



## Investigating the Human Capital within the Scope of Global Container Lines: A Content Analysis

*Uluslararası Konteyner Hatları Kapsamında İnsan Sermayesinin İncelenmesi: Bir İçerik Analizi*

Ramazan Özkan YILDIZ<sup>1</sup>

İlke Sezin AYAZ<sup>2</sup>

Esra BARAN<sup>3</sup>

Geliş Tarihi: 26.09.2017 / Düzenleme Tarihi: 15.02.2018 / Kabul Tarihi: 01.03.2018

### Özet

Bu çalışmanın amacı, uluslararası konteyner endüstrisi kapsamında insan sermayesi göstergelerini incelemektir. Çalışmanın amacına ulaşmak için bir içerik analizi uygulanmıştır. Çalışmanın örnekleme, yargısal örnekleme yöntemiyle pazar paylarına göre Alphaliner Top100 listesinde yer alan ilk 5 küresel konteyner hattı olarak tespit edilmiştir. Literatür taraması sonucunda elde edilen insan sermayesi göstergeleri anahtar kelimeler ve arama çerçevesi olarak kullanılmıştır. Araştırmanın bulgularına göre, en sık rastlanan insan sermayesi göstergelerinden bazıları; "sağlık ve güvenlik", "yetiştirme", "deneyim", "bağlılık", "yetenek", "işe alma", "eğitim" ve "liderlik" olarak belirlenmiştir. Ayrıca bulgular konteyner hatlarının insane sermayesi yaklaşımlarında önem verilen ana unsurlarının şunlar olduğunu göstermektedir; çalışanların refahı, gelişimi ve bağlılığı. Bu bulguların küresel konteyner endüstrisi bağlamında insane sermayesi literatürü için yararlı bir kaynak teşkil edeceği düşünülmektedir.

**Anahtar kelimeler:** Entelektüel Sermaye, İnsan Sermayesi, Denizcilik, Konteyner Hatları, İçerik Analizi

### Abstract

*The purpose of this study is to examine the human capital indicators within the scope of container shipping industry. To do this, a content analysis has been carried out. The sample of the study has been determined as the top 5 ranked global container lines in Alphaliner Top100 list according to their market share. In the analysis judgmental sampling method has been used. The human capital (HC) indicators obtained as a result of the literature review have been used as the key words and search frame. According to findings of the study, some of the most frequently mentioned human capital indicators are "health and safety", "training", "experience", "commitment", "skill", "recruitment", "education" and "leadership". The findings also reveal that the main elements container lines consider important in their human capital approaches are; the welfare, development and commitment of the employees. These findings are thought to set a useful source for the human capital literature within the context of the global container shipping industry.*

**Key words:** Intellectual Capital, Human Capital, Shipping, Container Shipping Lines, Content Analysis

### Introduction

Recently, knowledge has been one of the primary sources of organization possessiveness. Organizations should obtain and manage knowledge to keep pace with changing environmental conditions. In this sense, intellectual capital (IC) is a precious asset for organizations (Akca et al., 2013). The growth of economies around the world has increased the importance of human capital because of the development of knowledge in the way to become an irrevocable part of competitive advantage, especially in emerging economies (Kong and Kong, 2016: 1).

It is becoming a reality in shipping that strategies be prone to more brain-driven, rather than asset-driven (Lorange, 2001). Human capital indicators have taken part in the center of organizational management of shipping companies and the improvements in the human capital will raise the overall performance.

This study aims to examine the human capital indicators within the scope of container shipping line industry. After the introduction of the study, "intellectual capital", "human capital", "measurement of human capital" and "human capital in

<sup>1</sup> Arş. Gör., İskenderun Teknik Üniversitesi Barbaros Hayrettin Gemi İnşaatı ve Denizcilik Fakültesi, Denizcilik İşletmeleri Yönetimi Bölümü. Hatay, Türkiye.

E-Posta: rozkan.yildiz@iste.edu.tr

<sup>2</sup> Arş. Gör., Dokuz Eylül Üniversitesi Denizcilik Fakültesi, Denizcilik İşletmeleri Yönetimi Bölümü. İzmir, Türkiye. / Bursa Teknik Üniversitesi Denizcilik Fakültesi, Denizcilik İşletmeleri Yönetimi Bölümü. Bursa, Türkiye.

E-Posta: ilke.ayaz@deu.edu.tr

<sup>3</sup> Arş. Gör., Dokuz Eylül Üniversitesi Denizcilik Fakültesi, Denizcilik İşletmeleri Yönetimi Bölümü. İzmir, Türkiye.

E-Posta: esra.baran@deu.edu.tr

shipping” concepts are detailed. Then the methodology of the study is given. Finally, the findings of the study and the conclusions have presented.

### Intellectual Capital

John Kenneth Galbraith is the one who first alleged the “intellectual capital” (IC) concept in (1969) to explain the gap between the book value and the market value of an enterprise (Wu and Chou, 2007). Some of the main intellectual capital definitions that made by several researchers are given in Table 1.

