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THEORETICAL MODELLING OF THE MARITIME BUSINESS' RESILIENCE ENHANCEMENT POSSIBILITIES IN A VOLATILE, UNCERTAIN, COMPLEX AND AMBIGUOUS ENVIRONMENT

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Abstract. The purpose of this paper is to investigate how maritime business companies can develop the resilience and achieve business excellence in a highly volatile, uncertain, complex, and ambiguous (VUCA) environment. Within the literature about business resilience for achieving business excellence in maritime industry there is a lack of understanding of the impact of today's high VUCA environment. A contemporary business concept, business excellence in VUCA (BEVUCA), will be analysed by considering the overall VUCA influence on the business resilience as well as Agile leadership methodology influences business excellence. The research consists of theoretical model creation that helps to identify general maritime business resilience factors and critical success factors to enhance the resilience and to manage business excellence under a high VUCA business environment in maritime business. The results of this theoretical approach will be applied in the empirical research on maritime business resilience.

Keywords: VUCA, BEVUCA, organisational resilience, maritime business environment, agile leadership.

JEL Classification: D21, D81, L26.

Introduction

Prevention of uncertainty, ability to analyse and speed were the most important factors in preventing and solving the crises and problems that showed up in the past (Gillespie et al., 2014). Globalised market is working under the uncertainties which could not be avoided by business in modern markets, and it is required the transition between the classic management techniques and tools to modern management techniques. Without effective risk management strategic management cannot be effective management process, including effectiveness of techniques and tools applied, including unpredictability of environment because the risk management system ensure integrity and can be integrated into the system for enabling influence on organizational resilience. These techniques, tools and systems can only make an impact within an accurate management process of a highly volatile, uncertain, complex, and ambiguous (VUCA) environment (Peterson, 2021). Investigation of national and international scientific sources in this field found out that VUCA phenomenon becomes regular research object in a various fields. So, the maritime business as a part global supply chain also needs to be investigated in VUCA conditions especially from the point of view the increasing of VUCA phenomenon. a very few studies have been carried out on the VUCA phenomenon.

This paper considers the theoretical leadership approaches used in agile methodology and agile organizations in general. In the conditions of VUCA environment it is important to adopt the appropriate leadership style for specific contingencies in the context of maritime business theoretical model. It means that organizations should improve leadership ability by learning to adjust leadership styles. And agile approaches are adoptable in these situations not only because of their ability to respond to change and innovation, but because of their ability to fast response fast to the VUCA nature. These aspects are especially important for maritime business where process conditions can change some time per fixed time.

This research is designed on a systematic review to figure out existing approaches used in the maritime business field and to defend and prove the necessity of organizational resilience management theories in maritime

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business management which helps organizational survival. Further research should use different methods to empirically test the conceptual model according of the maritime industry. Also, this research opens a new field of investigations about resilience subject from the maritime context where organizational approach is poorly developed. Therefore, future studies should investigate developing key performance indicators of components of the proposed model and its effects on maritime organizations.

In the research of Boin and van Eten (2013), and Duit (2016) resilience was seen as an outcome – when organizations perform well in a crisis or recover back from disruptions, but according to these research results this understanding is insufficient because it is not clear what resilient organizations do and how organizational resilience may be implemented in practice (Boin & van Eeten, 2013; Duit, 2016). It is the aim of this paper to contribute to this promising research field and construct a theoretical model of the maritime business resilience's enhancement possibilities in VUCA environment. The objectives of this paper are:

1) to describe the specificity of maritime business resilience working under pressures of VUCA environment,
2) to analyse the agile leadership methodology as the strengthening maritime business organizational resilience,
3) to create conceptual model of the maritime business' resilience.

The research methodology is based on the theoretical approach principles and consists of literature sources review, systematisation, and theoretical modelling.

1. Description of maritime business resilience working under pressures of VUCA environment

1.1. Definition of organizational resilience

Organisational resilience has a reasonably wide range of conceptual interpretations. It can be seen as an umbrella construct described by a set of concepts and ideas for the identification and diversification of possible predictable and unpredictable risks for business stability (Hirsch & Levin, 1999). Researchers differently use their conceptual patterns for the organizational resilience concept (e.g., organisational resistance, organizational resilience, resilience potential or capacity), and there is a big amount of different and partly inconsistent definitions of the construct of organisational resilience.

