**Letter of Transmittal**

Date: 25-02-2023

From,

Group 12

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To,

Senior DS

We are pleased to submit the final report and related files on **INFO8145 Case Study 1** as per your request. As a team, we have put in our best efforts to complete this project successfully and have compiled all the necessary documents required for your review.

The attached documents include:

* Excel workbook
* Requirement and Issues list
* Case study report
* Executive Summary
* Version Control
* Statement of confident
* Statement of Academic Integrity
* Guided Tour of the DA work
* Guided Tour of our Work Management methods
* Conclusion
* References

We have also included a summary of the project and the reason for submission in the report. This report covers all the key findings, analysis, and recommendations that we believe will be beneficial for the project's success.

We kindly request that you review and mark the report accordingly. We hope that our work meets your expectations, and we look forward to receiving your feedback.

Thank you for giving us the opportunity to work on this project.

**Cover Page**

INF08135

Diagnostic Analytics

Assignment – Case Study and Report 1

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Bill Nixon

25-02-2023

Version: 1.4

**Table of Contents**

|  |  |  |  |
| --- | --- | --- | --- |
| ID | DESCRIPTION | PAGE NUMBER | AUTHOR |
| 1 | Executive Summary |  | RR |
| 2 | Guided Tour of Work Management |  | SP |
| 3 | Guided Tour of Descriptive Analytics Work |  | RP |
| 4 | Statement of Confidence |  | SP |
| 5 | Statement of Integrity |  | SP |
| 6 | Conclusion |  | RR |
| 7 | References |  | RP |

**VERSION CONTROL**

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Changes | Responsible Person |
| 24-02-2023 | 1.0 |  | Rajashekar Rikkala |
| 25-02-2023 | 1.1 | Content Changes in executive summary | Pravallika Settipalli |
| 26-02-2023 | 1.2 | Grammar and Formatting | Rincy Pereira |
| 27-02-2023 | 1.3 | Final Review | Rajashekar Rikkala |

**Executive Summary**

The Project is centered on the decision that is it worthwhile to quote on providing services to both call centers, The analysis was done by the data that was supplied by the potential client who has been running their own call center for several years. Our analysis of the data will provide insights into the client's call center operations, Ultimately, our analysis will enable the management to make an informed decision on whether to quote on providing services to the potential client.

The Study involved many aspects including, finding which shift is busier, Which Agent type receives more calls and which are the busier days, it also includes the probability of successful call along with Statistic of Agent type, Shifts, days of the weeks, weeks, months and years.

By Considering the data provided, the above-mentioned aspects have been studied and reported, the details of the findings can be found in the attached document below.

**Guided tour of Diagnostic Analystics**

* Greeters – This sheet contains of table GreeterFactorID , ShiftDate, Year, Quarter, Month, Week of the year, WeekDay, Duration in Secs, Hours on the phone , Time B/w call, Forward probability,Avg contact time

Table

Description automatically generated

* TechDM- This is the data model created under the instructions. This sheet contains table of DivBSupportID, ShiftDate, Year, Quarter, Month, Week of the year, WeekDay, Duration in secs,Hours on phone,Time b/w call, Forward Probability, Success Probability ,Avg contact time

Table

Description automatically generated

* ExpertDM- This is the data model created under the instructions ,This sheet contains table of DivBSupportID, ShiftDate, Year, Quarter, Month, Week of the year, WeekDay, Duration in secs,Hours on phone,Time b/w call, Forward Probability, Success Probability ,Avg contact time

A picture containing text, white, screenshot

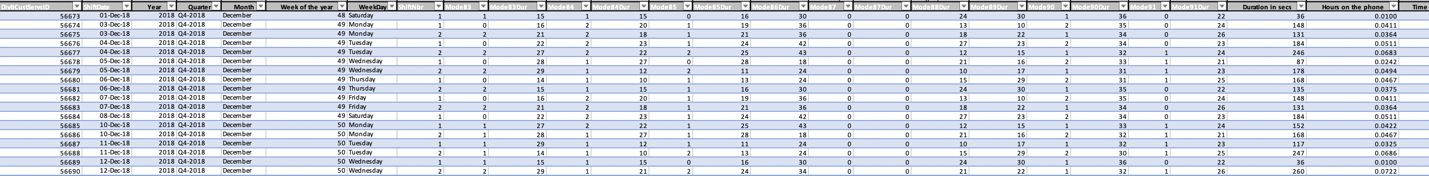
Description automatically generated

* CSRDM- This is the data model created under the instructions, This sheet contains table of DivBSupportID, ShiftDate, Year, Quarter, Month, Week of the year, WeekDay, Duration in secs,Hours on phone,Time b/w call, Forward Probability, Success Probability ,Avg contact time

Graphical user interface, table, Excel

Description automatically generated

* ManagerDM- This is the data model created under the instructions, This sheet contains table of DivBSupportID, ShiftDate, Year, Quarter, Month, Week of the year, WeekDay, Duration in secs,Hours on phone,Time b/w call, Forward Probability, Success Probability,Avg contact time



* Issue 4-10 – The analysis done for the project.

