

Big Data Management in the Shipping Industry: Examining Strengths Vs Weaknesses and Highlighting Relevant Business Opportunities

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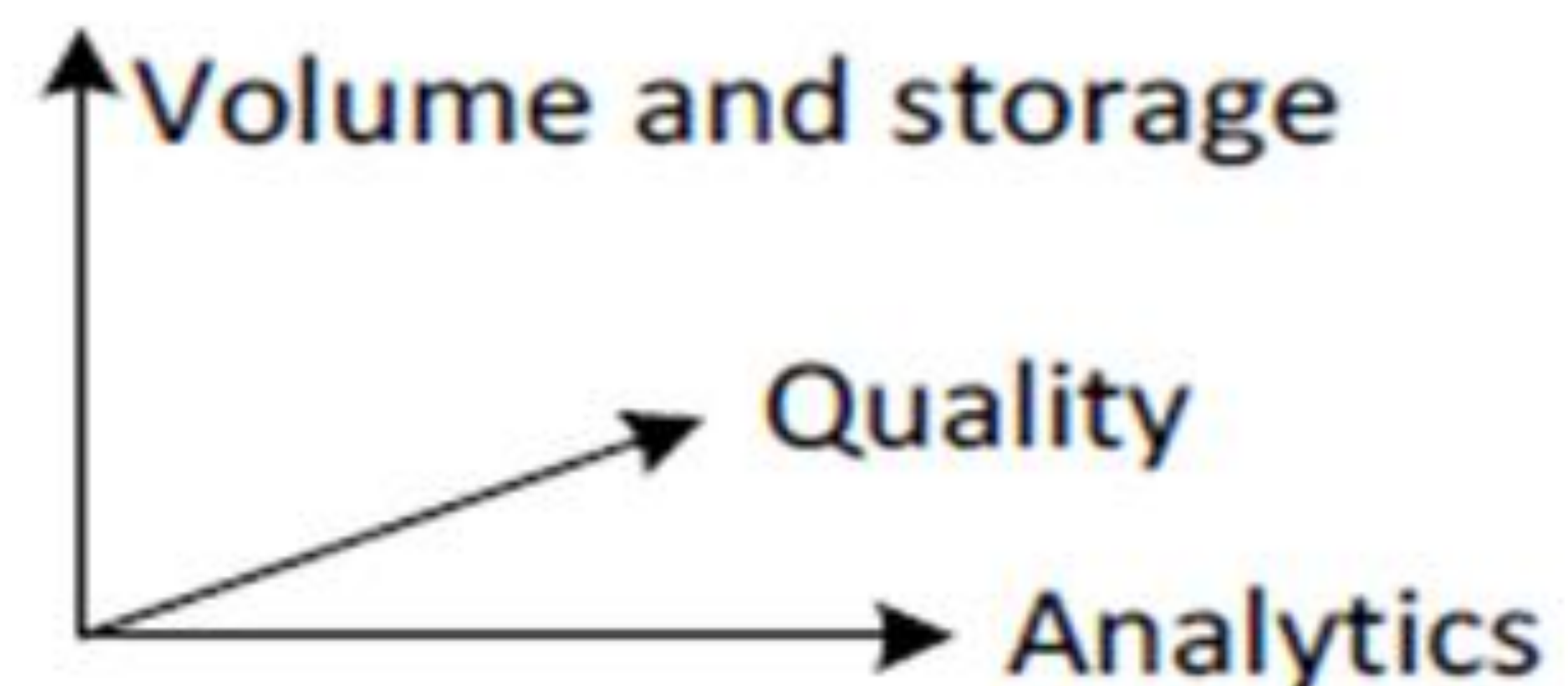
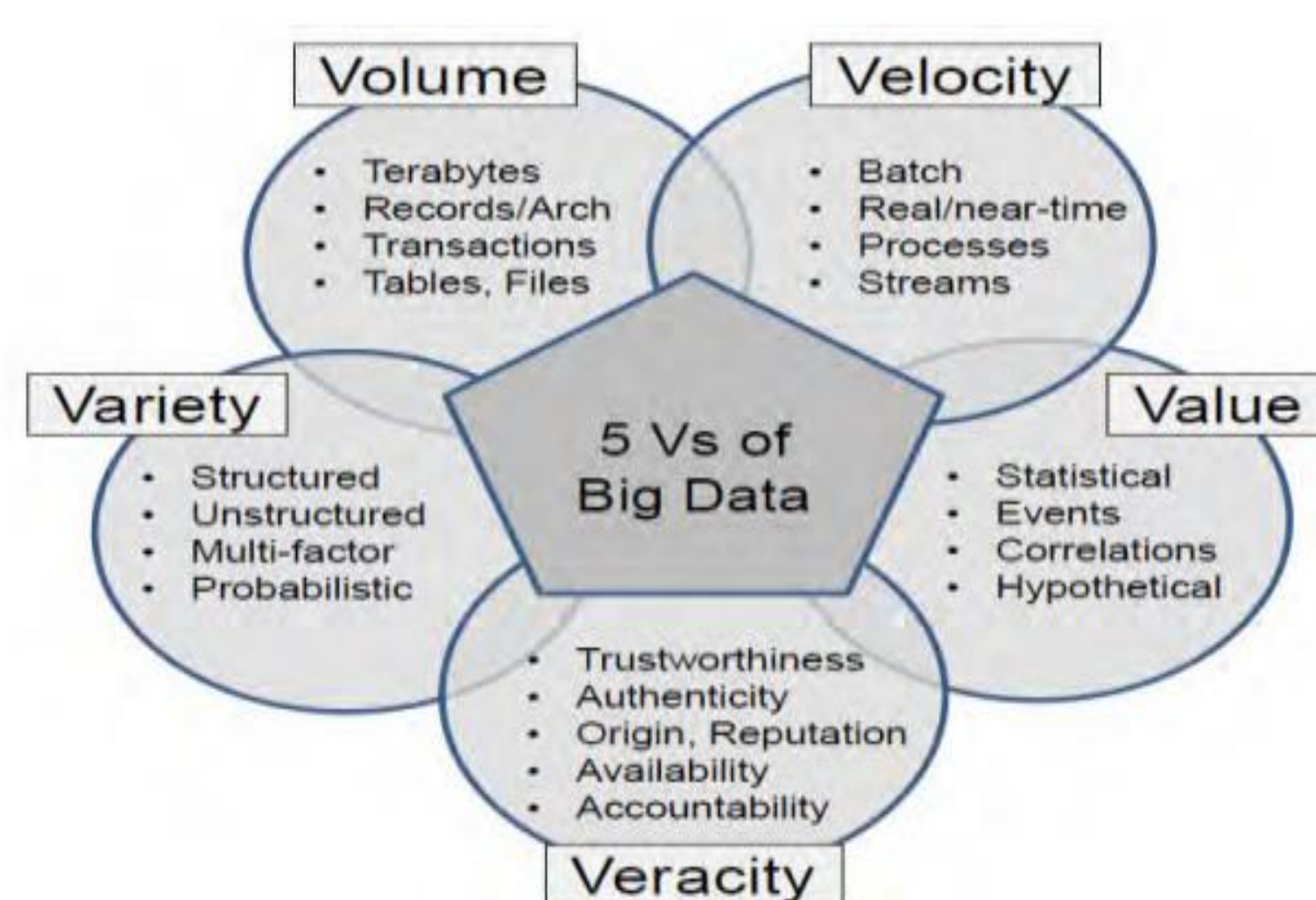
