**Unit 10: Building a Data Analytics Team**

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IN498: Bachelor’s Capstone in Analytics

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January 22, 2024

**Team Building**

The team would be built by focusing on hiring two project managers, two senior data scientists, one data engineer, and two data analysts as quickly as possible.  This would allow the team to start the project that higher-level management has waiting for us.  The positions would be filled by first looking at internal hires or transfers from existing teams within the company.  Job listing sites, such as Indeed.com, Linkedin.com, and Glassdoor.com, would be used to fill the remaining vacancies.

The missing portion of the overall team would be the IT team.  This would be temporarily filled by the organization’s existing IT team.  They would need to be ready to set up the new laptops and servers that the data analytics team would use for their project.  Responsibility can be handed off as the analytic team-specific IT team members are hired and brought on board.

The team would need to be able to trust the leader of the team quickly.  Expectations and boundaries must be set immediately to help accomplish this.  The team must know that the organization cares for their psychological safety.  This entails allowing them to be open and honest with the team.  Their ideas and opinions must be considered as well.  Finally, the leadership team must present transparency on how and why decisions are made.

**Project Timeline**

The project that management has prepared for the team will be estimated to take 20 weeks to implement.  This will include defining the problem, gathering the data, and developing the model. The results will then be available for interpretation and integration into other systems across the organization.

The first two weeks will be dedicated to initiating the project. This step will involve defining the objects, identifying stakeholders, and setting up communication channels. Weeks three through six will include gathering the relevant data sets, cleaning the data, and exploring the data.

Week seven and week 8 will focus on data preparation. Feature engineering will be accomplished by the data engineers. Any missing data will be dealt with by imputing the missing values. Weeks nine through twelve will focus on developing the model. The various model types will need to be tried and evaluated for their fit.

Weeks thirteen and fourteen will allow the team to interpret the results. This will involve analyzing key findings, validating the results, and identifying potential improvements. Weeks fifteen and sixteen will be the documentation week. The entire process must involve some level of documentation, but this week will focus on a comprehensive report and lessons learned.

Weeks seventeen and eighteen will be the presentation and implementation phase. This involves letting the stakeholders review the final product and then implementing it within existing systems across the organization. The final phase will be the post-implementation review in weeks nineteen and twenty. This will involve evaluating the success of the project and finalizing the project documentation.

**Software and Hardware Requirements**

**Hardware**

|  |  |
| --- | --- |
| Item | Quantity |
| 16” MacBook Pros | 25 |
| On-Prem Servers | 2 |
| 32” Monitors | 25 |
| Keychron Mechanical Keyboards | 25 |
| Logitech Mice | 25 |
| Logitech Headphones | 25 |
| Monitor Stands | 25 |

**Software**

|  |  |
| --- | --- |
| Software | Quantity |
| Python (with Scikit-learn, Tensorflow, Pandas, and Matplotlib) | 16 |
| SPSS | 16 |
| Tableau | 18 |
| PostgreSQL | 1 |
| GitLab | 25 |
| Microsoft Office 356 | 25 |
| Slack | 25 |

**Operational Environment**

The team will sit in two rooms. The floor plan will be an open office environment. The IT team and database team will sit together. The two PMs will be collocated, as well. The data analysts and data scientists may be split between the two rooms to encourage separate projects and cross-talk with the IT team.

The core hours for the team will be 8:30 am to 4:30 pm. They will use the Slack software to communicate electronically. Remote work will be an option, but any local members will be encouraged to come into the office.

**Change Management**

The change management plan will start by building a change management team. This team will be responsible for assessing the impact of the change and communicating through all phases of the change. The communication strategy will include how to ensure that all employees are informed about the upcoming changes. This includes regular updates through Slack, email, and verbal communication.

A training program will need to be created and evaluated for any significant changes. Ongoing support will need to be developed and monitored after the change is implemented. Finally, a continuous monitoring and feedback system will ensure the change is effective and necessary.

**Assessing Team Success**

The team’s success would be monitored mostly through key performance indicators (KPIs). These would include measurable metrics by which the effectiveness of the team can be tracked. Employees would be aware of their effect on these KPIs through continuous feedback and regular performance reviews. Employees will also be asked to give their feedback on the satisfaction that they receive by working for the team.

Since this is a data analytics team, the effect on the company as a whole must also be measured. The quality of the data processed and the analysis performed will be regularly reviewed. Compliance with company and legal data requirements must also be measured. This will involve audits by the data governance team.