



CA 50%

BUSINESS ANALYTICS 2018

INTRODUCTION

- FOR THIS ASSIGNMENT YOU ARE REQUIRED TO:
 1. PREPARE, ANALYSE AND PRESENT THE DATA IN THE MAGPIES.XLSX WORKBOOK. (35%)
 2. WRITE A SUMMARY REPORT DETAILING THE WORK COMPLETED. (15%)
- THE SKILLS TO BE DEMONSTRATED WILL BE BASED ON BOTH LECTURES AND LABS AS WELL AS SELF DIRECTED LEARNING.

THE DATASET

- THE DATA RELATES TO THE EUROPEAN MAGPIE RINGING RECOVERY SCHEME.
- THERE IS A RINGING SCHEME IN EACH EUROPEAN COUNTRY HOWEVER THE COLLECTION OF DATA IS OVERSEEN BY EURING WWW.EURING.ORG.
- A BIRD WHICH IS RINGING AS A HATCHLING AND SUBSEQUENTLY FOUND AGAIN AND IS REPORTED TO THE RINGING SCHEME IS CALLED A RECOVERY.

THE DATASET

- THE OLDEST RECORDS ARE OVER 100 YEARS OLD, THE FURTHER BACK YOU GO THE FEWER THE RECORDS.
- THIS DATASET IS SPECIFICALLY FOR MAGPIES, SELECTED PARTICULARLY FOR STUDIES OF LIFE LENGTH AND DISPERSAL FROM NEST.

THE DATASET

- MAGPIE DATA.

EACH RECORD HOLDS DETAILS OF A SINGLE MAGPIE RECOVERY, ITS PLACE AND DATE OF RINGING AND ITS LAST PLACE OF FINDING.

THE RECORDS INCLUDE THE PLACE, CIRCUMSTANCES AND DATE OF RECOVERY WITH DISTANCE, DIRECTION AND ELAPSED TIME BETWEEN RINGING AND RECOVERY.

CODEBOOK

Field Name	Description	Codes, Units, Notes
Identity	Ringing scheme and ring number	This gives each record a unique identity but may have no use in any analysis
Day of ringing	Range 1 - 31	Integer
Month of ringing	Range 1 - 12	Integer
Year of ringing	Range 1913 - 2014	Integer, Four digits
Ringing latitude	Degrees with decimal points	e.g. 53°30'N will be given as 53.5 There are no records in the southern hemisphere.
Ringing longitude	Degrees with decimal points	As for latitude, places west of Greenwich meridian are given as negative. e.g. 3°12'W will be given as -3.2
Ringing country	Full name	Given the current country name so, for example, a bird ringed in Zagreb in the former Yugoslavia will be recorded as ringed in Croatia.
Day of recovery	As for Day of ringing	
Month of recovery	As for Month of ringing	
Year of recovery	As for Year of ringing	
Recovery latitude	As for Ringing latitude	
Recovery longitude	As for Ringing longitude	
Recovery country	As for Ringing country	
Recovery circumstances	Two-letter code to describe recovery event	See separate table of codes
Recovery condition	State of bird at time of recovery	Dead, Alive or Unknown.
Time to recovery	Days between ringing and recovery	Integer
Distance	Distance between ringing and recovery locations.	Integer, kilometres
Direction	Bearing of recovery place from ringing place.	Degrees, range 0 – 359 measured clockwise from North.

CODEBOOK

Recovery Circumstance Codes

Code	Meaning	Notes
AH	Accidentally (by humans)	Often flying into windows or hit by a car etc.
DH	Deliberate (by humans)	Killed deliberately as part of pest control
HH	Hunted	Killed by hunters
ND	Natural death	Died through disease, starvation, weather etc.
PD	Predation	Killed by any wild or domestic predator
RH	Ringer related	Recaptured or found by a bird ringer
UU	Unknown	Finder did not report anything other than 'bird found'



GENERAL REQUIREMENTS

- USE OF MAGPIE DATA
 - DATA PREP AND ANALYSIS, DESCRIPTIVE STATISTICS, AND GRAPHICAL PRESENTATION OF THE FINDINGS
 - SUMMARY REPORT
 - ALL YOUR OWN WORK.
- 

DATA PREP AND ANALYSIS

- THE DATA REQUIRES CLEANING PRIOR TO BEING ANALYSED.
 - YOU MUST FIRST FAMILIARISE YOURSELF WITH THE DATASET, THERE ARE MISSING VALUES, UNUSABLE DATA, INCONSISTENT VALUES, AND INCONSISTENT DATE FORMATS.
 - CONSIDER THE QUESTION(S) YOU WANT THE DATA TO ANSWER?
 - UNDERSTAND THE DATA AND THEN CHOOSE THE DATA WHICH IS SUITABLE FOR RESEARCH QUESTION.
 - YOU MAY CHOOSE A SUBSET OF THE DATA SHEETS ON WHICH TO PERFORM YOUR ANALYSIS.

DATA PREP AND ANALYSIS

- USING EXCEL:
- THE ANALYSIS SHOULD PROVIDE A HIGH LEVEL OVERVIEW OF THE DATA (INCLUDING SUMMARY STATISTICS).
- THE ANALYSIS SHOULD PRODUCE DETAILED PRESENTATION OF THE DATA IN VISUAL FORM (CHARTS, BOX PLOTS, SCATTER ETC) APPROPRIATE TO YOUR RESEARCH QUESTION(S).
- THIS DATA PREPARATION AND ANALYSIS IS TO BE YOUR OWN WORK AND REPORTED IN THE FINAL DOCUMENT.

