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The impact of applying smart ports requirements on the competitiveness of Aden container terminal

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Introduction



Container terminals are the most integral link in the maritime transport process because containers reduce the delay time of the cargo handling process and provide distinct services which lead to maximizing the role of ports in distributing, importing, and exporting the goods. Strengthening the role of ports and increasing their competitiveness has become a necessity to keep pace with the rapid changes in the economic and technological aspects as the ports focused on improving their business environment, understanding customer requirements, and developing strategic plans that enable them to provide distinct services from other competitors through continuous improvement of production requirements, increasing the flexibility in dealing with customers and to develop modern technology to provide integrated logistical services



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Authors	Research aims, conclusions and recommendations
<p>EL-SAKTY, 2016</p>	<p>The main purpose of this study is to develop a smart logistical plan for the future. This research also aimed to address the problems in the logistical plan for the future of the smart ports, this requires discussing those criteria that affect the transformation of seaports to be smart in the future in return for addressing the challenges and obstacles facing smart ports and adding Vision 2050 to highlight the required plan for both authorities and stakeholders.</p>
<p>ALYWA AND ABU LAZM, 2016</p>	<p>the use of smart applications is not sufficient to transform a port into a smart port. But other elements must be available in the port, as well as the IT needs financial appropriations throughout the port, which needs to study the economic and financial feasibility, and analyze the benefits/cost to ensure the provision of funding sources that can be provided by the private sector. Information technology applications need to develop the human element tools while continuing to qualify it to deal with technology development, and also the IT has a significant impact on all indicators of the tools which are reflected at the national level.</p>
<p>BORESH, 2017</p>	<p>aimed to highlight the relationship between operations and the use of modern technology in management as, it is observed from the experiences of many ports that the use of electronic applications will contribute to the improving of the port's performance, and exploiting the best resources available in the port.</p>
<p>LEONARD ET AL., 2017</p>	<p>dealt with the importance of digital transformation and the impact on the maritime transport industry where, ports and logistics are part of the supply chain in the maritime transport industry and are greatly affected by these technological changes due to, an increase in logistics services requests such as the increase of costs, efficiency, security and sustainability.</p>
<p>QARDASH ET AL., (2021)</p>	<p>aims to study and analyze the causes of the decline in the competitiveness of Aden container terminal and identify the shortcomings and weaknesses during the period from 2015 to 2020, to propose a framework that would contribute to enhancing the competitiveness of Aden container terminal compared to similar container terminals located in the western Arabian Sea region Gulf of Aden and the Red Sea. The competitiveness of Aden container terminal was analyzed through using SWOT analysis matrix</p>

Gap analysis and contribution



Previous studies focused on the necessity of having strategic plans, and studies enhancing the role of human resources, improving management, using the specialized private sector, and working in a partnership aimed to improve the quality of services and facilities of the Aden Port. The previous studies were also distinguished by their limitations and timeliness because of the constant revolutions and the constant internal conflicts, which led to the lack of interest of the concerned authorities in developing and raising the competitiveness of the Aden container Terminal.

The conflict in Yemen has displaced more than one million people and given rise to cholera outbreaks, medicine shortages, and threats of famine. The United Nations calls the humanitarian crisis in Yemen “the worst in the world.”. All these lead to the result that very few scientific papers discussing the competitiveness of the Aden container terminal due to the negative effect on Yemeni ports generally and the Port of Aden especially.



RESEARCH METHODOLOGY



This research follows the **descriptive and analytical approach**.

To achieve the research aim; an electronic questionnaire form was conducted to reach the requirements of applying the modern technology using **SPSS** analysis to extract conclusion and recommendation.



Empirical analysis



CRONBACH ALPHA ANALYSIS

0.835	The general direction of the management of the Aden container terminal
0.826	The impact of implementing the concept of smart ports on meeting the needs of customers in Aden container terminal
0.721	The impact of applying the concept of smart ports in Aden container terminal on sustainable development
0.827	The impact of implementing the concept of the smart port on the marketing aspect of Aden container terminal
0.833	The impact of implementing the concept of smart ports of Aden container terminal on the economic side



Empirical analysis



When analyzing the years of experience, it becomes clear that the percentage of the categories of less than five years concerning the years of experience was **25%**, the percentage of the categories from five to ten years concerning the years of experience was **15%**, the percentage of the categories from ten years to fifteen years concerning the years of experience was **15 %**, The percentage of the categories from fifteen years to twenty years concerning the years of experience was 25%, the percentage of the categories of more than twenty years concerning the years of experience was **20%**.



Empirical analysis



As revealed from the analysis of the impact of applying the concept of the smart port on the marketing side,

- The percentage of respondents who strongly agree to the first question is 77.19%, while the percentage of respondents who do not agree is 1.32%.
- The percentage of respondents who strongly agree with the second question is 78.51%, while the percentage of respondents who do not agree is 0.88%.
- The percentage of respondents who strongly agree with the third question is 80.70%, while the percentage of respondents who do not agree is 0.88%.
- The percentage of respondents who strongly agree with the fourth question is 79.82%, while the percentage of respondents who do not agree is 1.32%.
- The percentage of respondents who strongly agree with the fifth question is 79.82%, while the percentage of respondents who do not agree is 0.88%.
- The percentage of respondents who strongly agree with the sixth and last question is 84.21%, while the percentage of respondents who do not agree is 1.32%.



Empirical analysis



The analysis of the concept of smart ports on the economic side revealed that

- The percentage of respondents who strongly agree with the question is 75.44%, while the percentage of respondents who do not agree is 1.32%.
- The percentage of respondents who strongly agree with the second question is 74.56%, while the percentage of respondents who do not agree is 0.88%.
- The percentage of respondents who strongly agree with the third question is 77.63%, while the percentage of respondents who do not agree 2 reached 0.88%.
- The percentage of respondents who strongly agree with the fourth question is 80.26%, while the percentage of respondents who do not agree is 0.88%.
- The percentage of respondents who strongly agree with the fifth question is 80.26%, while the percentage of respondents who do not agree is 0.88%.
- The percentage of respondents who strongly agree with the sixth and last question is 78.07%, while the percentage of respondents who do not agree is 1.32%.



CONCLUSION



When analyzing the general trend of the port administration toward applying smart port concept we found that it takes the first value according to Cronbach alpha analysis, but the impact of applying the concept of smart ports in the Aden container terminal on sustainable development takes the least value



Recommendation



Aden container terminal management should develop the port executing expansion projects in the storage area of the container terminal supplying the terminal with advanced and high-tech equipment capable of serving giant container ships and thus raising handling rates, global marketing of container terminal services giving intensive training and qualification courses for local workers to reach their place in which they will be able to operate and market the activities of the container terminal in a regionally competitive manner necessity to search for funding for the port’s development projects, the first and most important of which is the deepening and expansion of the shipping channel which has become one of the obstacles and the most prominent of which is to receive giant ships for the container terminal in the Aden port. For further research, it should analyze the impact of participating private sector.





Thank you