Unlocking Exploration and Exploitation: An Examination of Ambidextrous Port

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This study examines the ambidexterity orientation of container ports, focusing on the equilibrium between exploration and exploitation strategies among the changing market circumstances. The study addresses whether these ports mainly concentrate on exploration or exploitation activities, or whether they handle both concurrently. A quantitative methodology via a survey has been applied to evaluate ambidexterity orientation. The sample includes employees from six container ports located in the Mediterranean, Aegean, and Marmara regions of Turkey, chosen by judgemental and convenience sampling methods. Descriptive data indicate that participants mostly assess their ports' exploitative abilities as superior to their exploratory capabilities. The strongest consensus has been observed in the responses pertaining to customer satisfaction. The findings reveal that while ports outperform in exploitative activities, there is a need to improve exploratory initiatives. While container ports in Turkey are more inclined towards exploitation, achieving a balance between exploration and exploitation is critical for long-term competitive edge and performance. The research enhances the comprehension of ambidexterity in port management, highlighting the necessity for ports to improve their ambidexterity orientation to adapt to market dynamics and ensure competitive advantages.

KEY WORDS
~ Organisational ambidexterity
~ Exploration
~ Exploitation
~ Dynamic capability
~ Competitive advantage
~ Port

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1. INTRODUCTION

Ports function as crucial interfaces within the maritime transportation network and supply chain, operating within a dynamic and competitive setting. Due to advancements in technology, the economy, and society, ports are under fierce competition and must enhance and broaden their roles and dynamic capabilities to adapt to new emergent port operations and functions. Dynamic capabilities are intricately connected to the notion of ambidexterity. Market dynamism, as stated by Easterby-Smith and Prieto (2008), plays a crucial role in shaping dynamic capabilities and influences strategic choices related to exploitation and exploration. It is essential to comprehend how market dynamics-based contingency variables impact the optimal equilibrium between exploration and exploitation.

According to Notteboom and Siu Lee Lam (2014), the port market and environment are marked by unpredictability and risks faced by both external factors and the actors in the industry. Ports are endeavouring to handle unpredictable, risky, and fiercely competitive environmental circumstances using various techniques and administrative methods. They seek to optimise their operations and services more efficiently and swiftly than their rival ports in response to changing conditions. Despite extensive discussions in port-related literature on the intense competition and rapid changes in the port industry, ambidexterity is a subject that has garnered a limited amount of empirical examination. With this motive in mind, this research aims at exploring the ambidexterity orientation within the context of a group of container ports in Turkey. This research aims to make an original contribution to literature by empirically investigating ambidexterity in the port industry, a context that has received limited attention compared to sectors such as manufacturing or supply chain management. Consistent with the study's primary aim, the research question is “Do container ports in Turkey pursue merely exploration or exploitation? Do they focus on both?” While prior studies have examined organisational ambidexterity in various contexts, such as manufacturing firms and broader supply chain settings, there is a noticeable gap in research specifically focusing on port organisations. Although the notion of ambidexterity in ports within the scope of competitiveness was introduced by studies by Van Den Bosch et al. (2011), Hollen (2015), and Yalcin et al. (2019), a missing empirical measurement of the ambidexterity notion using a validated instrument has been observed. This research, therefore, contributes towards the literature by applying a validated ambidexterity scale to the port industry and offering a robust empirical assessment of Turkish container ports. Furthermore, this study contributes to theory by framing ambidexterity as a dynamic capability, demonstrating how ports can utilise adaptive processes to achieve both operational performance and innovation.

This research experimentally investigates the ambidexterity orientations of ports offering services in a dynamic and competitive context, framed by the theoretical viewpoint of dynamic capabilities, and is organised into the following sections. The literature review section addresses the notion of organisational ambidexterity and ambidexterity within supply chains and ports. The subsequent section presents the theory of dynamic capabilities as the theoretical underpinnings of the study. After the methodology and sample details of the research are presented, the results are disclosed. The conclusion and discussion parts comprise the last section of the study.

