THE MARITIME INDUSTRY IN DEEP 'DIGITAL' WATERS

PREPARED AND PRESENTED BY

WORKEARLY BUSINESS

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INTRODUCTION

The era of chit-chatting in Loyd's coffee houses and literally listing vessels and their cargoes arriving at the Pool of London has long been gone. This first age of maritime Data Analytics, marked by the publication of Lloyd's List in 1734, shows that Data Analytics goes well back in time.

Today, however, Big Data is so much more than that: it is the ultimate game changer in the maritime and shipping industries.

The numbers say it all. The deal flow of investments in digital technologies increased by 85% in 2021, while by the end of 2022, the adoption of digital technology in the maritime sector will be three years ahead of previous estimates.

The COVID-19 crisis has acted as a catalyst. The average daily data consumption per vessel increased from 3.4 to 9.8 GB between January 2020 and March 2021. Digitization gained momentum. The rapid acceleration of companies' digital transformation is not slowing down, as data show. PwC's 2021 annual CEO survey found that nearly half of CEOs plan to significantly increase their rate of digital investment (by 10% or more) over the next three years as a result of the pandemic.

The creation of a skilled, educated and adaptable workforce is at the top of CEOs' list, according to PwC's survey. The key to boost their organisation's competitiveness is to further digital investments in the workforce; 36% aim to focus on productivity through technology and automation, which is more than double the share of CEOs who said the same in 2016.

Technology has always gone forward, and ships have always slowly adapted, but the pace of global digital transformation is now so fast that shipping companies not investing in Big Data are in danger of being left behind by competitors.

THREATS FOR THE MARITIME INDUSTRY

Recent surveys by Baltic Exchange and PwC reveal the biggest threats the maritime industry is facing today:

- Incomplete or incoherent data leading to inaccurate industry perceptions and reputational damage
- Exposure to global economic slowdowns
- Increasingly stringent regulatory environments
- Cyber threats

Data security and privacy have always been pressing issues, but they nowadays seem more crucial than ever before. 47% of CEOs participating in the 2021 annual survey of PwC said they were concerned about cyber threats when it came to their organization's growth prospects. According to Cybercrime Magazine, the security skill gap, caused by a lack of education and training opportunities, is constantly growing and will reach 3.5 million unfilled cybersecurity positions by 2021.

2 out of 3
vessels were behind schedule in September 2021

47%
CEOs concerned about cyber threats

3.5 million
unfilled cybersecurity positions by 2021

SPREADSHEETS DON'T WORK ANYMORE

For decades, spreadsheets have dominated data analysis in maritime and shipping. Business analysts have been using "data" to examine, for example, the fuel efficiency of a fleet of ships and recommend plans of action. But there is a practical limit to that. Spreadsheets don't go over about 1 million rows, which is a lot of data indeed, but it is not "big data".

Big data platforms can aggregate, save and analyze petabytes of data at once. But how big is a petabyte? To put it in perspective, 1 petabyte of storage space could hold 11,000 4k movies. With an average run time of 2 hours, it would take over 2.5 years of nonstop binge watching to get through a petabyte's worth of 4k movies.

There is no longer any technical hurdle in mass data aggegation, storage and analysis. Why aggregate and analyze the fuel data of a few ships when it is technically possible to analyze the fuel data of more than 50,000 ships in the global commercial fleet?

"WE HAVE NOW MOVED FAR BEYOND THE AGE OF SPREADSHEETS."

LET THE NUMBERS SPEAK

85% increase in the deal flow of investments in digital technologies in 2021

70% of organizations investing in data fluency upskilling efforts are reporting positive business impacts that exceed initial investment in upskilling

9,8 GB was the average daily consumption per vessel in March 2021, from 3,4 GB in January 2020

3 years ahead of previous estimates will digital technology be adopted in the maritime industry by the end of 2022

4 WAYS DATA ANALYTICS REVOLUTIONIZES THE MARITIME INDUSTRY

01.Time efficiency and cost savings to a maximum.

03. Welcome customization.

02. Predictive analysis is the new hotshot.

04. Bold answer to climate crisis.

01. TIME EFFICIENCY AND COST SAVINGS TO A MAXIMUM

It's not just about how much data can be processed. The other major big data breakthrough is the ability to process and make use of "unstructured data". This could be anything from text to photos, video or even audio.

As described in Thetius blog, instead of just adding numbers to a spreadsheet it's now possible to take those fuel numbers, a video of the ship's last pilotage, the VDR recording from the ship's bridge, and all of the email correspondence between the ship and the office and discover how to plan the next shipments more efficiently.

Previously, with spreadsheets, any data had to be placed in columns and rows before it could be analyzed by computers. Today, digital technology has moved on to the point where you can throw "unstructured data" into the system and it will figure out what it all means, easily arrange it in a way that's useful and offer you some helpful analysis.

02. PREDICTIVE ANALYSIS IS THE NEW HOTSHOT

Predictive analysis can be defined as using data, statistical algorithms and machine learning to determine the likelihood of future events and outcomes. Until recently, records were mostly kept for short-term transaction history or for autopsy in the event of any incident. Modern analysis methods now allow us to use this data to predict and provide information to improve the system and prevent future disruptions.

Through predictive analysis, it has become easier for the decision-makers in the industry to enhance operations both off-shore and on-shore. Right from maintenance, to predicting the weather conditions at the sea, to achieve the post-optimization, analysis of historical and real-time data is playing a cardinal role in increasing operational and cost efficiency.

