**Data Analytics Capstone Topic Approval Form**

**Student Name:** Tony Dunsworth

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**Capstone Project Name:** Analysis of COVID-19 adjustments on 911 Operations in the City of Alexandria, VA

**Project Topic**: A statistical analysis of 911 Call Processing Times of the Alexandria, VA Department of Emergency and Customer Communication’s responses to the SARS-COV2 pandemic

**X This project does not involve human subjects research and is exempt from WGU IRB review.**

**Research Question:** Were the Alexandria VA DECC 911 Call Processing Times impacted by the department’s moves to continue operations during the SARS-COV2 pandemic?

**Hypothesis**: H0 is 911 Call Processing Times were not impacted by the department’s moves to continue operations during the SARS-COV2 pandemic

**Context:** In order to evolve 911 operations and to ensure a community is best served, most especially in a time of crisis such as the SARS-COV2 pandemic (Covid-19), analysis on the Public Safety Answer Point’s (PSAP) decisions to ensure operational continuity can provide insight as to the impact of decisions taken upon the PSAP’s time to answer and assign calls for service. In order to determine the full impact of those decisions, comparisons will be made to the previous year over the same time frame; January 01 through September 30. This provides for a fair evaluation to determine if the response times for answering and assigning calls are actually comparable to a year without modifications for the pandemic.

**Data:** The data to be used is Computer Aided Dispatch call data taken from January 01, 2019 to September 01, 2019 and from January 01, 2020 to September 01, 2020

|  |  |
| --- | --- |
| Response\_Date | DateTime |
| Month | Categorical |
| WeekNo | Numeric (Discreet) |
| DayofWeek | Categorical |
| Hour | Numeric (Discreet) |
| Shift | Categorical |
| Priority\_Number | Numeric (Discreet) |
| Problem | Categorical |
| Agency | Categorical |
| MethodOfCallRcvd | Categorical |
| Fixed\_Time\_PhonePickUp | DateTime |
| Fixed\_Time\_CallEnteredQueue | DateTime |
| Time\_Unit\_Assigned | DateTime |
| Fixed\_Time\_CallTakingComplete | DateTime |
| InitialCallTaking | Numeric (Continuous) |
| FirstUnitDispatching | Numeric (Continuous) |
| InitialProcessing | Numeric (Continuous) |
| CustomerInteraction | Numeric (Continuous) |

Copies of the 2019 and 2020 data can

The data is owned by the Department of Emergency and Customer Communications of the City of Alexandria, VA. I have secured permission from the director, Renee Gordon, to use data from 2019 and 2020 for this capstone. The director has allowed the use of the data in return for a copy of the results which is to be the introduction for a deeper study into the efficacy of the remote dispatcher operations and for discussions with APCO, an industry group interested in the survey as well.

**Data Gathering:** *Describe the data-gathering methodology you will use to collect data.*The data will be collected via a SQL Query from a Microsoft SQL Server 2016 database. Steps have been taken to ensure no identifiable information will be collected, analyzed, or presented to the committee.

**Data Analytics Tools and Techniques**: *Identify the appropriate data-analysis technique you will use to analyze this data.* The analysis will start with baseline exploratory data analysis of both the 2019 and 2020 data. After that, there will be detailed intraset analysis in order to establish secondary baselines for comparisons between 2019 and 2020.

**Justification of Tools/Techniques:** *Explain why the data-analysis technique you chose is an appropriate technique to analyze the data collected*. The use of R as a

**Project Outcomes**: *List the key anticipated project outcomes and deliverables in less than 500 words*. Click here to enter text.

**Institutional Review Board Quiz and Approval**

Have you read and understood the “Human Subjects FAQ” page and completed the “Human Subjects FAQ Quiz” at the WGU Institutional Review Board (IRB) website? (https://irb.wgu.edu/info/Pages/Home.aspx)

**☒** Yes, I have read and understood the “Human Subjects FAQ” and have provided email proof of my completed quiz in appendix A. (https://irb.wgu.edu/info/Pages/Human-Subjects-FAQ-Quiz.aspx)

☐ No, I have not completed the Human Subjects FAQ quiz.

Assess whether your capstone proposal complies with WGU’s IRB standards for exemption status. Explain why you believe the proposed project complies with the standards for exemption status. If it does not, make arrangements with a course mentor and the IRB for approval.

☒ The research complies with WGU’s IRB exemption status because:

-         Research involving the collection or study of freely available de-identified existing data

-         Research that does not employ methodology on human subjects.

☐ The research requires approval from WGU’s IRB because:

☐ Yes, I would like to schedule a conference to discuss my project.

To be filled out by a course mentor:

☐ The research is exempt from an IRB Review.

☐ An IRB approval is in place (provide proof in appendix B).

Course Mentor’s Approval Status: Select one

Date: Click here to enter a date.

Reviewed by: Click here to enter text.

Comments: Click here to enter text.

**Projected Project End Date**: Click here to enter a date.

**Sources**: Kinsley, J., 2009. *Analysis Of 9-1-1 Call Processing Times*. [online] Hsdl.org. Available at: <https://www.hsdl.org/?view&did=692620> [Accessed 13 November 2020]. Gates, David. “Call Processing Time 1 Running Head: Emergency Service Call Processing Time Executive Analysis of Fire Service Operations in Emergency Management Emergency Service Call Processing Time.” National Fire Academy, 2007. ‌

**Course Instructor Signature/Date:**

**https://www.dropbox.com/home/WGU/Capstone%20Project**