Some studies (McManus et al., 2008; Limnios et al., 2014; Ortiz-de-Mandojana & Bansal, 2016; Duchek, 2020) describe resilience as defensive response, which means organizational characteristics as resistance and/or recovery. But a conceptual shift is now underway in a condition of dynamism in business environment. These changes enable the needs to describe resilience as offensive responses, which mean an adaptation, by adding the unpredictability factor (Duchek, 2020). Others discuss resilience as a kind of resistance for externalities or a kind of adaptation according to changes in environment (Limnios et al., 2014). The newest studies have started to include two or more conceptual perspectives in one resilience definition (McManus et al., 2008; Ortiz-de-Mandojana & Bansal, 2016). These studies suggest that the different perspectives and explanations or organizational resilience are all important parts of resilience conception, and they can make influence on the business' growing in the face of uncertainties only in special combinations of them. Based on these findings and assumptions the combination of the active response perspectives (which includes purposeful coping and adaptation) with the anticipation perspective could be suggested. Consequently, organizational resilience could be defined as an organizational ability to predict potential threats and other high-risk externalities, to react effectively with uncertain events and situations, and to adapt to changing external and internal conditions. This ability is critical for organizational success (Horney et al., 2010). Depending on its specific configuration, resilience can be a source of sustainable competitive advantage (Akpinar & Didem, 2022) and, thus, explain why some firms are more successful than others.

To survive in uncertain environments and to seek business success and its excellence, organizations must handle all these uncertainties. Organizations need to build a resilience capacity to respond to emergencies and to exploit in the best way events which could threaten the survival of the organization (Lengnick-Hall et al., 2011). In this function, resilience concept is different from flexibility, agility, or robustness conceptual constructs.

Flexibility and agility are important for adapting to changes and avoiding obstacles, resilience involves the ability to adapt to extreme and unpredictable circumstances, to dealing with unexpected threats and crises (Golden & Powell, 2000; McCann, 2004; Lengnick-Hall et al., 2011). Furthermore, resilience includes an adaptation aspect (Madni & Scott, 2009). This inclusion allows organizations to become out than before the unpredicted events (Akpinar & Dedem, 2022). And this feature justifies resilience's difference from robustness, which is defined as the organizational ability to maintain functions despite the disruptions.

1.2 Characteristics of the labour market in the maritime transport sector

The maritime business in maritime (industry) economy is a complex process which encompasses diverse activities, both in scope and scale, and therefore there are no clearly defined general terms for this phenomenon (Valionienė & Plačienė, 2022). The core maritime activities are follows:

- shipbuilding and ship repair, marine constructions, including yachts and boats;
- supply and equipment for offshore wind energy and other offshore systems;

– seaport and related services, including port handling and storage, activities of maritime transport agencies like customs, ship brokering and forwarding, inspections and supervising, as well as port governance and other activities supporting maritime transport, encompassing port navigation services such as pilotage, towage and mooring, dredging works within port basins, and other port and maritime services;
– fisheries, fish processing, and the distribution products distribution;
– costal tourism, encompassing several activities including yachting and recreational boating, with supporting services and supplies, cruise shipping, water sport activities and other maritime sport and recreation services, beach, and coastal tourism (Bernacki, 2014).

76% of EU exports go by ship and maritime shipping contributes around €147 billion to EU GDP. It is estimated that €1 million in shipping generates €1.6 million in other sectors. The EU owns 40% of the world's ship tonnage – around 23,000 vessels. 60% of the world's container ship tonnage is owned by European companies (BIMCO/ICS, 2021).

As the maritime business is a complex system its resilience depends on a big variety of influencing factors. These factors require the reaction which in the most cases are related with the decision-making process and is directly related with the human behaviour factor. Because of this the resilience of maritime business should be investigated by applying behavioural point of view based on analysis of labour forces. The maritime business labour market is a complex and diverse sector with unique characteristics that distinguish it from other industries (World Maritime University, 2022).

Knowing that maritime labour market is open and highly competitive and has some features that surround other areas is very important to analyse the factors influencing labour supply in shipping and maritime transport sector.

Maritime transport business and the required labour force are specific because their global nature, highly specialisation, cyclicity, strict regulation, technological innovativeness, high demand for the professionals and the ageing staff.

