DIGITAL NEST - SALINAS BRANCH

Jerri Schorr

Nicholas Vasquez

Math 362S: Mathematics Consultants

Dr. Alana Unfried

5/8/20

Executive Summary

California State University Monterey Bay students Nicholas Vasquez and Jerri Schorr spent the Spring 2020 semester working with data from Digital Nest Inc. Nicholas and Jerri are both Statistics majors who are pursuing career goals in data science, applied statistics, and mathematics teaching. Digital Nest Inc. is an organization that provides academic and professional career preparation for the Watsonville and Salinas communities, primarily working with youth. Nicholas and Jerri will be working at the Salinas location, located at 615 Williams Road inside the Cesar Chavez Library. Digital Nest in Salinas can be contacted at (831)-722-6378. The supervisor for this project was Career Specialist and Front End Developer, Franco Sanchez. Franco can be contacted at franco@digitalnest.org. The Salinas branch of Digital Nest needed their current data centralized into one place for data analysis purposes. They also needed new survey methodologies. Originally, when the past data was centralized and new data was collected, consultants Nicholas and Jerri would have continued analyzing the data to extract any useful information that Digital Nest could have used for future reporting purposes. The consultant's solution and scope of work changed due to COVID-19. The consultants were assigned a new task, to provide suggestions and fix errors on a Google spreadsheet containing retention rates. Nicholas and Jerri followed a weekly schedule remotely for Digital Nest to complete changes to the retention rate spreadsheet, spending a minimum of 30 hours on the project. The provided laptops from Digital Nest contained the data in addition to the Google Drive and are the only resources the consultants needed. Both client and consultant evaluated each other by grading communication and project completion.

Consultant Introduction: Nicholas Vasquez | 831-800-6909 | nvasquez@csumb.edu

Nicholas Vasquez is a junior undergraduate Statistics major from California State University Monterey Bay. Nicholas plans on becoming a Biostatistician and directing scientific research in the healthcare industry. He uses programming languages like "R" to solve problems by analyzing data. Through his tasks at Digital Nest, he has improved his skills in excel, learned how to conduct surveys, and learned how to solve problems in data analysis methods by finding mathematical errors and recognizing improper use of statistical definitions.

Consultant Introduction: Jerri Schorr | 412-852-2635 | jschorr@csumb.edu

Jerri Schorr is currently a student at California State University, Monterey Bay, majoring in Statistics and minoring in Mathematics. Jerri lives on the CSUMB campus in Marina, California and is expected to graduate in May 2021. Jerri used Google Sheets to complete surveys and clean up data issues that Digital Nest was experiencing with the retention rates of their classes. Through the project, Jerri learned more about the data collection process in a real life setting. There was also a learning process in how to look through collected data and give educated suggestions on how to analyze and calculate the data in a better or more efficient way.

Nicholas P. Vasquez

1661 Madrid St. Apt. 3 ● Salinas, CA ● (831) 800-6909 ● nivasquez@csumb.edu

Goal: Become a Biostatistician & direct scientific research in the healthcare industry

SKILLS

- Communication, Emotional Intelligence, Public Speaking, Time-Management & Dependability
- Fundamental Statistics, Differential & Integral Calculus, Math Tutoring, Data Analysis
- Proficient in R Studio, Python, LaTeX, Tableau, Excel, Powerpoint

EDUCATION

- **California State University Monterey Bay (CSUMB)** - B.S. Statistics *6/2021*
- **Monterey Peninsula College (MPC)** - Monterey, CA *8/2015 - 5/2019*
  Associate of Science for Transfer in Mathematics with Honors
  Associate of Arts in General Studies : Communication & Analytical Thinking, with Honors