2. LITERATURE REVIEW

2.1. Organizational Ambidexterity

The notion of ambidexterity, as coined by Robert Duncan in 1976, denotes the capacity of a corporation to effectively balance and integrate conflicting activities and strategies. Duncan advocated for the use of dual structures by organisations as a means to achieve long-term success. In 1991, James G. March contributed substantially to the field of organisational ambidexterity (OA) by highlighting the importance of striking a balance between exploitation and exploration strategies, which are two key dimensions of ambidexterity. Tushman and O’Reilly (1996) explained the concept using the “juggler” metaphor. Just like a juggler can spin multiple balls at once, ambidextrous organisations must be able to both compete in existing markets while creating new goods and services for emerging ones (Tushman and O’Reilly, 1996). In another paper conceptualising ambidextrous organisation, O’Reilly and Tushman (2004) gave the example of the two-faced Roman god Janus, whose one face is looking forward and the other facing backward. It is stated that corporate managers should always look back, deal with the products and processes of the past, and look forward to anticipating and becoming ready for advances that will shape the future. O’Reilly and Tushman (2013) stated that OA is a vague term because there is no clear, agreed-upon definition in the literature. They defined it as the “capacity to do two things simultaneously,” with the simplest and most general definition.

Various research fields include organisational design (Duncan, 1976; Tushman and O’Reilly, 1996; Adler et al., 1999; Benner and Tushman, 2003; Gibson and Birkinshaw, 2004; Smith and Tuhsman, 2005;), organisational learning (March, 1991; Levinthal and March, 1993; Gupta et al., 2006), organisational adaptation (Burgelman, 1991; Probst and Raisch, 2005), technological innovation (Danneels, 2002; He and Wong, 2004; Jansen et al., 2006), strategic management (Burgelman, 1991; Hamel and Prahalad, 1993; Auh and Menguc, 2005; Lubatkin et al., 2006), leadership theory (Beckman,

2006; Lubatkin et al., 2006) have discussed the importance of the ambidexterity and made contributions to the OA literature (Raisch and Birkinshaw, 2008; Simsek, 2009; Cantarello et al., 2012; Papachroni et al., 2015).

The exploitation and exploration elements, associated with ambidexterity, have garnered the predominant focus in the literature. The term "exploration" refers to the actions of an organisation that are characterised by searching, discovering, variations, experimenting, adaptability, willingness to take risks, and innovation. Conversely, the term "exploitation" refers to the activities of an organisation that are attributed to improvement, execution, efficiency, control, accuracy, manufacturing, and choosing (March, 1991; He and Wong, 2004; Raisch and Birkinshaw, 2008; O'Reilly and Tushman, 2013). The primary purpose of exploiting is to utilise current technologies to adapt to the environment and satisfy the expectations of existing clients. Conversely, the fundamental purpose of the exploration approach is to react to and direct latent environmental patterns that have not been seen in the first place through developing novel technologies and markets (Lubatkin et al., 2006).

Numerous studies consider ambidexterity essential for organisational survival and performance (Tushman and O'Reilly, 1996; Gibson and Birkinshaw, 2004; Raisch and Birkinshaw, 2008). It also provides a source of competitive edge. The significant consequences of ambidexterity proposed in the literature include sales growth (Auh and Menguc, 2005; Han and Celly; 2008; He and Wong, 2004; Venkatraman et al., 2007), financial performance and market value (Schudy and Bruch, 2010; Stubner et al., 2012; Taha et al., 2024; Uotila et al., 2009; Wang and Li, 2008), organisational performance (Hwang et al., 2023; Dzenopoljac et al., 2024; Sarmento et al., 2024; Trieu et al. 2024; Hanoum et al., 2025; Schmidt et al., 2025), innovation performance (Adler et al. 1999; Çömez et al., 2011; Tushman et al. 2010; Yang and Atuahene-Gima, 2007; Chakma and Dhir, 2025), sustainable performance (Belhadi et al. 2022; Nasution et al., 2025; Laguir et al., 2025), productivity performance (Kitapçı and Çelik, 2013), performance management (Bakan and Sezer, 2017), internationalisation performance (Han, 2007), product development performance (Revilla et al., 2011), new product performance (Li and Huang, 2012), longer survival (Buyl et al., 2012; Hill and Birkinshaw, 2014), firm effectiveness and growth (Al-Husban and Yawson, 2025), customer capital (Cegarra-Navarro and Dewhurst, 2007), personnel empowerment (Çiftçi, 2017), entrepreneurial orientation (Hanoum et al., 2025; Schmidt et al., 2025), supply chain resilience (Aslam et al., 2020; Wang et al., 2023; Cao et al., 2024; Munir et al., 2024; Kong and Feng, 2025; Punchihewa, 2025), supply chain performance (Punchihewa, 2025; Yang et al., 2025), supply chain agility (Singh and Modgil, 2025), and supply chain integration (Punchihewa, 2025; Rahman et al. 2025).