PRESENTATION

- VISUAL PRESENTATION OF YOUR FINDINGS SHOULD BE INCLUDED IN THE EXCEL WORKBOOK YOU SUBMIT.
- SOME VISUAL PRESENTATION OF FINDINGS WILL ALSO BE SUITABLE TO INCLUDE IN YOUR SUMMARY REPORT.
- THIS MAY BE IN THE FORM OF CHARTS, HISTOGRAMS, BOXPLOTS, LINE GRAPHS, PIE CHARTS ETC.
- YOU MAY COMBINE THESE INTO A COHERENT DASHBOARD SUITABLE FOR YOUR RESEARCH QUESTION(S).

SUMMARY REPORT

- A SUMMARY REPORT THAT DETAILS THE DATA ANALYTICS PROCESS UNDERTAKEN.
- THE REPORT SHOULD INCLUDE DETAILS ON:
 - IDENTIFICATION OF RESEARCH QUESTION(S)
 - DATA PREPARATION (ENSURING GOOD QUALITY DATA)
 - DATA DISCOVERY (FAMILIARISATION WITH THE DATASET, DESCRIPTIVE STATISTICS, CHARTS ETC)
 - EXPLORATION AND ANALYSIS OF DATA
 - PRESENTATION OF THE FINDINGS USING APPROPRIATE GRAPHICAL MEANS
- THE REPORT SHOULD INCLUDE ALL SUMMARY STATISTICS AND DATA ANALYSIS CONDUCTED DURING THE DATA DISCOVERY AND PREPARATION STAGES IN RELATION TO YOUR RESEARCH QUESTION(S).

GRADING SPECTRUM

Data Preparation	Data Analysis	Data Presentation	Report
Basic cleaning	Basic analysis conducted	Simple charts and descriptive statistics	Outline of work conducted
Complete data discovery and data prep suitable for research question(s)	Complete analysis using method taught	Well thought out use of various appropriate charts	Detailed report
Additional transformations and data created	Additional data used, advanced analysis with some new methods	Clear, complete and appropriate presentation using new methods	Complete, well written report with rationale for approach
Data discovery and data prep to very high standard, with additional data source added.	Advanced analysis demonstrating self directed learning, identification of valuable insights in the data	Advanced presentation of findings	As above

MARKING SCHEME

- ≤40% (FAIL): POOR DATA PREP AND ANALYSIS CONDUCTED. VERY FEW ANALYSIS TECHNIQUES HAVE BEEN IMPLEMENTED. THE DATA CLEANING IS LIMITED AND NO NEW DATA CREATED. POOR IDENTIFICATION OF RESEARCH QUESTION(S). WEAK SUMMARY REPORT.
- 40 - 50%: SUMMARY REPORT CONTAINS ADEQUATE DETAILS ON WORK COMPLETED. SUFFICIENT DATA PREP AND ANALYSIS CONDUCTED TO PRESENT FOR THE RESEARCH QUESTION(S) CHOSEN. STUDENTS HAVE IMPLEMENTED SOME OF THE ANALYSIS REQUESTED.
- 50-69%: SUMMARY REPORT WELL WRITTEN WITH DETAILS ON EACH STAGE OF THE PROCESS. VERY GOOD DATA PREP AND ANALYSIS CONDUCTED AND DOCUMENTED WITH APPROPRIATE GRAPHICAL PRESENTATION OF THE WORK (USING SOME NEW METHODS).
- 70% OR MORE: SUMMARY REPORT VERY WELL WRITTEN WITH ADDITIONAL MATERIAL INCLUDED AND RESEARCH CONDUCTED. STUDENTS HAVE DEMONSTRATED ALL THE ABOVE TO A HIGH LEVEL OF PROFICIENCY (E.G., VISUAL AND TECHNICAL QUALITY). IN ADDITION THE STUDENT HAS DEMONSTRATED INDEPENDENT LEARNING BY ADDING SOME DATA AND TECHNIQUES THAT HAVE NOT BEEN COVERED DURING THE CLASSES OR LABS

PROJECT : ORIGINALITY

- THE PROJECT MUST BE YOUR OWN WORK AND I WILL VERIFY THE ORIGINALITY OF THE WORK AGAINST THE WEB + OTHER STUDENT SUBMISSIONS.
- IF YOU DO RE-USE TECHNIQUES SOURCED EXTERNALLY, I EXPECT
 - YOU TO UNDERSTAND THESE TECHNIQUES
 - SPECIFICALLY INCLUDE A REFERENCE TO THE SOURCE OF THE TECHNIQUE (FAILURE TO ATTRIBUTE IS CONSIDERED PLAGARISM)

http://www.wit.ie/images/uploads/Policies_PDF/Academic_Regulations.pdf

PROJECT ONE: SUBMISSION

- THE PROJECT NEEDS TO BE SUBMITTED ON OR BEFORE THE DEADLINE
- LATE SUBMISSION WILL RESULT IN A REDUCED MARK OF 5% FOR EACH DAY LATE.
- THE ASSIGNMENT NEEDS TO BE SUBMITTED VIA MOODLE USING THE DEDICATED SUBMISSION FOLDER
- ALL CONTENT NEEDS TO BE INCLUDED IN A ZIPPED FOLDER LABELED WITH YOUR STUDENT NUMBER. THE ZIPPED SUBMISSION SHOULD INCLUDE:
 - EXCEL DATA FILE AFTER DATA PREP WAS CONDUCTED
 - SUMMARY REPORT
- DUE DATE FOR HANDUP IS SUNDAY 19TH NOV BY 11:00PM USING ASSIGNMENT DROPBOX ON MOODLE IN THE MODULE ASSESSMENT AND RESOURCES TOPIC AREA.