**Table 1:** Some Main Intellectual Capital Definitions

AUTHOR	DEFINITION
Edvinsson and Malone, (1997)	“Intellectual capital is the gap between the market and book value of a business enterprise”
Bueno Salmador et al., (2004)	“Intellectual capital refers to the networks of relationships between the firm, the citizens, the employees and the social agents”
Shaikh, (2004)	“Intellectual capital is the knowledge that can be transferred into value”
Tsou et al., (2016)	“Intellectual capital means the difference in value between tangible assets (physical and financial) and the aggregation of intangible assets owned by an organization”

Escalated utilization of the knowledge in organizations expedites the improvement level of companies. Therefore, organizations intend to enhance their intellectual capital values. According to Akca et al., (2013), intellectual capital can ensure such advantages to organizations as; procreate competitive edge, sustainable prolongation of corporation, state support, credit worthiness, organizational prestige and reputation.

Subramaniam and Youndt, (2005); Reed et al., (2006); Kang and Snell (2009); Ramezan (2011); Su, (2014) and Tsou et al., (2016) categorize intellectual capital into; human capital, organizational capital, and social capital. The relevant literature review reveals that the most frequent identification results in such three dimensions on intellectual capital as human capital, organizational capital, and social capital. In this study, the human capital dimension of the intellectual capital has been investigated deeply within the context of global container carriers.

### Human Capital

The human capital (HC) is an old concept, which is firstly defined by Sir William Petty (1690), and Rensis Likert (1967) began to investigate the human capital concept in 1960s. (Folloni and Vittadini, 2010: 248). The greater importance should be given to education and training when defining the concept of human capital. The reason for this, the education and training have influence over the outcome of human capital such as uniqueness and value. For this reason, more emphasis should be placed on learning by means of education and training in order to produce the unique capabilities and values embedded in human capital (Segun and Deborah, 2016: 158-159).

Human capital is defined as the knowledge, skills, and abilities (KSAs) embodied in people and it refers to these specifications of employees in an organization that can facilitate new ideas and the innovativeness of a firm (Tsou et al., 2016: 33). While there is plenty of room to discuss the precise meaning of HC, it is most evident in an organization’s skilled predictable performance. It is the value added of the work practice (Spender & Marr, 2006). It has also long been considered as a critical resource to most companies and the attributes of human capital affects operating outcomes (Wu and Chen, 2016: 127). HC entails multiple types of specialized knowledge built over time through interactions among a firm’s employees; managers; constituents; and physical, technological, and knowledge-based resources (Mahoney and Kor, 2015: 297). Organizations should invest in their employees’ development and/or attract new highly skilled and expert employees in their organizations in order to enrich their human capital (Sollosy et al., 2006:20).

### Measuring Human Capital

Human capital measurement originated from “human resources accounting” developed by Rensis Likert, Theodore Schultz and Eric Flamholtz in 1960s (Bukowitz et al., 2004:44). Baron (2011) state that “development /talent management”, “reward”, “retention”, “motivation” and “performance” are some areas where most organizations collect data relevant to human capital measurement. The collected data often require greater analysis and can provide useful understanding related to value of human capital. The human capital’s impact on performance is highly important for the managers and the external stakeholders of the organizations (Baron, 2011: 32).

The employees’ crucial contribution to organizational performance is the essential principle of HC management. The employees and their performance should be managed for higher and positive outcomes by recognizing the role of them in adding value (Baron, 2011:31). There is a positive relationship between human capital and organizational performance. HC indicators such as training and teamwork are inclined to result in greater productivity and organizational performance (Marimuthu et al., 2009: 268).

The HC measurement is a hard and challenging issue. Obtaining the specific and definitive data based on HC measurement indicators is very difficult in actual applications. The natural language is preferred by decision makers instead of numerical values in the evaluation of HC indicators. Thus, HC is an intrinsically fuzzy concept that can be measured by the synthesis of its components (Bozbura et al., 2007: 1101). As stated by Phillips (2003:4), the place of the traditional measures has taken by difficult measurement items which represents the issues that can contribute the growth and success of the organization in the future.

The most common human capital measures from combined studies and practices are shown in Table 2.



**Table 2:** The Most Common Human Capital Measures (2/2).

HUMAN CAPITAL INDICATORS	Petty and Guthrie, 2000	Brennan, 2001	Bontis, 2003	April et al., 2003	Bozzolan et al., 2003	Abeysekera and Guthrie, 2005	Bozzolan et al., 2006	Beattie and Thomson, 2007	Bozburu, 2007	Phillips, 2007	Martin de Castro, 2010
Leadership Productivity			✓					✓	✓	✓	✓
Workforce Profile										✓	
Worklife Balance										✓	
Employee Benefit										✓	
Job Creation										✓	
Recruitment Success								✓		✓	
Absenteeism								✓		✓	
Workforce Age										✓	
Personal Development								✓			✓
Collaboration											✓
Communication											✓
Self-Motivation								✓			✓
Job Satisfaction								✓			✓
Friendship								✓			✓
Flexibility								✓			✓
Risk Taking								✓	✓		
Problem Solving									✓		
Adaptability								✓			
Equality						✓		✓			
Human Value			✓					✓			
Human Assets								✓			
Expert Teams			✓					✓			

## Human Capital in Shipping Sector

HC plays an increasingly important role in shipping sector. According to Popa et al., (2016), the human capital which is bearing in mind the seaborne features in the transit countries, cultures and heterogeneous environment as onboard the maritime vessels is closely associated with maritime business. It is possible to come across studies related to human capital in maritime sector in the past. Van Lottum and Poulsen, (2011) investigate the skill levels of Scandinavian maritime workers and they found that maritime workers generally qualified by relatively high levels comparing to other sectors. In terms of productivity and performance in the shipping sector, HC has crucial significance (Van Lottum and Van Zanden, 2014: 98).