2.2. Ambidexterity in Supply Chain and Ports

The idea of ambidexterity in supply chain management has garnered notice in the studies of several authors (Kristal et al., 2010, Blome et al., 2013; Lee and Rha, 2016; Tuan, 2016; Aslam et al., 2018; Ojha et al., 2018; Wamba et al., 2020; Bui et al., 2021; Belhadi et al., 2022; Escorcia-Caballero et al., 2022; Ambulkar et al., 2023; Shamout, 2023; Wang et al., 2023; Cao et al., 2024; Li et al., 2024; Munir et al., 2024; Yang et al., 2025; Kumar and Singh, 2025; Rahman et al., 2025). Kristal et al. (2010) proposed an ambidextrous supply chain strategy as the implementation of both explorative and exploitative supply chain techniques at the same time from the perspective of manufacturers' strategic choice. An ambidextrous supply chain strategy facilitates the interaction of various learning processes and knowledge generation and thus becomes ingrained in the manufacturers' internal and external capabilities and practices, which in turn promote the formation of combinative abilities. Ambidextrous supply chain strategies were investigated by Lee and Rha (2016), and they concluded that supply chain ambidexterity is crucial for businesses since it helps to reduce the impact of supply chain problems, while also improving performance. The study also discovered that efficiently exploiting current resources and developing new problem-solving strategies are crucial in resolving supply chain disturbances. While supply chain exploration looks for supply chain ideas using different approaches and looking for innovative ways to satisfy customers, supply chain exploitation concentrates on preserving connections with present suppliers, looking for supply chain solutions utilising current resources, and exploiting present technologies. Building on a thorough examination of the literature, a recent study by Kumar and Singh (2025) proposed the conceptualisation of supply chain ambidexterity as "an organisation's strategic capacity to balance flexibility and efficiency by creating specialised units for exploratory activities, while the rest of the organisation focuses on exploitative tasks. This enables concurrent adaptation to changing market conditions, enhancing supply chain performance and short- and long-term competitiveness. Ambulkar et al. (2023) explored the relationship between a firm's supply chain ambidexterity and its ability to manage supply chain disruptions. The findings indicated that as a firm's supply chain ambidexterity increases, the negative impact of frequent disruption triggers on financial performance diminishes, and at high levels of ambidexterity, this effect disappears entirely. This suggests that firms capable of effectively balancing exploitation and exploration are better equipped to mitigate financial losses resulting from recurrent supply chain disruptions. Wang et al. (2023) presented a theoretical framework for supply chain resilience (SCR) through ambidexterity in the context of the COVID-19 pandemic. Based on a single-case analysis, the research found that enhanced ambidexterity - balancing exploitation and exploration - strengthens SCR by fostering agility, redundancy, and flexibility. In addition, Cao et al. (2024) investigated the influence of an ambidextrous strategy on SCR and its subsequent impact on firm performance, through the lens of the Dynamic Capabilities perspective. This research contributed to the literature by underscoring the critical role of ambidexterity in fostering agility and resilience, ultimately leading to improved organisational performance.

The significance of ports in supply chains has been pointed out by a great number of research studies (Carbone and Martino, 2003; Tongzon et al., 2009; Song and Panayides, 2008; Thai, 2016). Ports must have greater ambidexterity if they want to steadily improve their position as globally competitive players. Based on this point of view, Hollen (2015) explained the concept of "ambidextrous port" in his doctoral thesis, and the ambidextrous port is defined as exhibiting exceptional efficiency and innovation, stability and flexibility, proficiently capitalising on prior investments while pursuing new opportunities. They achieve both short-term performance improvements and long-term success, effectively balancing the competing demands for collaboration and competition internally and externally. Additionally, they host firms from both established and emerging industries, among others.