Global in nature. The maritime industry is a truly global industry, with employment opportunities available worldwide. The workforce is composed of people from different cultures, backgrounds, and nationalities, making it a highly diverse and multicultural industry (Hollen et al., 2015)

Highly specialization. The maritime industry requires a highly specialized workforce, with a wide range of skills and expertise. The industry employs a variety of professionals, including seafarers, naval architects, marine engineers, and logistics experts, among others (Akpinar & Didem, 2022).

Cyclic in nature. The maritime industry is highly dependent on global economic conditions and is therefore cyclic in nature. Employment opportunities are affected by economic cycles, with periods of high demand and growth followed by periods of recession and contraction (Asadabadi & Miller-Hooks, 2018).

Technologically advanced: The maritime industry has become increasingly technologically advanced in recent years, with new and innovative technologies being developed to improve efficiency, safety, and sustainability. The workforce must be knowledgeable and skilled in the latest technologies to remain competitive (Bartusevičienė & Valionienė, 2022).

Highly regulated: The maritime industry is subject to strict regulations and standards, which ensure safety and environmental protection. The workforce must be familiar with these regulations and always comply with them (Golzarjannat et al., 2021).

Ageing workforce: The maritime industry has an ageing workforce, with a large percentage of the workforce nearing retirement age. This presents a challenge in terms of ensuring a steady supply of skilled workers to replace those who are retiring.

High demand for skilled workers: The maritime industry is experiencing a shortage of skilled workers in many areas. This is particularly true for seafarers, where there is a growing demand for experienced and well-trained crew members (Senčila & Kalvaitienė, 2018).

In summary, the maritime transport labour market is a unique and complex industry that requires a highly specialized workforce. The industry is subject to global economic conditions and strict regulations and is experiencing a shortage of skilled workers in many areas, broader career opportunities and mobility of maritime professionals, competitive remuneration, and shorter careers of maritime professionals at sea.

1.3. VUCA environment of maritime business labour force

The term VUCA describes the unpredictable and rapidly changing business environment characterized by:
– volatility – the speed, volume and magnitude of changes that occur in the business environment,
– uncertainty – the lack of predictability and the difficulty of making accurate forecasts about future events or outcomes,
– complexity – the interconnectedness and interdependence of various factors in the business environment. The confounding of issues and the chaos that surround any organization,
– ambiguity – the lack of clarity or understanding about a situation or problem (Horney et al., 2010; Meyer, 2016).

The COVID-19 pandemic has significantly disrupted the business environment, creating new challenges for organizations to overcome. Old rules cannot be applied, boundaries around companies are shifting, forming

global networks of complex stakeholder relationships. In addition, the pandemic has highlighted the importance of flexibility and adaptability in the workforce. Many organizations have had to shift quickly to remote work arrangements and adapt their business models to new market conditions (Lengnick-Hall et al., 2011). Based on the findings of Peterson (2021), mostly the VUCA concept is used for a methodological purpose and is dedicated to understanding the difficulties of decision making in business organizations with their business processes which could be considered as a polymorphic. It is important to mention, that maritime business processes have a high level of complexity and polymorphism, so the VUCA methodology for the investigation of decision-making processes could be applied. And the VUCA methodology supposes enough set of tools for the assessment of unpredictability of the external and internal environment, changes in it. It is important instrument because crises and disasters showed the importance of skills for leading employers, who should contribute to functions of visioners and leaders in modern business organizations. Identification, investigation, development and managing of these skills is an important part of management science because it can contribute to the selection of desirables in the interests of not only maritime business (Peterson, 2021). In a VUCA environment, leaders should possess certain traits and skills to be effective. Ones of the key traits is self-awareness, adaptability, strategic thinking, effective communication are all essential for success in a complex VUCA environment. (Xia et al., 2022)

Snowden (2002) indicated the domain, based on the main VUCA conception framework "unknown but knowable" which was built on these arguments: "known knowns", "known unknowns", "unknown unknowns" and "unknowables". These arguments were included into Cynefin framework, which can explain VUCA definition in the ways presented in Figure 1. This framework distinguishes an ordered, stable, so known or knowable decision situations with those that are unordered, unstable, unknowable, or only retrospectively knowable. The classification of context domains establishes the contrast between un-addressable ambiguity or overwhelmed ambiguity and operational things which are stable and known (Alexander et al., 2022). And as it is presented, there can be a flexible interplay between these domains as the contexts will change and this flexibility could be explained by curved lines in the Figure 1.