PROFESSIONAL EXPERIENCE

- **Instructional Student Assistant - CSUMB College of Science** *8/2019 - Present*
  Work with professors to schedule times when students take make-up exams. Monitor students during their exams and ensure all academic integrity is followed.
- **Math, Statistics & Science Tutor - TRIO Learning Center** *9/2018 - 5/2019*
  Tutored university-level science and math courses. Certified in required online and in-class tutor training. Used student data to create and report data analysis findings.
- **Intern - MPC Planning, Research & Institutional Effectiveness** *9/2018 - 5/2019*
  Assisted with data evaluation and interpretation. Utilized Microsoft Power BI and Excel to perform statistical analysis on data. Coded qualitative survey data into quantitative data.
- **Math & Statistics Tutor - MPC Math Learning Center** *9/2017 - 5/2019*
  Tutored Algebra, Statistics, Trigonometry & Calculus subjects to college students.
- **Clerical Assistant - MPC Veterans Resource Center** *9/2015 - 12/2016*
  Worked with veterans to collect, review & process their educational benefits paperwork.

LEADERSHIP ACTIVITIES

- **Director of Student Welfare - Monterey Peninsula College** *9/2019 - 12/2019*
  Managed $60,000 trust fund to purchase food and hygiene products to give out for free to students. Conducted meetings for finding ways to reduce student expenses. Organized free food share events with Monterey County Food Bank. Purchased food for tutoring centers.
- **Student Club Budget Representative - Monterey Peninsula College** *08/2016 - 12/2018*
  Managed multiple budgets for Educational Opportunity Program (EOP) Club, Environmental Club, and Veteran's Club. Debated and voted on financial requests made by other clubs.

AWARDS

- Certificate of Special Congressional Recognition, Director of Student Welfare 12/*2019*
- California Legislature Certificate of Recognition, Director of Student Welfare 12/*2019*
- Bernard Osher Foundation Scholarship Award 5/*2017*

Jerri Schorr

Marina, CA | jschorr@csumb.edu | 412-852-2635

Education:

B. S. Statistics with a minor in Mathematics — Expected Graduation: 05/2021
California State Monterey Bay, Seaside, CA

A. A. Liberal Arts with a focus in Psychology — Graduated: 05/2019
Hartnell Community College, Salinas, CA

Experience:

Mathematics Tutor, Hartnell Community College, Salinas, CA — 08/2017 - Present

- Support students in college path
- Connect students to the proper resources
- Mentor students in Math/Statistics courses
- Train new tutors

Food Origins Internship, Salinas, CA — 05/2019 - 07/2019

- Analyzed complex, large data about strawberry field growth
- Researched subject specific details to obtain better knowledge of data
- Created visualizations to show successes and failures of the fields analyzed

Statistics Supplemental Instructor, Hartnell Community College — 08/2017 - 05/2019

- Mentor 30 - 50 students in a statistics course per semester
- Schedule structured tutoring sessions to assist students with subject matter
- Create lesson plans, worksheets, and educational games to help the students succeed in the course

Skills

Proficient in C++, R, LaTex, Microsoft Office, and Google Applications

Excellent at planning and coordinating formal events

CPR and First Aid Certified

Client Information

The organization that the consultants are working for is Digital Nest Inc. There are two locations, one in Watsonville CA, and the other in Salinas, CA. The consultants are working at the Salinas location: 615 Williams Rd, Salinas, CA, 93905. Franco Sanchez, Career Specialist & Full Stack Software Developer, is the client. Franco can be contacted by phone at 831-722-6378, and through email at franco@digitalnest.org.

DigitalNEST connects youth to a skill-building community that transforms them into professionals who can create successful careers, innovative solutions, and prosperous communities. Clients include people in the area from age 13 to 24 years old. The cultural background is mostly Latino or Hispanic. The economic area served is a low to middle class area.

Scope of Work

The original plan for this project was to assess the data collection procedures of the Digital Nest workspace. The Salinas branch of the company is new and wanted a functional way to collect data on safety, productivity, and leadership in the workspace. The data also needed to be centrally located and easy to find to use for the future. Digital Nest's current data and new data collected this semester would have been analyzed to see if there were any trends on the three mentioned subjects. The consultants were going to help the client complete these tasks by administering surveys in the workspace two days per week to collect new data. The consultants also would have worked with the client on parameters for leadership and safety to create surveys for these subjects. The consultants would have created procedures to administer these surveys for

further use in the company. The consultants and client agreed that the consultants would work on-site 2 hours per week and remotely for an additional 2 hours per week to complete all tasks. The completed works would have been shared with everyone through Google Drive and the task management website called Asana.