03. WELCOME CUSTOMIZATION

Depending on the specific needs of any port or shipping company, data analytics brings tailor-made solutions, that improve overall shipping operations, strengthen ship safety and respect the environment.

04. BOLD ANSWER TO CLIMATE CRISIS

The adoption of legislation that sets limits on greenhouse gas emissions requires reducing the energy consumption of water transport. This can be achieved through measures such as the use of cleaner fuels, for example LNG, the electrification of ships, renewable energies and fuel cells.

Monitoring of ship emissions to comply with regulatory requirements is now simplified through data analytics. Extreme weather conditions and melting polar ice caps wil require more durable ships and offshore structure.

Big data analysis offers precise answers to demanding climate questions.

UPSKILLING, THE MOST URGENT PRIORITY

The lack of big data-skilled workforce is nowadays the biggest challenge companies in maritime and shipping need to overcome. Ensuring enough quantity and quality of human resources is pivotal in developing the use of big data solutions.

Many organizations have already recognized the need to address their data fluency skill gaps. A McKinsey survey of over a thousand businesses from various industries found that the most pressing skill gap to be addressed was data analytics. 43% of respondents mentioned it as the most urgent priority when it comes to upskilling.

Investing in data fluency upskilling is paying off. 70% of organizations that invested in upskilling efforts are reporting positive business impacts that exceed the initial investment in upskilling, according to another McKinsey survey.

In specific, 48% of organizations have reported moderate to significant positive effects on bottom-line growth due to upskilling—and 73% of organizations have reported moderate to substantial improvements in employee satisfaction.
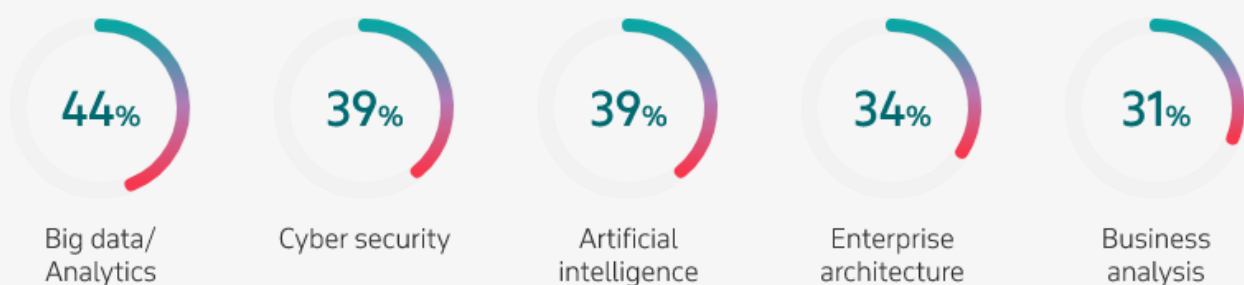
The pandemic has escalated asymmetries among individuals, companies and countries, and has raised the issue of how we can recouple social and economic progress. Aiming to create more inclusive and sustainable economies and societies that encourage people to deepen connections between humanity and the economic marketplace, companies need, now more than ever, to upskill their employess to enable their full participation in the workforce.

WHY CUSTOMIZED TRAINING IS THE ANSWER

Unlike traditional learning & development initiatives that often take the shape of one-off training for specific skills, a role-based learning experience is more effective at scaling data fluency training programs. Every individual has a different relationship with data and needs to obtain competencies in different tools, and enhance different skills to thrive in the digital age.

The level of interaction individuals may have with data will shape learning journeys accordingly. For example, a data analyst who consistently works with Excel may need to learn R or Python to advance in their job, while a manager may only need to know how to make the best out of data to reach effective decisions. In short, there is no one-size-fits-all solution when it comes to data learning.

Top 5 most scarce skills

44%	39%	39%	34%	31%
Big data/ Analytics	Cyber security	Artificial intelligence	Enterprise architecture	Business analysis

Data source: The Harvey Nash/KPMG CIO Survey—The charts, 2019

THE WAY FORWARD

The COVID-19 crisis is bringing major challenges to supply chain, logistics, shipping and maritime traffic. To shine and thrive, you need to take the right steps towards tailor-made digital transformation.

The revolution brought by data analytics and the IoT is often compared to how Internet transformed the world around us more than 20 years ago.

Adapt in the dynamic landscape of data analytics and digital transformation is an one-way street for companies in the shipping and maritime sector wishing not to be left behind competition.

In Workearly Business, shaping customized digital transformation plans is our expertise.

"YOU 'VE GOT TO STAY AHEAD IN THE GAME TO BE ABLE TO STAY IN IT."

ABOUT

OUR STORY

Reatcode is an IT consulting & Training company with a presence in the US & Europe. Our team is composed of passionate IT professionals & consultants highly experienced in various industries. We provide various services including IT Consulting, Business Coaching, Leadership Coaching, and Corporate Training.

WHY WORKEARLY BUSINESS

Redefining the way to train your people

Our team, which consists of a large network of experienced Software Engineers, Project Managers, Data Analysts, HR Professionals, and partners around the world, created Workearly Business to fill the large gap in the provision of personalized training and guidance according to the actual market requirements. Our specialists, create personalized and targeted training plans in order to help our clients build high-performing teams.

The era of customization is here. The new way of doing things.

Department & Employee Skills Evaluation

Defining group & individual needs for planning accordingly.

Goal / Task-based Training

Break educational flow into goals, with task-based flows and project management tools. Continuous interaction

Continuous Evaluation & Progress Metrics

Evaluation on each section, Assignments, Performance Reviews, and Progress Metrics per employee & department.

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