Structured and ordered domains in decision making are more known and predictable, but the unstructured domains are more relevant to the idea that the new environmental conditions for organizations are more turbulent and unpredictable. And the domain of complexity is related with the mathematical complex adaptive systems, where non-linear dynamical relationships interacting with the multiple influencing factors. So, the importance of leadership and intuition appear in the chaotic contents which directly explain unpredictability of VUCA environment. Based on these findings, the importance of

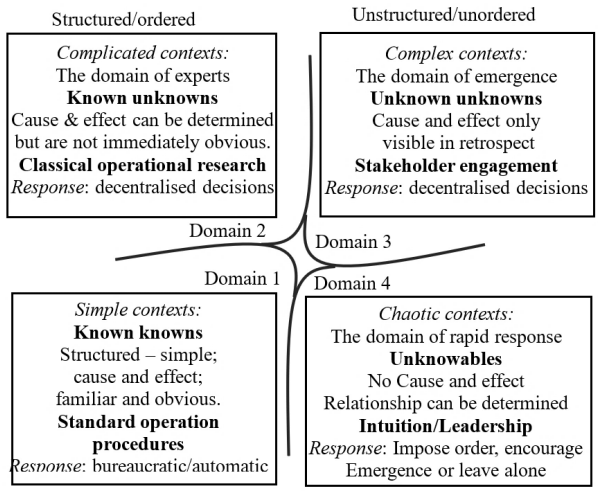

Figure 1. Sense-making meta model known as Cynefin framework (sources: Peterson, 2021; Alexander et al., 2022)

leadership is obvious, so the leadership phenomenon gets an exceptional role for the move forward to the business excellence in VUCA environment (BEVUCA).

Analysis of maritime business conditions found out that the maritime business is strongly dependant on the external environment and all emergencies in the global supply chain can positively or negatively influence the maritime business processes, enable changing of business patterns and moving towards market loss or towards business excellence (Akpinar & Didem, 2022). As it was assumed, the important part of maritime business resilience is reliant on the resilience of labour force also, so the maritime business resilience becomes the complex task in the context of VUCA environment management and decision making in this context. As it is presented in the Figure 2, the resilience of maritime business should be elaborated not only in the context of external VUCA factors, but also the demand of internal VUCA factors could be identified (Akpinar & Didem, 2022).

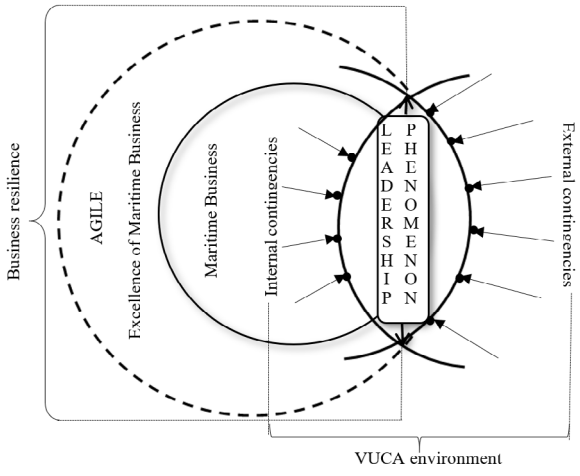

Figure 2. The relationship between maritime VUCA environment, business resilience and business excellence (sources: Valionienė & Plačienė, 2022; Xia et al., 2022).

As a big number of externalities dynamically attacking the organization in non-linear way, the exceptional task for the phenomenon of leadership could be found: how to be resistant to these influences that means the creation of organizational resilience, and also how to fast recover after these influences that means the moving forward business excellence (Asadabadi & Miller-Hooks, 2018). Based on these principles the leaders of maritime business must be self-aware about their strengths and weaknesses as leaders and be adaptable and open to these changes in each moment of business life cycle. They must work collaboratively and be excellent communicators to thrive in a complex VUCA environment and move forward their business towards business excellence. It could be summarized, that leadership phenomenon is the relationship between the maritime business resilience and business excellence and the leadership phenomenon should be detailly analysed for the enhances the resilience of maritime business.

2. Analysis of the agile leadership methodology as the tool for enhancement the organizational resilience of maritime business

2.1. Definition of agile leadership in organizations working in VUCA environment

Agile methodologies are becoming increasingly popular among organizations because they enable them to be more innovative, responsive to customer needs, and efficient in delivering products and services. However, to successfully make the agile shift, organizations must also adopt a new leadership approach.

