PROJECT CHARTER   
for Success Classifier

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# **Executive Summary**

The Success Classifier Project conceived by the Labor Market Information office is to predict the likelihood of success for customers approaching the DC Department of Employment Services. Customers in need of employment are typically either unemployed or underemployed.

After engaging with our intake system and workforce specialist, a determination is made for their eligibility towards various workforce programs. After aligning customers with the appropriate workforce program, workforce specialists support customers to ensure the highest likelihood of success in obtaining employment.

Workforce training programs may or may not offer a credential at the time of completion, and can vary in the length of the program. However, they are all geared towards offering the average customer the right tools to obtain employment. In many cases, this can include getting placed as a driver, laborer, or waiter. However, there are more skilled trainings that offer placement into IT related and managerial roles as well.

# **Project Purpose**

The purpose of this project is to manage the efficacy of workforce training programs. Because the programs rely on funding from local and federal taxpayer dollars, it is essential to show that these programs are working. To that end, the project will go through a series of steps, including detailed exploratory analysis to show which programs are working in placing customers into employment.

The following steps are a proposed framework to achieve the project’s purpose:

1. Exploratory analysis such as correlation and data visualization will also seek to relate the effects of demographics on obtaining employment.
2. Regression analysis may be used to assess the extent of the effect of programs in securing employment
3. The final and end goal of this project is to build a solid classifier that can take in any new demographic information, and give a measure of success

## Business Objectives

The business objective of this project is to provide greater transparency into the expenditure of funding dollars. Whereas the agency already has a public scorecard, and performance indicators for reporting to the council, this additional layer of accountability will help to ensure a more data-driven approach towards securing our customers’ success in finding employment.

An additional benefit of providing transparency into efficacy is that it will determine the future flow of funding into programs that are working well.

# **Project Details**

The project is broken into 3 steps.

1. The first is rigorous Exploratory Data Analysis (EDA) or feature engineering. To be used in determining which variables will be included in our final model.
   1. EDA will include a variety of employment and enrollment graphs by race, gender, citizenship status, and will map these trends over time
   2. There will be consideration of a deduplication process at this stage.
   3. Any correlational measures will be a part of this phase.
2. The second is a series of regression analyses. This will include classification models
3. The third and final stage consists of finalizing a classification model and writing up results for the time period spanning the data set:
   1. write 2-5 page paper, and publish a 2-page blog
   2. present findings at a conference.
   3. Include recommendations

## Requirements

The only thing required for this study is time, guidance and direction from experts, and buy-in from stakeholders responsible for overseeing the data collection.

## Scope Statement

The scope of this study is restricted to the Maryland custom report. This is a canned report developed by the Office of Information Technology, includes various demographics, workforce programs, and goes back at least 10 years. It also includes information about customers that got employed, and where they got employed.

## Deliverables

The following are a set of the deliverables emerging from the Success Classifier project:

1. A review of the data. What’s there, what’s lacking. High level metrics, tables, a data summaries. 1 pager.
2. A memo specifically addressing what is lacking in the data, what discrepancies there are, and what needs to be remedied moving forward. 1 pager. With screenshots ideally.
3. Visualizations to identify trends in the data, and to guide our analysis moving forward. 2 pager.
4. Actual snapshots of regression models, once finalized, including models of choice, and evaluation metrics. 1 pager.
5. 2-5 page write up of implications of results – to be published in the form of a 2-page blog post
6. Conference presentation with recommendations.

## Estimated Schedule

|  |  |
| --- | --- |
| Project Milestones and/or Phases | Estimated Completion Date |
| Start of Project | September 1st, 2021 |
| Check in 1 | October 8th, 2021 |
| Check in 2 | October 31st, 2021 |
| Check in 3 | November 15th, 2021 |
| End of Project | November 30th, 2021 |

## Estimated Budget

|  |  |
| --- | --- |
| Resource Description | Estimated Cost |
| 1 FTE 8 hours/week, at $55/hr, for 12 weeks | $55\*8\*16=5280 |
| 1 FTE 8 hours/week, at $55/hr, for 12 weeks | $55\*8\*16=5280 |
| 1 FTE 8 hours/week, at $55/hr, for 12 weeks | $55\*8\*16=5280 |
| **TOTAL** | **$21,120** |

## Human Resource Requirements

List the people from within the organization that will be assigned to the project.

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Department/Title | Contact Information | Immediate Supervisor |
| Dhruv Singh | OLMRP, Program Analyst | dhruv.singh@dc.gov | Heather McGowen |
| Jonathan Toye | OLMRP, Management Analyst | jonathan.toye@dc.gov | Ta-Tanisha Wallace |
| Heather McGowan | OLMRP, Management Analyst | heather.mcgowan@dc.gov | Ta-Tanisha Wallace |

## Procurements

List the known resources which must be procured.

|  |  |  |
| --- | --- | --- |
| Description | Source | Estimated Cost |
| - | - | - |

## Risks

Facing more snags in the data, over and above the ones that have been identified in the preliminary phases of the project, namely in the CASAS and other education data.

Finding a directionality in the correlation and graphing phases that does not make sense. And finding inconsistencies in the modeling from one phase to the next.

## Completion Criteria

The project, and the model will be fully complete, when we have fed it its first few rows of hypothetical test data, and received a result for the supposed success likelihood of that customer.

## Define Project Success

Project success to me is when all executive stakeholders see the value of such projects in the agency moving forward.

Project success to me also looks like the agency hiring more data analysts, data scientists and data engineers to build out an established data analytics program.

## Assumptions

The assumption I am working on for this project is that the agencies priorities will not change much for the upcoming few years. With a greater reliance on success placing customers into low skilled occupations, the agency will continue to add IT skills and training to promote mobility and a pathway into the middle class.

## Constraints

A lack of data is not the problem. However, a lack of data sanity is.

A lack of urgency on the part of agency executives, and stakeholders.

Limited guidance from fellow data scientific experts, and machine learning engineers.

A lack of funding for machine learning engineers in the agency.

A lack of technical understanding from non-technical audiences.

# **Alternatives**

A limited analysis focusing primarily on the EDA aspect of the project.

# **Stakeholders**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Project Role | Organization | Contact Information |
| Heather McGowen | Performance Manager | OLMRP | heather.mcgowen@dc.gov |
| Jonathan Toye | Program Manager | LMI | jonathan.toye@dc.gov |
| Dhruv Singh | Data Scientist | OLMRP | dhruv.singh@dc.gov |
| Katrina Matthews | Subject Matter expert | OLMRP | katrina.matthews@dc.gov |

# **Project Manager**

Heather McGowan

# **Project Authorization**

Date: \_\_\_\_\_10/07/2021\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

By initialing each page and signing below, I \_\_\_\_Dhruv Singh\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the Project Sponsor, approve the project described herein and authorize it to begin.

*DC Department of Employment Services, Office of Labor Market Research and Performance*

By: \_\_\_Dhruv Singh\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
 Signature of Project Sponsor

\_\_\_\_Dhruv Singh\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
 Project Sponsor Printed Name