

**SKILLS FRAMEWORK FOR LANDSCAPE  
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE**

<b>TSC Category</b>	Analysis					
<b>TSC</b>	Data Analysis and Interpretation					
<b>TSC Description</b>	Extract meaningful patterns and insights from data to improve organisational performance and decision-making					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
		<b>LNS-DAT-2017-1.1</b>	<b>LNS-DAT-3017-1.1</b>	<b>LNS-DAT-4017-1.1</b>	<b>LNS-DAT-5017-1.1</b>	
		Apply data cleaning techniques and coordinate with stakeholders to determine the data required for analysis	Execute data manipulation and data mining techniques to look for connections and structures between data variables	Uncover new insights and patterns in data to advise stakeholders on issues pertaining to design solutions	Construct strategies to enhance organisational competitive advantages, based on insights derived from data	
<b>Knowledge</b>		<ul style="list-style-type: none"> <li>Types of data</li> <li>Stages of data analysis</li> <li>Data design documentation</li> <li>Data cleaning techniques</li> <li>Data terminologies</li> </ul>	<ul style="list-style-type: none"> <li>Types of data</li> <li>Stages of data analysis</li> <li>Data design documentation</li> <li>Data cleaning techniques</li> <li>Data terminologies</li> <li>Scales of measurement</li> <li>Tools to support data analysis</li> <li>Frameworks for qualitative and quantitative analysis</li> <li>Statistical analysis</li> <li>Data mining techniques</li> </ul>	<ul style="list-style-type: none"> <li>Types and uses of data</li> <li>Phases of logical data modelling</li> <li>Data design documentation</li> <li>Scales of measurement</li> <li>Tools to support data analysis</li> <li>Frameworks for qualitative and quantitative analysis</li> <li>Statistical analysis</li> <li>Data mining techniques</li> <li>Problems associated with data interpretation</li> <li>Hypotheses testing methods</li> </ul>	<ul style="list-style-type: none"> <li>Theories of data science</li> <li>Theories of data model design</li> <li>Theories of data governance</li> <li>Evaluation of design solutions</li> <li>Models of interpretable machine learning</li> <li>Trends of data analytics</li> <li>Organisational strategies</li> </ul>	
<b>Abilities</b>		<ul style="list-style-type: none"> <li>Identify information requirements for data analysis</li> <li>Check data for completeness and accuracy</li> <li>Remove data that are incomplete or do not make sense to analyse</li> <li>Identify limitations and drawbacks of data sets and sample sizes</li> <li>Liaise with stakeholders' to understand their data requirement needs, using appropriate data terminologies</li> </ul>	<ul style="list-style-type: none"> <li>Manipulate data to identify patterns and relationships between variables</li> <li>Create logical data models for stakeholders, using appropriate terminologies and techniques</li> <li>Create data design documentation to reflect data analyses and design solutions</li> <li>Verify the validity and reliability of data used for analysis</li> </ul>	<ul style="list-style-type: none"> <li>Define hypotheses to measure and test, to solve specific organisational problems</li> <li>Implement data analysis processes for the organisation</li> <li>Analyse findings to draw conclusions about identified problems or research</li> <li>Evaluate data design models against stakeholder and/or organisational requirements</li> </ul>	<ul style="list-style-type: none"> <li>Develop data design solutions to meet stakeholder and organisational needs</li> <li>Translate insights into recommendations to facilitate organisational competitive advantage</li> <li>Conceptualise new research studies for the organisation</li> <li>Study data changes over time to deduce short-term and long-term trends</li> <li>Set up standardised definitions and protocols</li> </ul>	

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			<ul style="list-style-type: none"> <li>Apply appropriate data analysis techniques to derive findings</li> </ul>	<ul style="list-style-type: none"> <li>Conduct data exploration exercises to examine relationships between different variables</li> <li>Present data analysis results and design solutions to stakeholders</li> </ul>	for how stakeholders use and interact with data across the organisation	
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