas, H. C. (2005). A resource-based view of competitive advantage at the Port of Singapore. *Journal of Strategic Information Systems*, *14*(1), 69–86.

Goss, R. (1990) Economic policies and seaports: 3. Are port authorities necessary? Maritime Policy and Management, 17(4), pp. 257–71

Guan, C. Q. (2009). *Analysis of Marine Container Terminal Gate Congestion, Truck Waiting Cost, and SYstem Optimization*. New Jersey's Science & Technology University.

Gülmez, S. (2019). *Developing a Model for Measuring the Capacity of Dry Bulk Ports in Turkey*. Dokuz Eylül University.

Haezendonck, E., Pison, G., Rousseeuw, P., Struyf, A., & Verbeke, A. (2001). The core competencies of the Antwerp Seaport: An analysşs of "port specific" advantages. *International Journal of Transport Logistics*, *28*(3), 325–349.

Hales, D., Lam, J. S. L., & Chang, Y. T. (2016). The balanced theory of port competitiveness. *Transportation Journal*, *55*(2), 168–189.

Haralambides, H. E. (2002). Competition, Excess Capacity, and the Pricing of Port Infrastructure. *International Journal of Maritime Economics, 4*(4), 323–347. https://doi.org/10.1057/palgrave.ijme.9100053

Haralambides, HE, Cariou, P and Benacchio, M. 2002: Costs, benefits and pricing of dedicated container terminals. International Journal of Maritime Economics, 4: 21-34

Ishii, M., Lee, P. T. W., Tezuka, K., & Chang, Y. T. (2013). A game theoretical analysis of port competition. *Transportation Research Part E: Logistics and Transportation Review*, *49*(1), 92–106.

Jacobs, W. (2007). Port Competition Between Los Angeles and Long Beach: An Institutional Analysis. *Tijdschrift Voor Economische En Sociale Geografie*, *98*(3), 360–372.

Jeon, J. W., Wang, Y., & Yeo, G. T. (2016). SNA Approach for Analyzing the Research Trend of International Port Competition. *Asian Journal of Shipping and Logistics*, *32*(3), 165–172.

Jarvenpaa, S.L. and Leidner, D.E., "An Information Company in Mexico: Extending the Resource-Based View of the Firm to a Developing Country Context", Information Systems Research, 9(4), 1998, 342-361.

Kleinheerenbrink, A.J.A. (2012). *Design Tool for Dry Bulk Terminals*. TU Delft University.

Lagoudis, I. N., Theotokas, I., & Broumas, D. (2017). A literature review of port competition research. *International Journal of Shipping and Transport Logistics*, *9*(6), 724–762.

Laxe, F. G. (2010). Port Marketing Strategies and the Challenges of Maritime Globalization. In P. Coto-Millán, M. A. Pesquera, & J. Castanedo (Eds.), *In Essays on Port Economics*. Heidelberg: Physica-Verlag HD.

Ligteringen, H., & Velsink, H. (2012). *Ports and Terminals* (First). Delft: VSSD.

Lun, Y. H. V., Lai, K. H., & Cheng, T. C. E. (2010). *Shipping and Logistics Management*. *Shipping and Logistics Management*.

Maloni, M., & Paul, J. A. (2013). Evaluating Capacity Utilization Options for US West Coast Container Ports, *52*(1), 52–79.

Meersman, H., & Nazemzadeh, M. (2017). The contribution of transport infrastructure to economic activity: The case of Belgium. *Case Studies on Transport Policy*, *5*(2), 316–324.

Meersman, H., Voorde, E. Van De, & Vanelslander, T. (2010). Review of Business and Economics Port Competition Revisited. *Port Congestion*.

Montwiłł, A. (2018). Analysis of the seaport value chain as a method for assessing its strategic potential. *SHS Web of Conferences*, *58*, 01020.

Morales-Fusco, P., Saurí, S., and Spuch, B. (2010). Quality Indicators and Capacity Calculation for RoRo Terminals. Transportation Planning and Technology, 33(8), 695–717.