Shipping and transportation industry's elements are depended on operational and human activities. Zelenika and Pupovac (2003) focused on the development of maritime companies relies on utilization of information technology and knowledge in operation. Copacino (1999) claims that improvement of human capital will be a progressively important success factor in the new era. Shipping companies are facing difficulty on their skilled human resources. For instance, lack of skilled knowledge workers in the important positions, high employee turnover, enhanced competition for the qualified employees and lack of hard and soft skills. Higher quality of human capital such as employees with better education or training is useful to distribute technological knowledge in a shipping company (Ho et al., 2009: 6). Han and Ding, (2007) reveals that human capital influence maritime business performance directly, additionally have indirect effects on performance through other intellectual capital elements. According to their findings, human capital positively affects both innovation and process. The innovation of shipping firms affects their process, which, in turn, affects customer satisfaction. Customer satisfaction finally positively affects maritime business performance. And also they defend that employee's education degree should be underlined for improving shipping companies' human capital. Myers et al., (2004) group key human capital indicators for shipping industry under the education level, experience, training and skills categories.

### Content Analysis

Content analysis is defined as "a research method for making repeated and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff, 2004: 18). In other definition, Kolbe and Burnett (1991) stated that content analysis is "an observational research method that is used to systematically evaluate the symbolic content of all forms of recorded communications". The aim of the content analysis is to obtain a deepened description of the analyzed subject, and results with the categories describing the subject (Elo and Kyngas, 2008).

The most widely used methodology in the analyzing reports and disclosures of the firms is the content analysis. The method can be used in different ways such as word counting, grouping, categorizing, classification of indicators and etc. There are some studies investigating intellectual capital disclosure or reports by using such methods (Guthrie and Petty, 2000; Bozzolan et al., 2003; Guthrie et al., 2004; Abeysekera and Guthrie, 2005; Bozzolan et al., 2006; Beathie and Thomson, 2007; Kamath, 2008).

### Methodology and Sample Selection

Global container lines rated based on their total annual throughput (TEU) constitute the population of this study (Alphaliner, July 2017). The sample of the study has been determined by judgemental sampling method as the top 5 ranked global container lines in Alphaliner Top100 list according to their market share.

With a detailed investigation on the companies' annual reports and web sites it has been determined that web site search is a better option for human capital indicator analysis. In the web sites of the selected liner companies; Corporate Social Responsibility, Sustainability, Career, Human Resources and Employee sections have been chosen as the research framework of the content analysis. To measure the frequencies of human capital indicators for the sample companies, content analysis has been performed on their web sites with the date of July 2017.

### Findings of the Study

Maersk Line, which is the part of the Maersk Group a Danish business conglomerate with activities in the transport and logistics and energy sectors, is the world's biggest container shipping line, known for solid, adaptable and eco-proficient services. In the Maersk Line's web site, "human/labor", "career" and "social responsibility" sections have been analyzed for human capital indicators. Table 3 illustrates the results of the content analysis related with human capital indicators in APM Maersk Line web site.

**Table 3:** Content Analysis Results of APM Maersk Line.

HUMAN CAPITAL COMPONENTS/ INDICATORS	FREQUENCIES
Experience	16
Health / Safety	13
Recruitment	13
Training	11
Commitment	8
Age	5
Education	5
Human Resources	5

<b>Leadership</b>	3
<b>Compensation</b>	2
<b>Human Resources Investment</b>	2
<b>Knowledge</b>	2
<b>Skill</b>	2
<b>Employee Expertise</b>	1
<b>Staff Turnover</b>	1

As shown in Table 3, the most frequently repeated indicator is “experience” and this situation reveals that employee experience is a key human capital component from the eyes of Maersk Line. After the “experience” indicator, “health/safety”, “recruitment” and “training” indicators follow respectively. It would be not wrong to make a deduction that Maersk Line puts the quality, contribution, development and continuity of its employees in the center of the company’s human capital approach.

Mediterranean Shipping Company (MSC) is the world's second-biggest global container line in terms of market share that prides itself on offering global service with local knowledge. In the MSC Line’s web site, “career”, “community and people development” and “corporate social responsibility” sections have been analyzed for human capital indicators. Table 4 shows the findings of the content analysis related with human capital indicators from MSC Line web site.