After temporary closure of the Salinas Public Library due to Coronavirus (COVID-19), the Digital Nest space was temporarily closed and remains closed at the time of this report. The consultants were only able to survey the students at Digital Nest for two weeks. The consultants were informed that they no longer needed to complete the original tasks. Since the original tasks were postponed, that is the reason why the consultants did not finish the original tasks. The new tasks assigned to them would be to analyze the retention rates of different Digital Nest programs and check them for statistical errors. The consultants made several changes to the retention rate spreadsheet, including but not limited to:

- Creating a new column for student data called “Late Start.” This was made to capture students who were not originally present when the person who collected the data started their class. These students are not retained by definition and should not be included in retention rates. For example, a student should only be counted as retained if they started the class nearly or on time and stayed until the end.
- Kept retention rates at or under 100%, suggesting strict definitions for what counts as a student being “retained.” It is up to Digital Nest to create a true definition of what they believe “retention” means. For example, a student who stays for at least half the class can be counted as retained. Many businesses have different perspectives on what retention

means to them, or fits their standards. Retention rates should also be between 0 to 100 percent for data visualization purposes.

- Highlighting data that did not make sense in the context of the situation or were errors
- Changing weighted averages to averages since there were plenty of missing data
- Fixing automation in particular cells with formulas to prevent errors from showing up that were mislabeling cells as containing errors

Further explanation is in the spreadsheet sent to Franco Sanchez. Please note that the consultants did not fix all problems in the spreadsheet due to time constraints. This includes start and end column averages and graphs. The consultants are open to being contacted anytime to answer questions about their work, email preferred.

Capacity Building

The organization will benefit from this project by having current and accurate data and statistics to show to future donors and funders. The updated Digital Nest Data Dashboard now gives the client a more accurate representation of the overall retention rate for each Digital Nest location along with individualized retention rates for each class offered every semester. The consultants left detailed instructions and notes in the Google Sheets Dashboard file so that the client is able to replicate the formulas for future semester classes. The current sheets are set up to automatically calculate proper retention rates as the data is entered by the Digital Nest employees. The employees were already very comfortable with using Google Sheets and had replicated the dashboard themselves. The consultants corrected calculations and pointed out unique anomalies within the dashboard so that the employees can have more accurate values

from their data in the future. This data dashboard is important to the company now and in the future so that they can show their donors the amount of people they serve in the community as well as the retention rates of those people.

Deliverables

Due to the complications and closures during the COVID-19 pandemic, the original items that were to be delivered to the client have changed. The consultants collected two weeks worth of surveys from the Digital Nest in Salinas. These surveys are the company's Google Drive so that they have constant access to them. The updated Data Dashboard that the clients worked on is also on the company's Google Drive so that they have continued and constant access to it. All changes, suggestions, and instructions were placed in comments on the Google Sheet in the Drive by the consultants so that they can be revisited by the client at any time.

Resources

Jerri and Nicholas used the laptops provided by Digital Nest to complete the surveys in the beginning of the project, as well as updating the Data Dashboard. All tasks were completed using the Digital Nest Google Drive. The clients used Google Sheet files within the Drive to complete all of the tasks assigned. Jerri and Nicholas also used their education from previous statistics courses as well as some brief research to give suggestions to Franco Sanchez on how to make the data dashboard better.

Tasks

Jerri and Nicholas were originally tasked with administering surveys at Digital Nest twice per week. Due to COVID-19, they were only able to collect surveys for the first two weeks of March. The clients spent eight hours collecting surveys for two weeks. After March 13th, the project came to a halt due to the closures of California State University Monterey Bay and Digital Nest. At the beginning of April, the consultants agreed to help Digital Nest update their Data Dashboard. Nicholas and Jerri spent eight hours going through all of the files within the Dashboard to find errors and anomalies. In the second week of April the clients fixed the errors they found by changing formulas and calculations within the Google Sheets. The consultants also left suggestions for the client in the Google Sheets. This final task took six hours to complete. By the third week of April, the consultants finished their tasks and attended a final meeting with the employees of Digital Nest to go over the finished products and the required paperwork to be signed.