Munim, Z. H., & Saeed, N. (2019). Seaport competitiveness research: The past, present and future. International Journal of Shipping and Transport Logistics, 11(6), 533–557.

Musso, A., Piccioni, C., & Van de Voorde, E. (2013). Italian seaports' competition policies: Facts and figures. *Transport Policy*, *25*, 198–209.

Notteboom, T. and Yap, W. Y. (2011), The interdependence between liner shipping networks and intermodal networks', Proceedings of the Conference of the International Association of Maritime Economists (IAME), Panama City

Oral, E. Z. (2014). Genel Kargo Li̇manlarinin Kapasi̇te Anali̇zi̇ . In *8. Kıyı Mühendisliği Sempozyumu* (pp. 225–234). İstanbul.

Park, N., & Dragović, B. (2009). A Study of Container Terminal Planning. FME Transactions, 37, 203–209

Park, N., Dragović, B., Zrnić, N., & S-H Moon, D. (2012). Simulation Approach of Container Terminal Modelling. The 7th Vienna International Conference on Mathematical Modelling (MATHMOD 2012). Vienna.

Peteraf, M.A. (1993). The cornerstones of competitive advantage: A resource-based view. Strategic Management Journal, 14(3), 179–191

Peters, H. (1990), Structural changes in international trade and transport markets: the importance of markets, *The 2nd KMI International Symposium:* 58–75.

Prahalad, C.K., Hamel, G., 1990. The core competence of the corporation. Harvard Business Review 90 (3), 79–91.

Ramirez-Nafarrate, A., Gonzalez-Ramirez, R. G., Smith, N. R., Guerra-Olivares, R., & Voß, S. (2016). Impact on Yard Efficiency of a Truck Appointment System for a Port Terminal. *Annals of Operations Research*, 1–22.

Roundtree, B., Weston, J. & Allayannis, G. 2008 . "Do Investors Value Smooth Performance?" Journal of Financial Economics 90 (3): 237 – 51

Rumelt,R.P.(1984).Towards astrategic theory of the firm. Competitive Strategic Management,556–570

Salminen, J. B. (2013). *Measuring the Capacity of a Port System: A Case Study on a Southeast Asian Port*. Doctoral dissertation, Massachusetts Institute of Technology.

Shetty, K., & Dwarakish, G. S. (2020). Measuring port performance and productivity. *ISH Journal of Hydraulic Engineering*, *26*(2), 221–227.

Song, D. P., Lyons, A., Li, D., & Sharifi, H. (2016). Modeling port competition from a transport chain perspective. *Transportation Research Part E: Logistics and Transportation Review*, *87*, 75–96. https://doi.org/10.1016/j.tre.2016.01.001

Souf-Aljen, A. S., Maimun, A., Rahimuddin, & Zairie, N. (2016). Port capacity forecasting and the impact of the dredging works on port sea operations using discrete event simulation. *Jurnal Teknologi*, *78*(9–4), 31–40. https://doi.org/10.11113/jt.v78.9692

Subhan, M., & Abdul Ghani, A. B. (2008). Analyzing Growth Opportunity of Port from the Resource-based Perspective The Case of Port of Tanjung Pelepas Malaysia. Gadjah Mada International Journal of Business, 10(3), 353.

Swamidass, P.M. (2000). Encyclopedia of Production and Manufacturing Management. Kluwer Academic Publishers: Boston, MA

Talley, W. K. (2006). Optimum Port Throughput. In *Transportation Research Forum* (pp. 1–11). New York.

Talley, W. K. (2009). *Port economics*. *Port Economics*.

Talley, W.K., Ng, M.W., 2017. Hinterland transport chains: determinant effects on chain choice. Int. J. Prod. Econ. 185, 175–179.

Teece, D.J., Pisano, G., Shuen, A., 1997. Dynamic capabilities and strategic management. Strategic Management Journal 18 (7), 509–533

Tran, N. K. (2011). Studying port selection on liner routes: An approach from logistics perspective. *Research in Transportation Economics*, *32*(1), 39–53.