In a simpler way, it is possible to describe ambidextrous ports with a bilateral focus on both efficiency and innovation. It is challenging to strike an equilibrium between these two kinds of actions since ports compete heavily on the grounds of cost efficiency and operational efficacy. Efficiency-focused practices are thought to be especially crucial for ports that operate in intense rivalry. Ports and organisations associated with ports are mostly concerned with exploitation-focused operations. However, ports should focus on exploration-directed operations in a complicated and challenging environment in order to keep pace with or provide guidance to recent advancements and shifting environmental situations. Efficiency-driven ports need to function more innovatively to become more ambidextrous. In addition to technology innovation, so-called management innovation, new management strategies, procedures, and structures, also play a significant role in determining innovation performance (Hollen, 2015). According to Van Den Bosch et al. (2011), ambidextrous enterprises are more ready to adapt and, as a result, have much more opportunities for survival and higher performances in rapidly changing circumstances with considerable competitive variables, of which the port industry is a great example. Additionally, competitors find it more challenging to copy ambidextrous organisational structures and management procedures, and this situation creates a competitive advantage that is easier to maintain in the long term. Becoming an ambidextrous port can support attaining world-class efficiency and productivity, while also pursuing renewals and innovations.

Moreover, the concept of ambidexterity is increasingly crucial when it comes to the competitiveness of port authorities, which emphasises the ongoing contradiction between using the existing resources and exploring new opportunities in port administration (Haugstetter and Cahoon, 2010; Gjerding and Kringelum, 2018). Being ambidextrous demonstrates that port authorities have the ability to effectively coordinate and use their dynamic capabilities for the benefit of stakeholders (Gjerding and Kringelum, 2018).

Yalcin et al. (2019) examined the port supply chain from the standpoint of ambidexterity in conjunction with port competitiveness. According to this study, supply chain exploitative and explorative activities, in fact, provide a distinctive point of view for evaluating port competitiveness. It is pointed out that exploitative activities in the port supply chain are more common than explorative actions. Because new technologies, infrastructures, superstructures, etc., are needed for exploration practices at ports, they are very expensive to obtain. Rohmah (2022) examined the impact of service ambidexterity on port service performance and satisfaction. The results demonstrated that service ambidexterity has a positive impact on both the port service performance and port service satisfaction.

3. THEORETICAL BACKGROUND: DYNAMIC CAPABILITY

Today's business climate is marked by fierce rivalry, discerning clients, fast technical progress, unpredictability, and constant change. In the face of intense competition and a rapidly evolving environment, organisations are exerting significant effort to modify, upgrade, rebuild, and renew their resources and capabilities in order to achieve and sustain a competitive edge (Wang and Ahmed, 2007). Studies in strategic management are primarily concerned with the means by which a competitive advantage may be obtained and maintained over time. The Resource-Based View (RBV) is widely recognised as one of the most influential viewpoints used in strategic management for the purpose of comprehending the origins of competitive advantage (Eisenhardt and Martin, 2000; Wang and Ahmed, 2007; Ambrosini and Bowman, 2009; Easterby-Smith et al., 2009). Barney (1991), Penrose (1959), and Wernerfelt (1984) are some of the notable scholars who have made substantial contributions to the development of RBV.

Teece et al. (1997) pioneered the notion of "dynamic capabilities (DCs)" by critiquing and expanding upon the RBV. This concept highlights the adaptive character of resources and skills in response to changing environmental conditions. The authors contend that in changing circumstances, the value of organisational resources may fluctuate. Therefore, a company's competitive edge comes from more than just its resources: it also stems from its capacity to reconfigure its resources and capabilities (Vera et al., 2011). DCs are described as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al., 1997). The objective of the DC theory is to comprehend how organisations use their dynamic capacities to adapt to external circumstances and generate environmental change, hence maintaining their competitive advantage over other organisations (Miles, 2012). The fundamental organisational skills pertain to the effective use of existing resources (exploitation); however, DCs focus on the efficient discovery and assessment of new possibilities (March, 1991; Miles, 2012).