**Table 4:** Content Analysis Results of MSC Line.

<b>HUMAN CAPITAL COMPONENTS/ INDICATORS</b>	<b>FREQUENCIES</b>
<b>Health / Safety</b>	14
<b>Training</b>	12
<b>Age</b>	7
<b>Commitment</b>	7
<b>Skill</b>	5
<b>Experience</b>	3
<b>Education</b>	2
<b>Hr Investment</b>	1
<b>Knowledge</b>	1
<b>Leadership</b>	1
<b>Innovation</b>	1

The above table reveals that “health and safety” and “training” are the primarily repeated indicators related with human capital. “HR Investment”, “knowledge”, “leadership” and “innovation” indicators have been mentioned only once. From the results of the analysis, it can be interpreted that the welfare and development of employees is considerably important in the human capital view of MSC.

CMA CGM is a French container transportation and shipping company located in the third rank in Alhaliner top 100 according to market share. The sections which have been analyzed within the CMA CGM web site are “carrier” and “corporate social responsibility”. The results of the content analysis on human capital indicators of CMA-CGM web site are shown in Table 5.

**Table 5:** Content Analysis Results of CMA-CGM.

<b>HUMAN CAPITAL COMPONENTS/ INDICATORS</b>	<b>FREQUENCIES</b>
<b>Health / Safety</b>	57
<b>Training</b>	14
<b>Skill</b>	6
<b>Commitment</b>	5
<b>Experience</b>	3
<b>Recruitment</b>	3

<b>Age</b>	2
<b>Employee Expertise</b>	2
<b>Human Resources</b>	2
<b>Hr Investment</b>	2
<b>Innovation</b>	2
<b>Knowledge</b>	2
<b>Entrepreneurship</b>	1
<b>Flexibility</b>	1
<b>Satisfaction</b>	1

“Health and safety” item is the highest frequently repeated indicator in CMA CGM web site. After this indicator, “training,” “skill,” “commitment” key words are the slightly bit more repeated indicators. Also it has been seen that unlike the previous two companies, “entrepreneurship,” “flexibility” and “satisfaction” key words are encountered from the results of the analysis.

Cosco Shipping Line, which is the fourth largest company in terms of market share in the Alphaliner 100 list, has a mission of globalizing Chinese economy, consolidating advantageous resources, considering integrated logistics, and shipping related financial services as core business, and developing diversified industrial clusters. “Safety,” “training” and “personnel structure” sections have been evaluated in the context of content analysis for Cosco Shipping Line web site. Table 6 reflects the frequencies of human capital indicators gathered from the content analysis.

**Table 6:** Content Analysis Results of Cosco Shipping Line.

<b>HUMAN CAPITAL COMPONENTS/ INDICATORS</b>	<b>FREQUENCIES</b>
<b>Training</b>	29
<b>Health / Safety</b>	11
<b>Education</b>	4
<b>Skill</b>	4
<b>Communication</b>	2
<b>Leadership</b>	2
<b>Compensation</b>	1
<b>Human Resources</b>	1
<b>Knowledge</b>	1
<b>Motivation</b>	1

Similar to the previous results, “training” and “health and safety” indicators are the most frequently stated indicators in Cosco Shipping Line web sites. “Education,” “skill,” “communication,” “leadership,” “compensation,” “human resources,” “knowledge” and “motivation” follow respectively. Different from the first three shipping lines, “motivation” as a human capital indicator has been seen in the Cosco Shipping Line web site.

Hapag-Lloyd is a multinational German-based transportation company, which stands as the fifth rank of the Alphaliner top 100, specialised in reefer cargo, dangerous goods and special cargo projects. “Career,” “compliance commitment” and “sustainability” sections have been included in the analysis for Hapag Lloyd web site. The following table shows the frequencies of human capital indicators within the HapagLloyd analysis results.

**Table 7:** Content Analysis Results of Hapag Lloyd.

<b>HUMAN CAPITAL COMPONENTS/ INDICATORS</b>	<b>FREQUENCIES</b>
<b>Health / Safety</b>	6
<b>Leadership</b>	5
<b>Communication</b>	3



<b>Training</b>	3
<b>Attitude</b>	2
<b>Competence</b>	2
<b>Employee Expertise</b>	2
<b>Motivation</b>	1

According to the analysis results, Hapag Lloyd Shipping Line web site consists of fewer human capital-related indicators than do the other four shipping companies' web sites. Because of the scarcity of the frequencies, it is not quite possible to make a meaningful interpretation related with the human capital approach of Hapag Lloyd Shipping Line.

The review of the content analysis results is detailed in the following table. The results show that "health and safety" and training key words are the most frequent indicators for human capital view of global shipping lines

**Table 8:**Total Frequencies of Content Analysis Results

Human Capital Components/ Indicators	APM - Maersk	MSC	CMA CGM	COSCO	Hapag	Total Frequency
Health / Safety	13	14	57	11	6	101
Training	11	12	14	29	3	69
Experience	16	3	3	-	-	22
Commitment	8	7	5	-	-	20
Skill	2	5	6	4	-	17
Recruitment	13	-	3	-	-	16
Age	5	7	2	-	-	14
Education	5	2	-	4	-	11
Leadership	3	1	-	2	5	11
Human Resources	5	-	2	1	-	8
Knowledge	2	1	2	1	-	6
Communication	-	-	-	2	3	5
Employee Expertise	1	-	2	-	2	5
HR Investment	2	1	2	-	-	5
Compensation	2	-	-	1	-	3
Innovation	-	1	2	-	-	3
Attitude	-	-	-	-	2	2
Competence	-	-	-	-	2	2
Motivation	-	-	-	1	1	2
Entrepreneurship	-	-	1	-	-	1
Flexibility	-	-	1	-	-	1
Satisfaction	-	-	1	-	-	1
Staff Turnover	1	-	-	-	-	1

## Conclusion

Constantly increasing global trade volumes increase the importance of maritime transportation day by day. A considerable amount of world trade is carried out through maritime transportation. With the introduction of containerization, the majority of the cargoes have been carried by containers. This situation has opened a new sector which is called "container shipping". As a consequence of rapid development in the container shipping sector, giant global container lines have showed up and gained substantial attention.