**Statement of confidence and concerns about the Datasets**

The quality of the datasets(s) and/or data models(s) used in this project are evaluated in this report section.

List of the involved datasets(s) and datamodels –

|  |  |  |  |
| --- | --- | --- | --- |
| Dataset(s) involved | Data model(s) involved | Code letter | Confidence Rating |
| DivMsupport | Tech | TechDM | Low |
| DivMcustservs | Manager | ManagerDM | Medium |
| DivMcustservs | CSR | CSRDM | Medium |
| DivMsupport | Expert | ExpertDM | Medium |
| DivManswering | Greeters | GreetersDM | Low |

Concerns about the Dataset

|  |  |  |
| --- | --- | --- |
| Name/Code of Dataset or Data model/ table | Description of concern | Rating of the importance of the concern |
| TechDM | Since the calls accpeted in this DM are 0, the forward probability, success probability ratios along with average time are coming as #DIV!/0; since the denomenator is 0. | High |
| ManagerDM | There are some values with zero Average Contact time cannot be determined for the values with zero and highlighted in red color | Low |
| CSRDM | Found Negative values in hours on phone and highlighted them in red color | Medium |
| ExpertDM | Since the calls accpeted in this DM are 0, the forward probability, success probability ratios along with average time are coming as #DIV!/0; since the denomenator is 0. | High |
| GreetersDM | No concerns | Low |

**Statement of Academic Integrity**

* We certify that all assignments contain no plagiarized material. In particular:
* All paraphrases and summaries of material taken from other works have been clearly indicated when I present/write. In-text citations and a reference list are included in the assignment.
* We certify that this is our own work and that we did not receive any unfair assistance from others  
  (including unauthorized collaboration) in its assignment.
* We certify that this assignment has not previously been submitted either in its entirety or in  
  part within Conestoga College or any other educational institution
* We agree that we will clearly indicate who did what part in a group assignment. If there is no clear indication, then the entire group must take responsibility (and face any consequences if plagiarism or cheating occurs).
* Copying and pasting from an external resource, even if cited and referenced, can be considered an academic offence if you use the information as your own.
* We agree to reach out to our professor at least once before week 8 to give an update on my progress (in a live Zoom session).

resourses, we understand that our statements were gathered from resources (course materials  
and external resources).

**Conclusion / Summary**

The focus of this project is to determine whether it is worth providing services to both call centers. To do this, the project team analyzed data supplied by a potential client who has been running their own call center for a few years.

The analysis included a comprehensive study of various factors such as busy shifts, types of agents receiving more calls, and busiest days. In addition, the project team examined the probability of successful calls and analyzed statistics related to agent types, shifts, days of the week, weeks, months, and years.

We were given a list of issues and requirements along with the deliverables, below are few conclusions that can be drawn from the deliverables.

1. Calculating the total no of hours for each agent type for each shift of each day we came to a result that, there are more no. of hours in each agent type for shift 1.
2. Calculating the probability of caller contact is successful or is passed to another agent type we found that the successful contact of ExpertDM is higher than any other agent therefore most of the calls were passed to Expert agent
3. Calculating the total hours on phone we found that TechDM agent have the largest sum among all the other agent, This means most of the queries where answered by the TechDM.
4. Calculating the sum of hours on call for each day for each agent type we came to conclude that on Wednesday there is high sum of calls then any other day.
5. Calculating the sum of hours on calls for each year we came to findings such that in 2022 has greater sum of no. of hours then the previous 2 years.
6. Calculating the time between each call we came to result that most calls have a gap of between 40-50 mins.
7. Calculating all other factors we saw a increasing trend in year 2021 then the previous 2 years.

**References and Source**

1. INFO8135+45 Samples and Guidance document
2. INFO8135+45 Professor's Presentations and Videos
3. INFO8135+45 Supplied Course Documents and Resources