By conceptualising ambidexterity as a DC, O'Reilly and Tushman (2008) argued that DCs are essential for a firm to exhibit ambidexterity and engage in both established and new markets. In addition, Kriz et al. (2014) supported the notion that ambidexterity is a form of DC. It is possible to assert that ambidexterity is essential for companies that place a high value on the advancement of DCs for the purpose of achieving long-term success. Having DCs brings to light the need for businesses to be able to adjust over time and compete in both new and existing markets. Encouragement of ambidexterity via the exploration and exploitation of capabilities is one approach that may be taken to solve the issues that have emerged as a consequence of substantial changes in the organisational environment (Dutta, 2012). Ambidexterity, as a DC, not only offers a competitive edge in the market but also facilitates the creation of novel resource arrangements (O'Reilly and Tushman, 2008).

In this regard, it can be argued that dynamic capabilities are not only complementary but also foundational to achieving organisational ambidexterity in the port context. The ability to engage in both exploitative strategies, such as enhancing operational efficiency, reducing costs, and optimising the existing services and explorative strategies, including innovating port services, adopting new technologies, and targeting emerging customer segments, is known as ambidexterity. Dynamic capabilities, through their core dimensions of sensing, seizing, and transforming, provide the necessary mechanisms to enable this balance. For instance, while sensing allows port operators to identify emerging trends, such as automation, digitalisation, green port initiatives, or changes in global trade, seizing enables them to act upon these trends. Ultimately, transformation facilitates the realignment of organisational structures, processes, and human capital, ensuring that organisations can respond optimally to changes. Consequently, ports exhibiting robust dynamic capabilities are better positioned to navigate the tension between exploration and exploitation. As digital transformation, environmental regulations, and shifting global supply chains increasingly impact the port sector, the role of dynamic capabilities in supporting ambidextrous strategies becomes more critical.

4. METHOD AND SAMPLE

This study has adopted a quantitative approach and applied the survey method as one of the primary data collection methods. To determine the ambidexterity orientation levels of the container ports, organisational ambidexterity items (12 items) developed by Lubatkin et al. (2006) have been used. OA was measured by two factors, including “exploratory orientation” and “exploitative orientation”.

The sample for the survey application has been determined using judgemental and convenience sampling approaches. The container ports that were part of the study were chosen from the members of the Port Operators Association of Turkey. Participants from six ports operating in the Mediterranean, Aegean, and Marmara Regions of Turkey have contributed to the research. There have been certain limitations placed on the sample used in the research due to the fact that the topic of the study is one associated with strategic management issues. In the first place, the research has been conducted with the participation of white-collar port employees. Furthermore, the assessment of ambidexterity on the scale requires a longitudinal examination of the last three years, as indicated in the original items of the scale. Hence, the research excludes the personnel with a tenure of less than three years at the same port. Seven responses have also been excluded from the research due to being identified as outliers. Ultimately, 141 out of the 195 participants' responses are deemed appropriate for the study.

5. RESULTS

Profile characteristics of the participants cover gender, age, education level, department, title or position, experience in the port industry, and total experience in the maritime industry (Table 1). While approximately 71 percent of them are male, the remaining 29 percent consists of females. The majority of the respondents’ ages are between 27-36 years (67%). Approximately 70 percent of participants have bachelor’s degrees, and those who have master’s degrees account for 19.1 percent. Upon reviewing the respondents’ departments, it has been revealed that most of the respondents are from the operation, planning, and customer service departments. A total of 28 respondents have manager titles, and 15 respondents have team leader titles. The assessment of the respondents' experience level indicates that while 9,2 percent of the respondents have 15 or more years of experience in the port sector, approximately 15 percent of the respondents have 15 years or more experience in the maritime industry.

Gender	F	%	Workplace	F	%
Male	100	70,9	Office	128	90,8
Female	41	29,1	Yard	13	9,2
Department	**F**	**%**	**Title/Position**	**F**	**%**
Operation	34	24,1	Specialist	60	42,6
Planning	31	22,0	Clerk / Officer	37	26,2
Customer Service	21	14,9	Manager	27	19,1
Finance	10	7,1	Leader / Chief	15	10,6
Sales & Marketing	9	6,4	Deputy General Manager	1	0,7
Human Resource	8	5,7	Manager Assistant	1	0,7
Commercial	7	5,0			
General Management	6	4,3			
Information Technology	6	4,3			
Business Development	3	2,1			
Purchasing	2	1,4			
Claim / Damage	1	0,7			
Digital Products	1	0,7			
Internal Audit	1	0,7			
Custom	1	0,7			
Experience in Port Industry (years)	**F**	**%**	**Total Experience in Maritime Industry (years)**	**F**	**%**
3-6	68	48,2	3-6	60	42,6
7-10	47	33,3	7-10	47	33,3
11-14	13	9,2	11-14	13	9,2
15-18	7	5,0	15-18	10	7,1
19-22	4	2,8	19-22	6	4,3
23-26	1	0,7	23-26	5	3,5
27 and more	1	0,7			

