ESKITP802401

Design and Implement Data Analysis Studies

Overview

This sub-discipline Data Analysis (802) is concerned with the competencies required to perform detailed of data within an organisation with a view to providing new administrative and other information to aid decision making that will enhance financial and other business performance criteria (e.g. related to sales, products, markets, services, efficiency etc.). This involves undertaking tasks to design data studies, collect, visualise and analyse data using a variety of statistical techniques and apply a range of tools and techniques.

Working in the professional role (8024) is primarily focussed on designing and implementing data analysis studies for internal and/or external customers.

Performance criteria

You must be able to:

1. design, create and implement data analysis studies in line with standard organisational procedures
2. collect and visualise data for assigned internal and external customers in line with standard organisational procedures
3. collect, compile and analyse data from various databases in line with standard organisational procedures
4. perform a wide range of statistical analyses and ad-hoc queries in line with standard organisational procedures
5. apply appropriate ETL techniques (extract, transformation, loading) to transform large amounts of data into digestible management information in line with standard organisational procedures
6. apply appropriate analytical programming techniques using standard tools to provide data solutions in line with standard organisational procedures
7. design and implement algorithms for data analysis in line with organisational procedures
8. develop and apply custom analysis tools in line with organisational procedures
9. implement real time data processing procedures in line with organisational procedures
10. perform data modelling and analysis of existing data in order to answer routine business questions
11. document procedures in line with standard organisational procedures
12. make appropriate recommendations for data analysis process improvements in line with standard organisational procedures
13. design and prepare standard and ad hoc reports and summaries using visualisation tools and techniques
14. present appropriate information on data analysis studies to key stakeholders and customers
15. handle large volumes of unstructured as well as structured data in line with standard organisational procedures

Knowledge and understanding

You need to know and understand:

1. the different business processes that use and manipulate data
2. how to design, create and implement analysis studies
3. the importance of defining clear customer requirements for data analysis studies
4. the fundamentals of a range of analytic techniques
5. how to collect and visualise data
6. how data has potential links to a range of departments and individuals
7. how to perform a wide range of statistical analyses
8. how to design and implement algorithms to improve the speed and efficiency of data analysis studies
9. how to perform data modelling
10. how to implement real time data processing
11. the importance of data integrity
12. how to document procedures for data analysis
13. the impact that data analysis has on organisational performance and service offerings organisational operations
14. the purpose of data mining and statistical modelling techniques
15. the importance of data governance and compliance
16. the differences between structured and unstructured data
17. how to handle large volumes of data
18. how to develop new, custom analysis tools to aid data analysis

ESKITP802401

Design and Implement Data Analysis Studies

Developed by	e-skills
Version Number	1
Date Approved	October 2014
Indicative Review Date	December 2016
Validity	Current
Status	Original
Originating Organisation	e-skills
Original URN	ESKITP802401
Relevant Occupations	Information and Communication Technology; Information and Communication Technology Professionals; Database Administration; ICT for practitioners
Suite	IT and Telecoms
Keywords	Data Analytics; Big Data; Data Management; Data Science