Human capital is considered to comprise people knowledge, capability, creativity, skills, culture, experience and motivation. Container shipping industry respectably relies on both financial and human capitals. So container lines should plan and execute human capital effectively. Container shipping line employees should be respectably qualified due to the crucial responsibilities for the succes and sustainability of the lines. In the dynamic and fierce competitive environment of container line industry to give qualified and continuous services to their customers, container lines should have qualified and adequate human capital which can handle operations and processes effectively and efficiently.

This study has aimed to investigate the human capital indicators in the context of global container shipping lines. In order to reach the objective of the study, a content analysis has been carried out on the top five ranked container lines according to their market shares.

When these global container lines are examined individually for their human capital situations, it has been seen that, human capital indicators are met mostly in the web sites of CMA CGM and APM Maersk container lines. In the evaluation of the analysis results it is detected that "health and safety" and "training" indicators are the most repeated ones for all 5 companies. In other words, the global container lines consider the welfare and employee development as the basis of their human capital view. According to the literature review to the best knowledge of authors, the know-how, competence and quality of the employees are the primary indicators situated in the human capital concept. The arguments of the human capital literature are also supported by this study's findings. The results of the content analysis have shown that the indicators revealed by the literature are also the most frequent ones mentioned in the web sites of global container lines. Containerization is a breath-taking innovation for shipping industry on its own. Findings of the study point out that "innovation", "leadership", "communication", "compensation", "motivation" and "entrepreneurship" are partaking human capital indicators in the container shipping line industry. The contribution of the study is the determination of prevailing human capital indicators for container shipping industry. The data obtained are expected to be a useful source for future studies in the measurement of human capital within the scope of container shipping industry.

This study was firstly planned to work on the intellectual capital disclosers, corporate social responsibility and sustainability reports or annual reports of the global container lines. Through the examination process, however, it has been seen that there is not a regular publication of these reports. Rather few reports could be reached. For this reason, it has been determined to conduct the study on web sites of the selected shipping companies. For further studies, sample size of the study could be extended.

## References

- Abeysekera, I. and Guthrie, J. (2005). An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka. *Critical Perspectives in Accounting*, 16(3), 151-63. [http://dx.doi.org/10.1016/S1045-2354\(03\)00059-5](http://dx.doi.org/10.1016/S1045-2354(03)00059-5).
- Akca, M., Yavuz, M. and Karagulle, A. O. (2013). Intellectual Capital as a Competitive Tool at Logistics and Transportation Industries: A Turkish Case. 11th International Logistics & Supply Chain Congress. Kayseri- TURKEY.
- Akin, A. (2010). İnsan sermayesi kaynakları açısından girişimci özellikleri (Anadolu girişimcileri üzerine bir araştırma). *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 26, 8-22.
- Alphaliner (2017). *Top 100*. URL: <https://alphaliner.axsmarine.com/PublicTop100/>.
- April, K. A., Bosma, P. and Deglon, D. A. (2003). IC measurement and reporting: establishing a practice in SA mining. *Journal of Intellectual Capital*, 4(2), 165-180. <https://doi.org/10.1108/14691930310472794>.
- Ateş, A., Karadeniz, Ş., and Esmer, S. (2010). Dünya Konteyner Taşımacılığı Pazarında Türkiye'nin Yeri. *Dokuz Eylül Üniversitesi Denizcilik Fakültesi Dergisi*, 2(2), 83-98.
- Baron, A. (2011). Measuring human capital. *Strategic HR Review*, 10(2), 30-35. DOI: 10.1108/14754391111108338.
- Beattie, v. and Thomson, S. J. (2007). Lifting the lid on the use of content analysis to investigate intellectual capital disclosures. *Accounting Forum*, 31(2), 129-163. DOI:10.1016/j.accfor.2007.02.001.
- Bontis, N., Chua Chong Keow, W. and Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital*, 1(1), 85-100.
- Bontis, N. (2003). Intellectual capital disclosure in Canadian Corporations. *Journal of Human Resource Costing and Accounting*, 7(1), 9-20. <https://doi.org/10.1108/eb029076>.
- Bozbura, F. T., Beskese, A. and Kahraman, C. (2007). Prioritization of human capital measurement indicators using fuzzy AHP. *Expert Systems with Applications*, 32(1), 1100-1112. DOI:10.1016/j.eswa.2006.02.006.
- Bozzolan, S., Favotto, F. and Ricceri, F. (2003). Italian annual intellectual capital disclosure: An empirical analysis. *Journal of Intellectual Capital*, 4(4), 543-558. DOI 10.1108/14691930310504554.
- Bozzolan, S., O'Regan, P. and Ricceri, F. (2006). Intellectual capital disclosure (ICD): A comparison of Italy and the UK. *Journal of Human Resource Costing and Accounting*, 10(2): 92-113. <https://doi.org/10.1108/14013380610703111>.
- Brennan, N. (2001). Reporting Intellectual Capital in Annual Reports: Evidence from Ireland. *Accounting, Auditing & Accountability Journal*, 14(4), 423-436. <https://doi.org/10.1108/09513570110403443>.
- Bueno, E., Salmador, M. P., and Rodríguez, O. (2004). The role of social capital in today's economy: empirical evidence and proposal of a new model of intellectual capital. *Journal of Intellectual Capital*, 5(4), 556-574. DOI: 10.1108/14691930410567013.
- Bukowitz, W. R., Williams, R. L. and Mactas, E. S. (2004). Human Capital Measurement. *Research Technology Management*, 47(3), 43-49.
- Copacino, W. (1999). Research Hypotheses for the New Millennium – Keynote Address. Twenty-Eighth Annual Transportation and Logistics Educators' Conference, The Ohio State University and Council of Logistics Management. Oak Brook, IL.
- Edvinsson, L. and Malone, M.S. (1997). *Intellectual Capital: Realizing your Company's True Value by Finding its Hidden Roots*, 1st ed. New York: Harper Collins Publishing Inc.