Table 1. Profile of Respondents

First of all, the normality of the data has been tested. The OA scale's values for skewness (-.522) and kurtosis (-.132) are between ±1.0. The z-score for skewness is -2.55, and the z-score for kurtosis is -0.32. The critical values of the z distribution are between ± 2.58 (Mayers, 2013). The scores are between the acceptable critical values; hence, it is considered that the data follows a normal distribution. The Cronbach's Alpha coefficient value for the scale is 0.860, which refers to high-level reliability. In order to test the composite reliability and validity of the ambidexterity orientation scale for ports, confirmatory factor analysis is conducted. The first-level multi-factor structure of the OA scale, consisting of two factors and 12 items, has been tested with CFA using the AMOS program. Factor loadings in the range of 0.30 to 0.40 are at least acceptable values. However, values greater than 0,50 are regarded as practically significant. The threshold value for the factor loading is expressed as 0,40 (Hair et al., 2013). Therefore, one item (EXPLR5) from the exploratory orientation dimension, which has a 0.343 factor loading value, is excluded from the analysis. According to the new CFA results, it is determined that 11 items and two constructs that constitute the OA scale are related to the conceptual structure.

OA	Composite Reliability	AVE (Convergent Validity)	Correlation Analysis		Discriminant Validity (Squared correlation)
			Exploratory	Exploitative	
Exploratory	0,840	0,529	1		-
Exploitative	0,826	0, 449	,510**	1	0,260 < AVEs

***** Correlation is significant at the 0.01 level.***

Table 2. Reliability and Validity Results

Table 2 displays the findings from the OA scale's validity and reliability assessments. The composite reliability values of each construct are higher than the critical value of 0,70, which provides evidence for reliability. While the AVE value of exploratory orientations is greater than the crucial value, the AVE value of exploitative orientations is lower than 0,50. Nevertheless, because the composite reliability value is 0,826 (higher than 0,60), the AVE value exceeding 0,40 is adequate for convergent validity (Fornell and Larcker, 1981; Lam, 2012; Huang et al., 2013; Suprapto et al., 2020; Khaleghinejad and Ziaaldini, 2015; Barut Tuğtekin, 2021). Regarding discriminant validity, the squared correlation is lower than the AVE values of these constructs, which means these two constructs measure two different issues (Collier, 2020). Kline (2011) also argued that if the correlation between factors is less than 0.90, it is an indicator of discriminant validity.

Participants have been asked to evaluate and express their level of agreement with these statements by considering their port's orientation in the last three years. The results of descriptive statistics for the OA scale are presented in Table 3.

It may be seen that EXPLT4 and EXPLT5 items, which are related to customer satisfaction, have the highest mean values (4,24 and 4,21, respectively). The lowest degree of agreement belongs to the item EXPLR2, which states that "our port bases its success on its ability to explore new technologies" (mean: 3,18). The mean values of all exploitation-oriented statements are 4,0 and above, except for one item, which is related to improving quality and lowering cost.

Organisational Ambidexterity Items		**Mean**	**Standard Deviation**
EXPLR1	Our port… "looks for novel technological ideas by thinking outside the box."	3,4539	1,0245
EXPLR2	"…bases its success on its ability to explore new technologies."	3,1844	1,0392
EXPLR3	"…provides operations or services that are innovative to the firm"	3,7021	1,0053
EXPLR4	"…looks for creative ways to satisfy its customers' needs"	4,0071	0,8577
EXPLR5*	"…aggressively ventures into new market segments" *(*item excluded in CFA analysis)*	3,5177	1,0797
EXPLR6	"…actively targets new customer groups."	3,9929	0,8904
EXPLT1	"… commits to improve quality and lower cost."	3,7447	1,0028
EXPLT2	"…continuously improves the reliability of its operations and services."	4,1489	0,8613
EXPLT3	"…increases the levels of automation in its operations."	4,1348	0,8719
EXPLT4	"…constantly surveys existing customers' satisfaction."	4,2482	0,8464
EXPLT5	"…fine-tunes what it offers (operations and services) to keep its current customers satisfied."	4,2128	0,8603
EXPLT6	"…penetrates more deeply into its existing customer base."	4,0780	0,8624