Leadership is a conception, which is explained in different contexts. Some of these explanations focus on leader traits (Personality Theory), while others focus instead on behaviour (Behaviour Theory), and some focus on actions (Leader-Follower Theory) (Safonov et al., 2018). Traditional leadership practices are outdated and ineffective in an agile work environment (Meyer, 2016). The impact of the traditional classical leadership theories on the modern definitions is still could be found in modern research: the great man theory and the charismatic leadership theory are considered the new manifestation of the Great Man Theory (Safonov et al., 2018).

Duit (2016) indicated that leadership phenomenon is not found solely in the leader role but occurs at the individual, dyadic, group, and organizational levels. To understand the new leadership approach used in an agile environment, it's important to understand the agile team dynamic. Agile teams are collaborative, members work together to deliver value to the customer, and they are responsible for making decisions and solving problems together.

Overall, the new leadership approach used in an agile environment is focused on enabling and empowering the team to be self-organizing and self-directed. Agile leaders prioritize collaboration, communication, and continuous improvement, and they provide guidance and support when needed. By fostering a culture of trust, respect, and innovation, agile leaders help their teams to deliver value to the customer and achieve their goals (Medinilla, 2012; the Agile Manifesto, 2001). Leaders in an agile environment represent the agile concept to their teams and the organization (Popova et al., 2018). They need to be aware of agile values and principles and they need to practise agile agility. It consisted of two interrelated qualities: the ability to learn by acting and the ability to use previous learning and experience for succeed in unfamiliar circumstances (transferable learning). Leaders who have the competence, skills, and confidence in these dynamics are more successful and are more likely to achieve goals of their organizations (Meyer, 2016).

Learning agility is the ability to access and apply lessons learned in one context to another. Agile project management is a methodology that accents flexibility, co-operation, and co-evolution (Fig. 3). It is based on the principles of the Agile Manifesto (2021), which prioritizes individuals and interactions, working software, customer collaboration, and responding to change. In agile project management teams and organizations, there are several leadership approaches that are commonly used to facilitate these principles.

Based on the findings of Joiner and Josephs (2007) agile leaders' development is consisted of evolutionary stages going through different phases such as heroic, achiever, post-heroic, co-creator, and synergist phases. These phases could be described by different types of leadership which are the parts of agile leadership methodology such as: servant, participatory, transformational, situational, collaborative leadership, and agile coaching

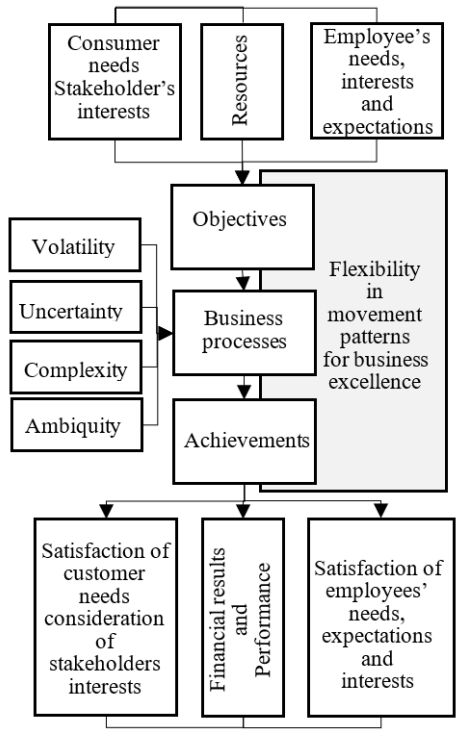

Figure 3. Conceptual model for enterprise management in VUCA conditions (Popova et al., 2018)

(Joiner & Josephs, 2007). Short descriptions of these leaderships' approaches are detailed bellow.

- *Servant Leadership* approach emphasizes the leader's role in serving the team and helping team members achieve their goals. The servant leader focuses on removing obstacles, providing resources, and creating a supportive environment where team members can thrive.
- *Situational Leadership* approach recognizes that different situations require different leadership styles. The leader must adapt their approach to meet the team's needs and the project's requirements. Situational leaders are flexible and responsive to changing circumstances.
- *Transformational Leadership* approach focuses on inspiring and motivating the team to achieve their full potential. The transformational leader provides a vision of the project's goals and inspires team members to work towards them with enthusiasm and dedication.
- *Collaborative Leadership* approach emphasizes teamwork and collaboration, where the leader works with the team to identify problems, develop solutions, and make decisions collectively. Collaborative leaders promote open communication, active listening, and respect for diverse perspectives.
- *Agile Coaching* approach involves a coach who works with the team to improve their agility and adopt agile practices. The coach supports the team in learning new skills, adapting to change, and continuous improvement.

