

Data Analytics and Predictive Modeling Key Performance Indicators

For the entry-level employee, all tasks are typically done under supervision for much of the first year and then with some independence with verification after the employee has more experience. All tasks are done according to company guidelines.

	Task	Key Performance Indicators	
Business Problem (Question) Framing			
T-1	Assist in obtaining or receiving problem statement and usability requirements.	<p>Appropriate stakeholders are identified in a timely manner.</p> <p>Problem statement and usability requirements are obtained in a timely manner and properly documented.</p> <p>Determination of the applicability of an analytics solution is accurate.</p> <p>Business and analytics problem statements are clear, and are continuously refined.</p> <p>Business benefits are correctly identified and clearly stated.</p>	
T-2	Assist in identifying stakeholders.		
T-3	Assist in determining if the problem is amenable to an analytics solution.		
T-4	Assist in refining the problem statement and delineate.		
T-5	Assist in defining an initial set of business benefits.		
T-6	Assist in obtaining stakeholder agreement on the problem.		
Analytics Problem Framing			
T-7	Assist in reformulating the problem statement as an analytics problem.	<p>The alternatives to the analytics problem statement are documented and ranked according to best match with current problem and rationale for choices is clearly stated.</p> <p>Assumptions related to the problem are stated clearly and concisely.</p> <p>Criteria for success are clearly identified.</p> <p>Agreement of stakeholders is obtained regarding business and analytics problem statements and analytic approach.</p>	
T-8	Assist in developing a proposed set of drivers and relationships to outputs.		
T-9	Assist in stating the set of assumptions related to the problem.		
T-10	Assist in defining key metrics of success.		
T-11	Assist with collecting metrics and trending data.		
T-12	Assist in obtaining stakeholder agreement on analytical approach.		
Data			
T-13	Assist with identifying and prioritizing data needs and sources.	<p>Sources and methods for acquiring data are efficient and information is accurate and complete.</p> <p>Data is secured from reliable and respected sources.</p> <p>Data is correctly harmonized, rescaled, and cleaned and relationships in the data are correctly identified.</p> <p>Findings are documented in accordance with company procedures and communicated in a clear and timely manner.</p> <p>Data definitions are fully developed and agreed upon in accordance with company procedures.</p>	
T-14	Assist with assessing the validity of source data and subsequent findings.		
T-15	Assist in acquiring data.		
T-16	Assist in harmonizing, rescaling, cleaning and sharing data.		
T-17	Assist with identifying relationships in the data.		
T-18	Assist with documenting and reporting findings (e.g., insights, results, business performance).		
T-19	Assist with refining the business and analytics problem statements.		
Methodology (Approach) Selection			
T-20	Assist with identifying available problem solving approaches (methods).		<p>Sources and methods for acquiring data are efficient and information is accurate and complete.</p> <p>The alternatives to the methodology are documented and ranked.</p> <p>Data is secured from reliable and respected sources.</p> <p>Findings are documented in accordance with company procedures and communicated in a clear and timely manner.</p> <p>Data definitions are fully developed and agreed upon in accordance with company procedures.</p> <p>Problem solving approaches and methods are affordable and relevant.</p> <p>Analysis processes and conclusions are clearly and concisely documented.</p> <p>Effective software tools and problem-solving methods are used.</p> <p>Scripts are complete, relevant and congruent.</p> <p>Appropriate testing methodology is identified and planned and scope of testing is clearly identified.</p> <p>Algorithms, programming principles, statistical processes are used correctly.</p>
T-21	Assist in conferring with systems analysts, engineers, programmers, and others to design application.		
T-22	Assist in using software tools.		
T-23	Assist in reading, interpreting, writing, modifying, and executing simple scripts (e.g., Perl, VBScript) on Windows and UNIX systems (e.g., those that perform tasks such as: parsing large data files, automating manual tasks, and fetching/processing remote data).		
T-24	Assist in utilizing different programming languages to write code, open files, read files, and write output to different files.		
T-25	Assist in utilizing open source language such as R and apply quantitative techniques (e.g., descriptive and inferential statistics, sampling, experimental design, parametric and non-parametric tests of difference, ordinary least squares regression, general line).		
T-26	Assist with developing and implementing data mining and data programs.		
T-27	Assist with testing approaches (methods).		
T-28	Assist in conducting hypothesis testing using statistical processes.		
T-29	Assist with providing analyses and support for effectiveness assessment.		
T-30	Assist with selecting approaches (methods).		
Model Building			
T-31	Assist with identifying model structures.	<p>Models are evaluated, tuned and integrated using the proper procedures.</p> <p>Data model is laid out clearly.</p> <p>Performance criteria for the data model have verifiable assumptions.</p> <p>Scope and purpose of model are defined.</p> <p>Code is developed using efficient software design processes.</p> <p>Reusable components are employed whenever possible.</p> <p>Code is well documented so that it can be understood by others.</p> <p>Tests accurately assess the functions the module is designed to perform.</p> <p>Ethics reviews are routinely accomplished.</p>	
T-32	Assist in running and evaluating the models.		
T-33	Assist with tuning models and data.		
T-34	Assist with integrating the models.		
T-35	Assist with documenting and communicating findings (including assumptions, limitations and constraints).		
T-36	Assist with performing internal business verification and validation of the model.		
T-37	Assist with publishing validation and verification report.		
T-38	Assist in developing recommendations to the supervisor based on data analysis and findings.		

Deployment		
T-39	Assist with deploying application codes and analytical models using CI/CD tools and techniques and provides support for deployed data applications and analytical models.	<p>Application codes and analytical models are deployed according to plan. Business validation of the model is performed correctly. Presentations are well-organized, utilize creative formats and meet the needs of technical and non-technical audiences.</p> <p>Enterprise goals are taken into account when drawing conclusions from data analysis and making recommendations to supervisor.</p> <p>Model, usability and system requirements for production are developed in accordance with company procedures.</p> <p>Requirements are properly interpreted and evaluated, and conflicting requirements are identified and resolved.</p>
T-40	Assist with performing business validation of the model.	
T-41	Assist with presenting technical information to technical and nontechnical audiences.	
T-42	Assist with presenting data in creative formats.	
T-43	Assist with delivering reports with findings.	
T-44	Assist with creating model, usability, and system requirements for production.	
T-45	Assist in supporting deployment.	
Model Lifecycle Management		
T-46	Assist with documenting initial structure.	<p>Initial structure of the model is documented in accordance with company standards and in a timely manner.</p> <p>Tracking of model quality and model recalibration and maintenance. Effectiveness testing is based on specification criteria. Recommendations are fed back into the modeling process.</p> <p>Computer data administration, data standardization, data mining and data management are conducted in accordance with industry and company procedures and standards.</p>
T-47	Assist in tracking model quality.	
T-48	Assist with providing input and assist in post-action effectiveness assessments.	
T-49	Assist in the identification of information collection shortfalls.	
T-50	Assist with recalibrating and maintaining the model.	
T-51	Assist with evaluating the business benefit of the model over time.	
T-52	Assist with developing strategic insights from large data sets.	