

**SKILLS FRAMEWORK FOR SEA TRANSPORT
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Data Analytics and Information Technology Management					
TSC	Data Mining and Modelling					
TSC Description	Establish and deploy data modelling techniques to support narrative and predictive analytics efforts and identify trends and patterns for simulation and forecasting purposes					
TSC Proficiency	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		STP-DAT-2003-1.1-1	STP-DAT-3003-1.1	STP-DAT-4003-1.1		
		Prepare data sets for analysis and conduct data explorations and correlation analysis	Address potential data quality issues, conduct narrative analytics and deep-dive analysis to identify patterns and trends	Build leading practices in safeguarding data accuracy, cleanliness and integrity, review and propose appropriate analytics models		
Knowledge		<ul style="list-style-type: none"> Objectives of data-mining and modelling Data-mining and modelling processes and systems Methods of data-mining and modelling Statistical software and data modelling methodologies 	<ul style="list-style-type: none"> Various uses of data-mining Data modelling tools and techniques Data collection methodologies and approaches Data confidentiality issues associated with presenting statistical results Business objectives 	<ul style="list-style-type: none"> Methods to validate data and information Types of statistical methodologies to make inferences Key metrics to drive desired outcomes Statistical software suitable for data-mining requirements Organisations business problems 		
Abilities		<ul style="list-style-type: none"> Enforce procedures to safeguard data accuracy, cleanliness and integrity Develop data sets from raw data Prepare data sets for analysis, simulation and forecasting Perform data exploration and correlation analysis Identify first level patterns and trends in datasets Prepare reports detailing insights generated from 	<ul style="list-style-type: none"> Develop guidelines to safeguard data accuracy, cleanliness and integrity Identify data quality issues Perform narrative analytics based on data sets Conduct deep-dive analysis to identify patterns and trends in data sets Propose or construct appropriate analytics models based on train and test analysis 	<ul style="list-style-type: none"> Establish leading practices in safe guarding data accuracy, cleanliness and integrity Provide guidance on resolution of data quality issues Review appropriate analytics models based on relationships between variables Propose appropriate business scenarios for the conduct of preliminary simulation and forecasting analytics 		

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		data explorations and correlation analysis				
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