- Elo, S. and Kyngas, H. (2008). The qualitative content analysis. *Journal of Advanced Nursing*, 62(1), 107-115. DOI: 10.1111/j.1365-2648.2007.04569.x.
- Folloni, G. and Vittadini, G. (2010). Human Capital Measurement: A Survey. *Journal of Economic Surveys*, 24(2), pp. 248-279. DOI: 10.1111/j.1467-6419.2009.00614.x
- Galbraith, J. K. (1969). *The New Industrial State*. London: Penguin Books.
- Guthrie, J., and Petty, R. (2000). Intellectual capital: Australian annual reporting practices. *Journal of Intellectual Capital*, 1(3), 241-251.
- Guthrie, J., Petty, R., Yongvanich, K. and Ricceri, F. (2004). Using Content Analysis as A Research Method to Inquire into Intellectual Capital Reporting. *Journal of Intellectual Capital*, 5(2), 282-293. <http://dx.doi.org/10.1108/14691930410533704>
- Han, J. and Ding, J. (2007). The Intellectual Capital Impacts on Logistics Business Performance. First International Conference on Transportation Engineering July 22-24. American Society of Civil Engineers. Southwest Jiaotong University, Chengdu, China. [http://dx.doi.org/10.1061/40932\(246\)546](http://dx.doi.org/10.1061/40932(246)546).
- Ho, Y., Lin, C., and Chiang, S. (2009). Organizational determinants of green innovation implementation in the logistics industry. *International Journal of Organizational Innovation*, 2(1), 3-12.
- Kamath, B. (2008). Intellectual capital disclosure in India: content analysis of "Teck" firms. *Journal of Human Resource Costing & Accounting*, 12(3), 213-224. DOI 10.1108/14013380810919859.
- Kang, S. C. and Snell, S. A. (2009). Intellectual Capital Architectures and Ambidextrous Learning: A Framework for Human Resource Management. *Journal of Management Studies*, 46(1), 65-92. DOI: 10.1111/j.1467-6486.2008.00776.x
- Kolbe, R. H. and Burnett, M. S. (1991). Content-Analysis Research: An Examination of Applications with Directives for Improving Research Reliability and Objectivity. *Journal of Consumer Research*, 18(2), 243-250. <http://www.jstor.org/stable/2489559>.
- Kong, G. and Kong, D. (2016). Corporate governance, human capital, and productivity: evidence from Chinese non-listed firms. *Applied Economics*, 48, 1-14. <http://dx.doi.org/10.1080/00036846.2016.1245837>
- Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology*. Sage Publications: California.
- Li, J., Pike, R. and Haniffa, R. (2011). Intellectual capital disclosure and corporate governance structure in UK firms. *Accounting and Business Research*, 38(2), 137-159. DOI: 10.1080/00014788.2008.9663326.
- Likert, R. (1967). *The Human Organization: Its Management and Value*. New York: McGraw-Hill.
- Lorange, P. (2001). Strategic re-thinking in shipping companies. *Maritime Policy & Management*, 28(1), 23-32. <http://dx.doi.org/10.1080/030888301750050741>.
- Mahoney, J. T. And Kor, Y. Y. (2015). Advancing The Human Capital Perspective On Value Creation by Joining Capabilities and Governance Approaches. *Academy of Management Perspectives*, 29(3), 296-308. <http://dx.doi.org/10.5465/amp.2014.0151>.
- Marimuthu, M., Arokiasamy, L. and Ismail, M. (2009). Human Capital Development and Its Impact On Firm Performance: Evidence from Developmental Economics. *The Journal of International Social Research*, 2(8), 265-272.
- Martin De Castro, G., Delgado Verde, M., Lopez Saez, P. and Navas Lopez, J. E. (2010). Towards 'An Intellectual Capital-Based View of the Firm': Origins and Nature. *Journal of Business Ethics*, 98(4), 649-662. DOI: 10.1007/s10551-010-0644-5.
- Myers, M. B., Griffith, D. A. and Daugherty, P. J. (2004). Maximizing The Human Capital Equation in Logistics: Education, Experience, And Skills. *Journal of Business Logistics*, 25(1), 211-232. DOI: 10.1002/j.2158-1592.2004.tb00175.x.