In summary, agile project management teams and organizations benefit from leadership approaches that are flexible, collaborative, supportive, and focused on continuous improvement. Leaders who adopt these approaches help their teams thrive in a fast-paced, dynamic environment where change is the norm, and this environment is called VUCA. So, the agile leadership methodology relies on the VUCA methodology for the moving forward business excellence by solving the tasks of organisational resilience.

2.2. Maritime business resilience enhancement theoretical framework

The maritime business operates in a volatile, uncertain, complex, and ambiguous (VUCA) environment, which requires a resilient strategy to cope with challenges and maintain business continuity. Theoretical modelling can be used to explore the possibilities of enhancing maritime business resilience in a VUCA environment. Here are some key considerations as the risk assessment and management, adaptability and flexibility, collaboration, and cooperation, technology, and innovation, which could be directly related with the maritime business specificities and uncertainties (Hollen et al., 2015).

Risk assessment and management. A theoretical model can help identify potential risks and threats that the maritime business may face and develop strategies to manage them. This may involve conducting a thorough risk assessment of the business and its environment, identifying critical resources, and developing contingency plans to address potential disruptions.

Adaptability and flexibility mean the ability to adapt and adjust to changing circumstances and these both characteristics are critical for resilience enhancement in a VUCA environment (Grainger & Achuthan, 2014). Theoretical modelling can explore how the maritime business can become more agile and responsive to changes, by identifying key decision points and developing scenarios to test different strategies (Meyer, 2016).

Collaboration and cooperation could be described by building strong partnerships and collaborations with other stakeholders can enhance the maritime business' resilience by providing access to resources, expertise, and support in times of crisis (Xia et al., 2022). Theoretical modelling can explore the potential benefits and drawbacks of different partnership models and identify strategies for building effective collaborations.

Technology and innovation: leveraging technology and innovation can help the maritime business become more resilient by increasing efficiency, reducing costs, and improving safety and security. Theoretical modelling can explore how emerging technologies such as automation, artificial intelligence, and blockchain can be used to enhance resilience in the maritime industry.

Training and education: developing a resilient workforce is essential for ensuring the maritime business can adapt and respond to challenges. Theoretical modelling can explore different training and education programs that can enhance resilience through improving employees' skills and knowledge, and help the business build a culture of resilience.

Overall, theoretical modelling can be a valuable tool for exploring and testing different strategies for enhancing maritime business resilience in a VUCA environment. By identifying key factors and developing scenarios, theoretical modelling can help develop effective resilience strategies in the maritime business and these strategies can withstand disruption and uncertainty (Grainger & Achuthan, 2014). But for the development the flexible reactions and organizational behaviour it is important to explain main difficulties and uncertainties which could be found in the maritime business environment (Fig. 4).

Detail analysis of possible seaport disruptions found out that different uncertain situations can make influence on the maritime business processes related with the port activities (Nguyen et al., 2021). Even vessel collisions in the ports and channels far away from geographical location of business process they could damage the general business conditions because the globalisation of supply chain created a hugely complex network of maritime business units working together for effective supplies (Valionienė & Plačienė, 2022). And the newest research on seaport and maritime business models and maritime business resilience (Hollen et al., 2015; Massa et al., 2017; Asadabadi & Miller-Hooks, 2018; Golzarjannat et al., 2021) found