Table 3. Descriptive Statistics of OA Items

Figure 1 visualises the distinct degrees of exploration and exploitation orientation of the container ports included in the research sample with the cargo handling data. In the figure, the ports are ranked from the port with the least difference between the two different capability levels to the one with the most difference. It may be seen that all ports' exploitation capability levels are higher than the exploration capability.

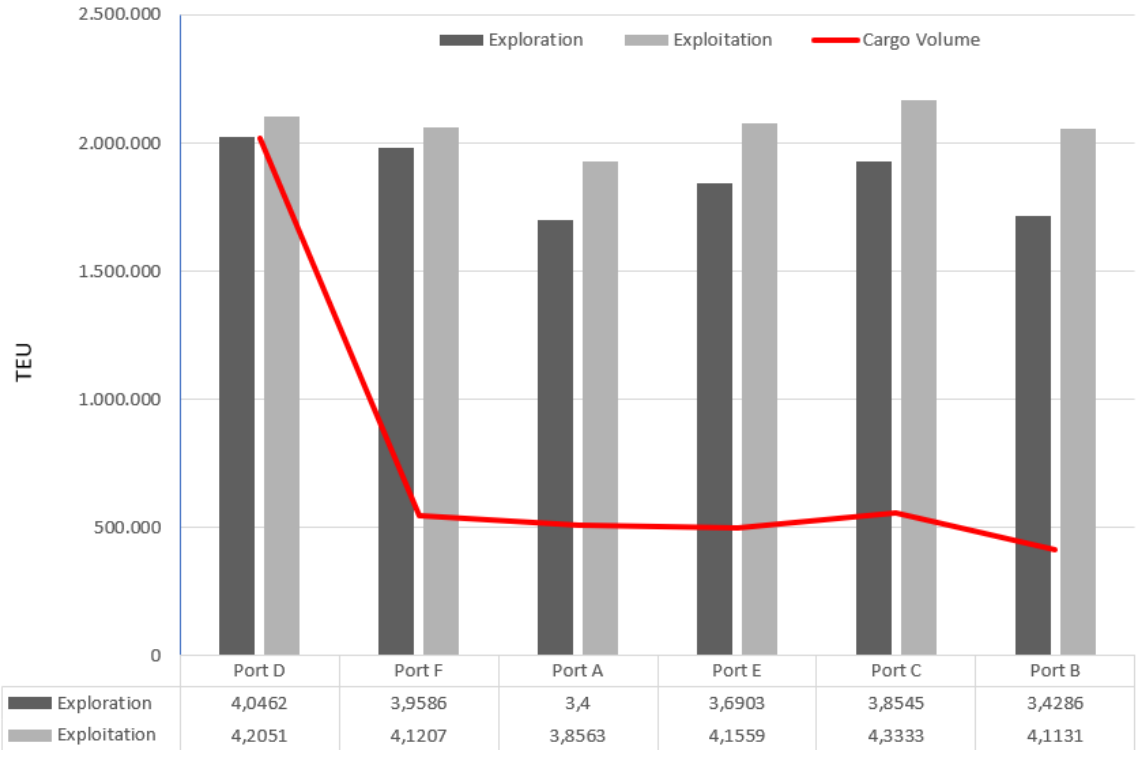

Figure 1. Exploration and Exploitation Orientation Levels of Ports in the Sample

6. CONCLUSION AND DISCUSSION

Ambidextrous organisations are those that are coordinated and efficient in managing current business needs, while also possessing the adaptability to respond to environmental shifts, ensuring their longevity. Consequently, studies agree that ambidexterity involves maintaining a competitive edge for the organisation by addressing both current and future performances (Aslam et al. 2018; Bui et al. 2021). Suppose ports wanted to achieve their goals of surviving in a competitive environment and gradually strengthening their position as global competitive actors. In that case, they would need to place a greater emphasis on ambidexterity orientation. Considering this point of view, this study aims to investigate the ambidexterity orientation within the context of container ports in Turkey.