- Petty, W. (1690). Political Arithmetik, or a Discourse Concerning the Extent and Value of Lands, People, Buildings. Reprinted in C.H. Hull (1899). *The Economic Writings of Sir William Petty*. Cambridge: Cambridge University Press.
- Phillips, J. J. (2003). Human capital measurement. *Business Intelligence*, 10. <http://www.roiinstitute.net/wp-content/uploads/2014/12/Human-Capital-Measurement-A-Challenge-for-the-CLO.pdf>
- Phillips, J. J. (2007). Human Capital Measurement: Challenges and Opportunities for HR. *HRinsight*, 4(4). <http://www.roiinstitute.net/wp-content/uploads/2014/12/Human-Capital-Measurement-HR-Insight.pdf>
- Popa, C., Nistor, F., Reczey, I. and Quansah, D. (2016). The Seafarers' Human Capital Variables and The Crew Profile Dynamic Adjustment. *Scientific Bulletin "Mircea cel Batran" Naval Academy*, 19(1), 27-28. DOI: 10.21279/1454-864X-16-11-007.
- Ramezan, M. (2011). Intellectual capital and organizational organic structure in knowledge society: how are these concepts related? *International Journal of Information Management*, 31(1), 88-95. <http://dx.doi.org/10.1016/j.ijinfomgt.2010.10.004>.
- Reed, K. K., Lubatkin, M., and Srinivasan, N. (2006). Proposing and testing an intellectual capital based view of the firm. *Journal of Management Studies*, 43(1), 867-893. <http://doi/10.1111/j.1467-6486.2006.00614.x/full>.
- Segun, O. P. and Deborah, O. O. (2016). Effect of Human Capital Expenditure on the Profitability of Quoted Manufacturing Companies in Nigeria. *Asian Journal of Finance & Accounting*, 8(2), 155-170. DOI: 10.5296/ajfa.v8i2.10197.
- Shaikh, J.M. Shaikh, J.M. (2004). Measuring and reporting of intellectual capital performance. *Journal of American Academy of Business*, 4(1/2), 439-448.
- Sollosy, M., McInerney, M. and Braun, C. K. (2016). Human Capital: A Strategic Asset Whose Time Has Come to Be Recognized on Organizations' Financial Statements. *The Journal of Corporate Accounting & Finance*, 27(6), 19-27. DOI: 10.1002/jcaf.22201.
- Spender, J., and Marr, B. (2006). How a knowledge-based approach might illuminate the notion of human capital and its measurement. *Expert Systems with Applications*, 30(2), 265-271. <http://dx.doi.org/10.1016/j.eswa.2005.07.001>.
- Su, H. Y. (2014). Business ethics and the development of intellectual capital. *Journal of Business Ethics*, 119(1), 87-98. DOI: 10.1007/s10551-013-1623-4.
- Subramaniam, M., and Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450-463. <http://www.jstor.org/stable/20159670>.
- Tsou, H. T., Chen, J. S. and Liao, S. W. (2016). Enhancing intellectual capital for e-service innovation. *Innovation: Management, Policy & Practice*, 18(1), 30-53. <http://dx.doi.org/10.1080/14479338.2016.1181527>.
- Van Lottum, J. and Poulsen, B., (2011). Estimating levels of numeracy and literacy in the maritime sector of the North Atlantic in the late eighteenth century. *Scandinavian Economic History Review*, 59(1), 65-80. <http://dx.doi.org/10.1080/03585522.2011.541124>.
- Van Lottum, J. and Van Zanden, J. L. (2014). Labour productivity and human capital in the European maritime sector of the eighteenth century. *Explorations in Economic History*, 53, 83-100. <http://dx.doi.org/10.1016/j.eeh.2014.04.001>.
- Wu, M. J. and Chen, S. T. (2016). Human Capital, Organizational Demography and Organizational Performance: The Analysis of CPA Firms in Taiwan. *International Business Research*, 9(11), 126-134. DOI: 10.5539/ibr.v9n11p126
- Wu, Y. C. and Chou, Y. H., (2007). A new look at logistics business performance: intellectual capital perspective. *The International Journal of Logistics Management*, 18(1), 41-63. DOI: 10.1108/09574090710748162.