Tsinker, G. P. (2004). *Port Engineering: Planning, Construction, Maintenance, and Security*. Wiley.

Tongzon, J. (2002). "Efficiency measurement of selected Australian ports and other international ports using data envelopment analy- sis." Transportation Res. ., 35, 107–122.

Tongzon, J.L., 2009. Port choice and freight forwarders . Transport. Res. Part E 45, 186–195.

Too, E. G. (2011). Capability for Infrastructure Asset Capacity Management. *International Journal of Strategic Property Management*, *15*(2), 139–151.

TÜRKLİM (Türkiye Liman İşletmecileri Derneği) (2017). Türk limancılık sektörü 2017 raporu.

UNCTAD. (1985). *Port Development: A Handbook for Planners in Developing Countries* (Second Edi). New York: United Nations Publications.

Valleri, M. and Van de Voorde, E., 1996, Port Productivity: What Do we. Know about it?, in Val- lerin, M. (Ed.), L'industria portuale: per uno sviluppo sostenibile dei porti (Cacucci, Bari)

Van de Voorde, E. and Winkelmans, W., 2002, A General Introduction to Port Competition and Management, in Huybrechts et al. (Eds.) Port Competitiveness (Ed. De Boeck, Antwerp).

van Vianen, T., Ottjes, J., & Lodewijks, G. (2012). Stockyard Dimensioning for Dry Bulk Terminals. *TRAIL Research School*, (October).

Wan, Z., el Makhloufi, A., Chen, Y., Tang, J., 2018. Decarbonizing the international shipping industry: solutions and policy recommendations. Mar. Pollut. Bull.

Wang, C., & Jiang, L. (2007). Service time and price decisions under port competition and cooperation. Proceedings of the IEEE International Conference on Automation and Logistics, ICAL 2007, 2176

Wang, K., & Zhang, A. (2018). Climate change, natural disasters and adaptation investments: Inter- and intra-port competition and cooperation. Transportation Research Part B: Methodological, 117, 158–189.

Wernerfelt, B. (1984). A resource-based view of the firm. Strategic Management Journal, 5(2), 171–180.

Wernerfelt, B. (1995), The resource-based view of the firm: Ten years after. Strat. Mgmt. J., 16: 171-174.

Xiao, Y., Ng, A.K., Yang, H. and Fu, X. (2012) An analysis of the dynamics of ownership, capacity investments and pricing structure of ports. Transport Reviews, Vol. 32, No. 5, pp.629–652.

Xiao, Z., Zhou, L., Liang, J., Li, H., & Hong, Z. (2014). Study on Progress of Developing Strategy on Ports Cluster: Integration of Port Resources. *Journal of Geography and Geology*, *6*(2), 145.

Xing, W., Liu, Q., & Chen, G. (2018). Pricing strategies for port competition and cooperation. *Maritime Policy and Management*, *45*(2), 260–277.

Yeo, G. T., & Song, D. W. (2006). An application of the hierarchical fuzzy process to container port competition: Policy and strategic implications. *Transportation*, *33*(4), 409–422.

Yu, M., Lee, C. Y., & Wang, J. J. (2017). The regional port competition with different terminal competition intensity. *Flexible Services and Manufacturing Journal*, *29*(3–4), 659–688.

Zenzerović, Z. (2005). Kvantitativne Metode u Funkciji Optimalnog Funkcioniranja Sustava Kontejnerskog Prijevoza Morem, Pomorski Zbornik, 43. pp. 165-191

Zenzerović, Z., Vilke, S., and Jurjević, M. (2011). Queuing Theory in Function of Planning the Capacity of the Container Terminal in Port of Rijeka. Pomorstvo- Scienctific Journal of Maritime Research, 25(1), 45–69

Zondag, B., Bucci, P., Gützkow, P., & de Jong, G. (2010). Port competition modeling including maritime, port, and hinterland characteristics. Maritime Policy and Management, 37(3), 179–194.

Zott, C. (2003). Dynamic capabilities and the emergence of intraindustry differential firm performance: Insights from a simulation body. Strategic Management Journal, 24(2): 97–126