According to the perceptions related to the ambidexterity orientation of ports, the items related to customer satisfaction orientation, both in exploitation (explt4, explt5) and exploration (explr4) dimensions, have the highest degree of agreement by the participants. On the other hand, the participants least agreed with the statement that their port's success is based on exploring new technologies. Panayides (2006) pointed out that the primary objective of logistics is to optimise customer satisfaction by delivering superior service at minimal operational costs. In order for ports to thrive and stay ahead of the competition, customer satisfaction is key (Phan et al. 2021). The quality and competitiveness of a port's services are likely to impact a customer's satisfaction and ongoing loyalty (Ugboma et al. 2007). Hence, it may be concluded that customer satisfaction is an issue that is given high importance in container ports in Turkey. Service quality is crucial for customer satisfaction; nevertheless, respondents perceive the challenge of enhancing quality while reducing costs as the least favourable approach among the exploitation strategies. Conversely, they prioritise operational reliability, service dependability, and automation challenges above cost reduction.

The organisations' emphasis on too many exploitative strategies can create stagnation (inertia), obsolescence, and dynamic conservatism. On the other hand, too much emphasis on only an explorative strategy ensures that organisations cannot get the return of their existing knowledge and gains (Carmeli and Halevi, 2009). Organisations focusing only on the existing resources with their exploitation strategy implementations may lose their ability to respond to change, which is called a competency trap. In another respect, focusing only on the exploratory strategy will cause them to enter into a continual cycle of search and unsatisfactory change (Raisch and Birkinshaw, 2008). Without falling into the competence trap, successful organisations can strike the right balance between exploitative and explorative strategies and simultaneously implement both. Therefore, the ports should achieve a balance between two contradictory capabilities for sustainable competitive advantage and long-term performance. The data indicate that capabilities associated with exploitation orientation exhibit higher mean values than those connected to exploration orientation, while the difference is not substantial. These results agree with the studies conducted by Hollen (2015) and Yalcin et al. (2019). Hollen (2015) argued that businesses related to ports and ports themselves are primarily engaged in exploitative activities. Yet, to keep up with new advancements and the changing environmental circumstances, ports should concentrate on exploratory activity efforts in a complex and demanding environment. Yalcin et al. (2019) indicated that exploitative activities in the port supply chain are more common than explorative actions. One of the reasons for the tendency to exploitation is the financial issues related to obtaining new technologies, infrastructures, superstructures, etc., for exploratory practices. Exploration is inherently unpredictable and carries a higher level of risk in terms of possible results. However, it is a path to achieving initial success (Haugstetter and Cahoon, 2010). In contrast to this study's findings, Zhou and Xue (2013) reached a conclusion that exploration is significantly higher than exploitation in their studies, including manufacturing companies as the sample.

The low difference between exploration and exploitation orientation levels of the ports can be interpreted as meaning that they can establish a better balance between the two different capabilities, thus approaching the concept of ambidextrous ports. The study results indicate that the port exhibiting the closest ambidexterity balance also has the maximum cargo handling volume. This finding can be a predictor of the statement that performance is an important consequence of ambidexterity in the literature. A limitation of the study is that data obtained from a limited number of ports does not allow for statistical testing of this relationship. In further studies, the relationship between ambidexterity and cargo handling volume as indicators of port performance can be investigated by including more research sample groups of ports. Moreover, this research has additional limitations since the study sample solely comprises container ports. Other cargo-type ports have not been included; therefore, there is no opportunity to make comparisons.

It is to be hoped that this research will make a contribution as the preliminary study investigated the concept of ambidexterity based on the perceptions of port employees in Turkey, and also empirically measured ambidexterity by testing the validity and reliability of the ambidexterity scale for the port industry. The results of this research are anticipated to enhance the existing body of knowledge and provide valuable perspectives to professionals involved in formulating and executing strategies in container port management. Practically, in the light of the study's findings, the management team of the container ports may see the need for enhanced exploration orientation in their competitive tactics against other ports and may formulate new approaches accordingly.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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