Zelenika, R. and Pupavac, D., 2003, Intellectual Capital – Developmental Resource of Logistics Companies for 21st Century. *Technology and Management of Traffic*, 15(1), 37-41. DOI: 10.7307/ptt.v15i1.867.

### Genişletilmiş Özet

Deniz taşımacılığı kökeni çok eski tarihlere dayanan bir taşımacılık türüdür ve yüksek taşıma kapasitesi, çevreye daha az zarar vermesi ve diğer modlar ile kıyaslandığında daha düşük maliyetli olması sebebiyle en çok tercih edilen ulaştırma modlarından biridir. 1960'lı yıllarda konteynerin bir taşıma kabı olarak kullanılmaya başlamasından sonra dünya ticaretinde konteyner kullanımı hızla artmış ve geçen süre zarfında konteyner taşımacılığında çok önemli atılımlar yapılmıştır. Günümüzde konteyner taşımacılığı konteynerin kendisi, konteyner gemileri, konteyner limanları, düzenli hatlarda konteyner taşımacılığı yapan gemi işletmeleri ve deniz acenteleri gibi bileşenlerden oluşan bir sistemdir (Ateş vd., 2010: 85). APM-Maersk, Mediterranean Shipping Company, CMA CGM Group, COSCO Shipping ve Hapag-Lloyd en yüksek Pazar payına sahip olan küresel konteyner taşıma şirketleridir.

Bilgiyi elde etmek ve yönetmek işletmelerin en önemli uğraşlarından biridir. Bu yüzden maddi varlıkların yanında maddi olmayan değerlerin önemi de her geçen gün artmaktadır. Entelektüel sermaye modellerinin temel bileşeni olarak kabul edilen insan sermayesi, en yalın haliyle bir işletmenin çalışanlarına ait bireysel bilgi stoğunu ifade etmektedir (Bontis et al., 2000). Bilgi, eğitim, rekabet gücü, yenilikçilik kapasitesi ve know-how öne çıkan insan sermayesi unsurlarıdır (Akın, 2010: 9). Denizcilik sektöründe de değişen çevreye ve zorlu piyasa koşullarına ayak uydurmak için bilgiye ve insan sermayesine verilen önem her geçen gün artmış, daha nitelikli iş görenler denizcilik işletmelerinin vazgeçilmezleri olmuştur.

Bu çalışmanın amacı uluslararası konteyner endüstrisi kapsamında insan sermayesi göstergelerini incelemektir. Çalışmada öncelikle detaylı bir literatür taraması yapılmış, literatürde sıklıkla kullanılan insan sermayesi göstergeleri belirlenmiştir. Araştırmanın bulgularına göre, en sık rastlanan insan sermayesi göstergelerinden bazıları; "sağlık ve güvenlik", "yetiştirme", "deneyim", "bağlılık", "yetenek", "işe alma", "eğitim" ve "liderlik" dir. Daha sonra araştırmanın amacına hizmet edecek şekilde yargısal örnekleme yoluyla Pazar paylarına göre, dünya konteyner taşımacılığı ile ilgili bilgiler sunan Alphaliner Top100 listesinde yer alan ilk 5 küresel konteyner hattı çalışmanın örnekleme olarak belirlenmiştir. Bir sonraki aşamada ise literatür taraması sonucunda elde edilen insan sermayesi göstergeleri belirlenen konteyner hatlarının web sitelerinde anahtar kelime ve arama çerçevesi olarak kullanılmış, tanımlanan belirli karakterlerden sistematik ve tarafsız sonuçlar çıkarmak için kullanılan bir araştırma yöntemi olan içerik analizine tabi tutulmuştur.

Yapılan içerik analizi sonucunda APM Maersk için en çok vurgulanan insan sermayesi unsuru "deneyim", MSC, CMA-CGM ve HapagLloyd için "sağlık/güvenlik", COSCO Shipping için ise "yetiştirme" olarak belirlenmiştir. "Bağlılık", "işe alma", "yetenek", "liderlik" konteyner hatlarıncı önemli görülen diğer insan sermayesi unsurlarıdır. Konteyner hatlarının insan sermayesi yaklaşımlarında önem verilen ana unsurların ise çalışanların refahı, gelişimi ve bağlılığı olduğu tespit edilmiştir. İçerik analizi sonuçlarının genel olarak yapılan literatür taraması ile uyumlu olduğu görülmüştür. CMA-CGM ve APM Maersk web sitelerinin insan sermayesi göstergelerinin en sık rastlandığı web siteleri olarak görülmesine karşın Hapag Lloyd web sitesinin insan sermayesi göstergelerinin en az rastlandığı web site olduğu belirlenmiştir.

Bu çalışmada ilk olarak literatürden belirlenen insan sermayesi göstergeleri ile küresel konteyner hatlarının kurumsal sosyal sorumluluk raporları, sürdürülebilirlik raporları ve yıllık raporlarına içerik analizi yapılması hedeflenmiştir. Ancak, çalışma süreci boyunca bu raporların yeterli düzeyde ve sayıda yayımlanmadığı görülmüş, oldukça az sayıda rapora ulaşılmıştır. Bu nedenle araştırma belirlenen konteyner hatlarının web sitelerinde gerçekleştirilmiştir. İleriki araştırmalarda örneklem boyutunun genişletilmesi önerilmektedir. Çalışmada konteyner endüstrisi için geçerli insan sermayesi göstergeleri belirlenmeye çalışılmıştır. Bu çalışmanın bulgularının küresel konteyner endüstrisi bağlamında insan sermayesi literatürü için yararlı bir kaynak teşkil etmesi beklenmektedir.