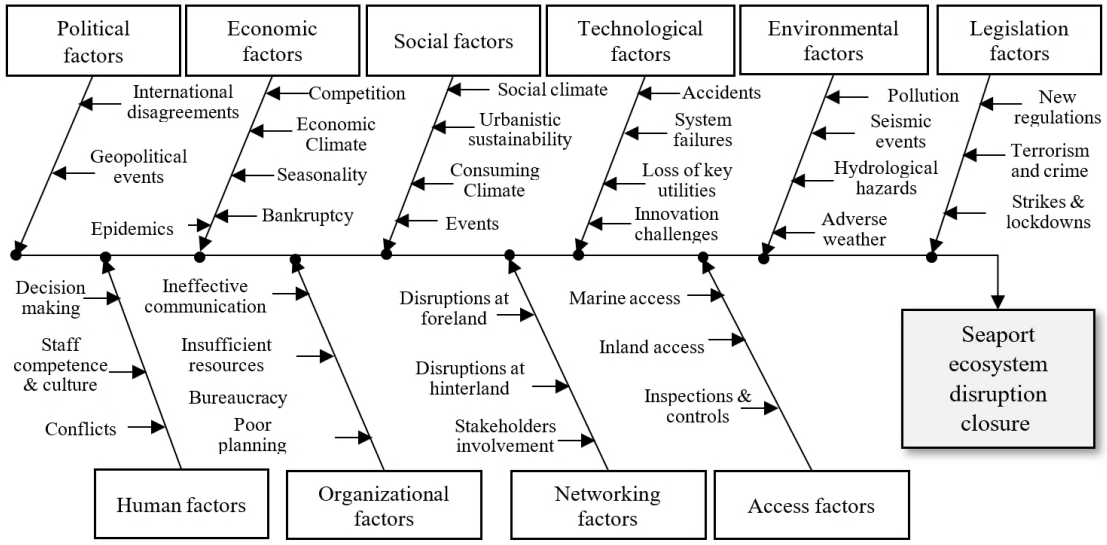

Figure 4. Seaport threats illustrating the maritime business' resilience enhancement framework multi-layered structure (source: Grainger & Achuthan, 2014; Valionienė & Plačienė, 2022)

out that some critical points of interconnections of maritime business with the environment can't be minimized only by the governance models and patterns. And based on these reasons the additional managerial interventions should be applied for the creation of organizational and inter-networking resistance to these factors' dependant on their nature (Fig. 4). Based on these assumptions the maritime business' resilience could be visualised through key performance parameters and resilience could be enhanced not only in the relationship with the contingency in the external environment, but also it should include important internal emergent parameters as it is presented: external threats are political, economic social, technological environmental and legislator factors divided into the sub-groups, and internal treats are human, organizations, networking and access factors also divided into the sub-groups. All these disruptions can stem from a variety of factors: some are foreseeable, many are accidental, and others are unanticipated.

It is natural that maritime transportation is dependent on the weather conditions, but additional natural dangers to maritime business related with the port exists under the umbrella of multifaceted consequences of climate change, the biggest part of which are uncertain and difficult to quantify (Hollen et al., 2015). But, for example the human factors on the domain of decision making inside the organization also could influence not only internal accidents, but also external accidents and the level of contingency here is very high. These interdependencies including direct and indirect relationships between factors make the task more complicated for the solve the resilience enhancement questions. And it is obvious that implemented management patterns including applied management systems and practices cannot enhance the resistance to these threats, but the additional tools in the kind of managerial interventions based on the methodology of Agile leadership could be applied even they are more related with the specific field of threats and their contingency level even if they are more adopted for the field of human resources management. Based on these theoretical findings it could be said that agile leadership and its methodology create possibilities to construct the framework for the organizational resilience enhancement in the maritime business.

As a first step towards this framework (Fig. 5), it is needed to define the resilience process. For this purpose, it has referred to process-oriented research that focuses on "the dynamic nature of resilience as an interaction between the organization and the environment" was built on (Bain & van Eeten, 2013; Duit, 2016; Massa et al., 2017). From this perspective, resilience means to effectively respond to adverse events, not only after adverse events, but before, during, and after as well (Ortiz-de-Mandojana & Pratima, 2016; Safonov et al., 2018). Resilient organisations react not only to the past with reactive actions or to current events and situations with concurrent actions (Fig. 5), but also with forward-looking anticipatory actions. (Bain & van Eeten, 2013). This resilience framework is in line with similar approaches in the crisis management literature (Boin et al., 2005; Xia et al., 2022).

Building on this process perspective, it could be identified organizational capabilities that underlie the three stages of the resilience process and together form organizational resilience. As it is seen in Figure 5, the organizational resilience could be seen as a meta-capability, composed of a set of organisational capabilities and/or procedures that enable the successful implementation of the three phases of resilience, such as anticipation, coping and adaptation (Joiner & Josephs, 2007). Such concentration on resilience capabilities provides a better understanding of the nature and development of an organization's resilience capacity. An organisation's resilience potential progresses over time and is built up by overcoming threatening situations and unexpected events.