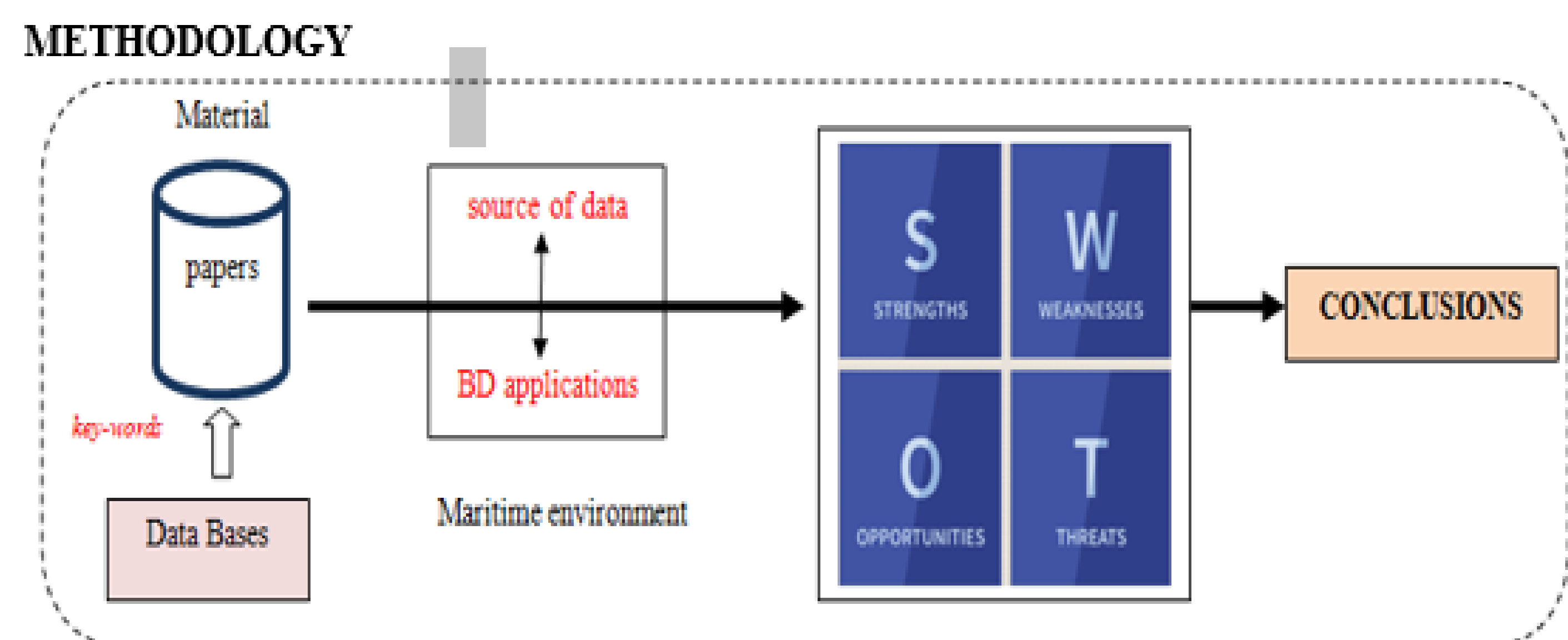
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AIM – to clearly highlight the fact that Big Data Analytics have the potential to create a very positive impact upon the shipping industry

