APPLIED DATA SCIENCE

DATA SCIENCE STARTER PACK

The Data Science Starter Pack will provide your company with a comprehensive understanding of your data science and analytics maturity, along with practical recommendations and advice to allow you to realise the full potential of data science as a strategic asset. This document provides a summary of the process and deliverables included as part of this service.

DELIVERABLES

- An executive summary of the key recommendations for improving data science capability and example projects that would generate most business value
- An in-depth analysis of each the following areas of the data science and analytics operation, with actionable suggestions for improvement:

Data Infrastructure	Data Overview	Data Reporting
Databases / BI Architecture / Data Pipelines / ETL / Data Warehousing	Summary of structured & unstructured data captured/not captured	Board reports / Daily KPIs / Dashboards / A/B testing / Experimentation
Data Tools	**Data Science Capabilities**	**Data Science Opportunities**
Visualisation Software / Programming Languages / Software / Licensing	Models* / Team / Prediction / Optimisation / Automation / Strategy	Models* / Business value / Prediction / Optimisation / Automation / Strategy

* See Appendix A for examples of machine learning and data science models to be included in the summary of capabilities and opportunities

- A summary scorecard, giving a calculated numerical score for each of the above areas and a breakdown of how this score was calculated

PROCESS

The process takes 5 days, with the following structure:

- 3 days on-site, to capture the following information
  - Meeting with Head of Analytics or equivalent to discuss data strategy, current set up of the team and existing / ongoing / future projects
  - Meeting with Head of IT Infrastructure or equivalent to discuss data architecture
  - Meeting with members of the Analytics function to discuss data quality and data tools
  - Meeting with other Heads of departments to discuss data requirements, reporting and overall business strategy.
  - Temporary access to databases, to assess potential future opportunities for projects
- 2 days off-site to collate information, write up documentation, recommendations and scorecard

On completion of this initial phase, we would be able to assist in the delivery of recommended projects but there is no obligation to do so.

ENQUIRY

To learn more about this service, email **info@applied-data.science** with the subject **STARTER PACK** and we will be in touch shortly.

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APPENDIX A

Example high-value data science projects

- Recommendation Engine suggesting products to customers
- Market Basket analysis suggesting new packages to sell
- Price Optimisation of packages
- Funnel Analysis / Lead Prioritisation of potential customers
- Attribution Modelling of marketing campaigns
- Text Mining of customer feedback
- Customer Churn Prediction
- Routing Optimisation
- Inventory Optimisation
- Scenario Simulation for production lines
- Negotiation Engine for purchasing
- Enhancing the product with Machine Learning / Artificial Intelligence
- Attrition Modelling of employees
- Fraud Detection
- Financial Forecasting

These projects are made possible through using a variety of data science techniques, including:

Classification

e.g. Predict which class this individual belongs to, to enable personalised marketing

Regression

e.g. Predict the future value of a variable, for enhanced planning capabilities

Similarity matching

e.g. Identify similar individuals or products based on known data, for targeted recommendations

Clustering

e.g. Group individuals or entities together by their similarity, for a better understanding of the user base

Association rules

e.g. Find associations between entities based on transitional data, for last minute basket additions

Profiling

e.g. Characterise the typical behaviour of an individual or group, to improve the product or service offered

Link prediction

e.g. Predict connections between users or data items, for analysis of a social network

Causal modelling

e.g. Understand what events or actions influence others, for a better understanding of KPIs

Optimisation

e.g. Determine the optimal value for a variable, for price setting or sales resource management

Simulation

e.g. Model a logistical process as a computer simulation, for production line or route optimisation