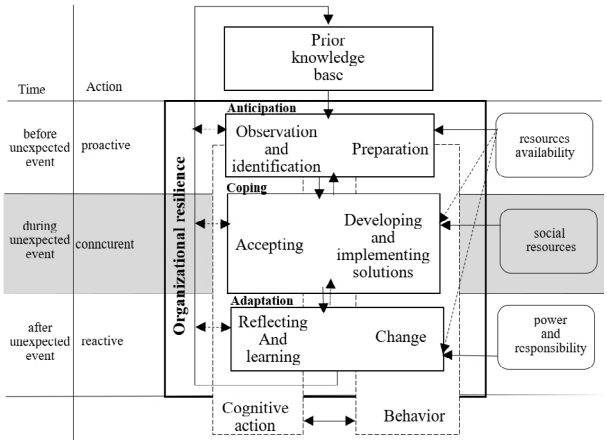

Figure 5. Conceptual model of organizational resilience adopted for maritime business conditions (sources: Joiner & Josephs, 2007; Bain & van Eeten, 2013)

It should be mentioned that a combination of capabilities of all three stages (identification, accepting, and learning) can lead the organizational resilience. Organizations must have proactive capabilities for resilience potency and reactive capabilities for resilience implementation. This means that resilience is a fundamental organizational ability that is directed toward organizational advancement through the agile leadership methodology implementation.

Conclusions

1. Theoretical definition of maritime business resilience in VUCA environment helps managers to establish the possible organizational resilience factors which are unpredictable and chaotically. As the maritime business is the global in its nature, its specificity of functional activities and dependency on human resources, it requires detail analysis of resilience and responsiveness factors. Investigation of uncertainties found out, that maritime business is strongly dependent on the main possible disruptions of ports so the VUCA analysis could be based on the concentration of reactions, responsiveness to these VUCA environment factors. Analysis of all these factors found out that the agile leadership methodology could be not only an umbrella ensuring the continuity of maritime business but also as the tool for the creation of maritime business excellence.
2. Agile teams are collaborative, leaders prioritize collaboration, communication, and continuous improvement, and they provide guidance and support. By fostering a culture of trust, respect, and innovation, agile leaders help their teams to deliver value to the customer and achieve their goals. Maritime business projects that require working in cross-functional and cross- cultural teams rely on servant leadership to be creative and agile. Traditional project management is more structured, with leaders relying on planning and control functions to implement projects. When projects are more complex, and change is more frequent, more innovation is needed, and business processes become more chaotical and the business pattern starts to work as adaptive complex system. This requires leaders can adapt their leadership style including their education and intuition for the specific needs of a business process to ensure its resilience in VUCA environment. Flexibility is the most effective way to ensure the creativity parameters which is needed for project content, while a project implementation needs more structure. Because of that leaders need to be able to change their leadership style, to adapt to different project conditions according to every change of project implementation conditions.
3. The maritime business resilience as part of international business is strongly dependant on human behaviour and decision-making, so the maritime labour force requires attention to deeper analysis. Maritime transport labour market is a unique and complex industry that requires a highly specialized workforce. The main characteristics are internationalisation of the labour market, high dependence on the national and global economy, a more contractual organisation of work, high requirements for the qualification of maritime professionals and its legal regulation, broader career opportunities and mobility of maritime professionals, competitive remuneration, and shorter careers of maritime professionals at sea.

Based on the conceptions of organizational resilience, maritime business dependence on the disruption of seaports in VUCA conditions, agile leadership methodology for business excellence, a theoretical model has been developed. It identified general maritime business resilience factors and critical success factors to enhance the resilience and to manage business excellence under a high VUCA business environment in maritime business.

This theoretical model will be applied in future maritime business research and the essential role of leadership in the development of an organization's ability to deal with unexpected and threatening situations will be clarified. Also, this model could be applied for the assessment of leadership influence on the formation of the organizational knowledge, structure, and culture, which are the important tools for the organizational resilience development through the maritime business project activities. It also seems it would be useful to differentiate between different levels of analysis, e.g., determinants on the individual, group, and organizational levels in maritime business. As the theoretical model shows at least three groups of parameters will be analysed during the parametrization task, the relationship between them will be looking for strength of influence and possibilities to manage relationships in the continuity of this research. It is expected that parallelly to qualitative research methodology the multicriterial decision making method and structural equation modelling methodology will be applied for these purposes, also complex methodology will be developed by using this theoretical model.

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