- Modern business environment in shipping
- Big data / big data analytics
- Trends & challenges of Big Data in Shipping
- Review & SWOT Analysis
- Data Driven Culture”
- “smart shipping”
- Safe & Green shipping



RESULTS

INTERNAL ENVIRONMENT	EXTERNAL ENVIRONMENT
<p>Strengths</p> <p>Data Quality Consistency Data Reliability Data Availability Data Confidentially Data Set Scalability</p> <p>(Romijn, 2014; Saxena, 2016; Chen et al., 2014a; Chen et al., 2014b; Ishwarappa and Anuradha, 2015; Rodseth et al., 2016)</p>	<p>Opportunities</p> <p>Data protection Business Model Human Factors and Practice AI using (machine & deep learning) IoT application Energy Management Environmental legislation monitoring Performance management Autonomous ship</p> <p>(IMO, 2009 and 2014; ISO 2015a, 2015b; IEC, 2015; Rodseth et al., 2016)</p>
<p>Weakness</p> <p>Data management Data transfer Accidents (from IT errors)</p> <p>(Al-Sai and Abualigah, 2017; Boyd and Crawford, 2012; Manyika et al., 2011; Braun, 2015; Al Nuaimi et al., 2015; Malik, 2013; Goyal et al., 2020; IMO, 2009 and 2014; Rodseth et al., 2016)</p>	<p>Threats</p> <p>Hackers / cybersecurity Data ownership Ethics issues (decision making from autonomous shipping or smart shipping)</p> <p>(IMO, 2009 and 2014; ISO 2015a, 2015b; IEC, 2015; Rodseth et al., 2016)</p>

CONCLUSIONS - the exploitation of Big Data and the role of certain software applications in accessing and managing this large volume of information are key factors for improving/optimising the conduct of ship operations and management; establishment of a “Data Driven Culture” within a shipping company can clearly improve the current business model and at the same time promote sustainability.