Evaluation

Franco Sanchez was very pleased with the updates and suggestions we made in the Data Dashboard. Digital Nest was also grateful for the work we completed given the unusual circumstances caused by the pandemic. Nicholas and Jerri were happy to help the client where possible given the restraints of needing to work from their homes. The consultants are happy with the updates made to the Dashboard and feel that their corrections and suggestions will help the Digital Nest in the future. The consultants were pleased with Franco's understanding and

help throughout the project. There were many twists and turns in the original project due to COVID-19 and the client was very easy to work with through all of them.

Conclusion

The updated Dashboard is helpful to the community because it allows Digital Nest to receive funds from its donors. The funding from the donors allows Digital Nest to continue its work in educating the youths in the local areas so that they can be better prepared for the workforce or college after they graduate highschool. The Dashboard is automated so that future data that is collected by the employees can be entered and retention rates and attendance counts can be calculated and updated. This will help the client in the future so that they can easily show their progress as an organization to the donors. The knowledge of class attendance and retention rates also helps the Nest locations prepare for the number of students they will serve in the community each semester.

Jerri and Nicholas would like to sincerely thank Franco Sanchez, the Digital Nest, its employees, and its members for allowing us to do this project. The experience gained by the clients is incredibly helpful to their success as statistics students.

Obligation Statement and Signature Lines

Consultant(s):
I agree to complete forms, evaluations, and other paperwork needed by either my course instructor or site supervisor. I have reviewed and agreed to adhere to the CSUMB Guidelines for Service Learners as well as the policies of my site. Also, I agree to discuss any concerns about this placement with the site supervisor and when necessary, the course instructor.

_____Jerri Schorr_____05/08/2020_____
Consultant Signature Date

___Nicholas Vasquez_____5/08/2020_____
Consultant Signature Date

Client:
As on-site supervisor of the above student, I hereby agree to guide this student's work and to submit a midterm and final evaluation of her/his achievement upon request. I also agree to discuss any concerns about the service learner's performance with her/him directly, and with the course instructor if necessary.
_____Franco Sanchez_____May 4, 2020____
Client/Site Supervisor's Signature Date

Statement of Confidentiality

I, (the Client), hereby give / [do not give] (the Consultant) permission to discuss the issues addressed in this project to the public and release findings from the final report.

_____Franco Sanchez_____DigitalNEST_____Software Dev_____May 4, 2020
Client Signature Organization Title Date

Jerri Schorr	Jerri Schorr	05/08/2020
Consultant Name	Consultant Signature	Date
Nicholas Vasquez	Nicholas Vasquez	05/08/2020
Consultant Name	Consultant Signature	Date

DELIVERABLES: Report Outline

PROJECT TITLE: Digital Nest Service Learning

1.0 - PROJECT DESCRIPTION

The project included administering surveys to students at the Digital Nest. The surveys were observational of the behavior of the students. The final task in the project was to clean errors found in data collection and properly calculate the attendance and retention rates for the classes offered at Digital Nest.

1.1 - RESEARCH QUESTIONS

Question 1: How productive are the members of the Digital Nest?

Question 2: What are some ways that Digital Nest can improve the Data Dashboard?

1.2 – MATHEMATICAL/STATISTICAL QUESTIONS

Question 3: What is the average attendance of classes?

Question 4: What is the retention rate for each class?

Question 5: What is the average retention rate of all classes?

1.3 - VARIABLES OF INTEREST

Response Variables: Attendance and Retention Rates

Explanatory Variables: class names, semester, starting attendance, ending attendance, late start students

2.0 - EXPLORATORY DATA ANALYSIS (EDA)

The consultants designed new ways to collect data.

1. *Calculated the average retention rate in a new way because the missing start data was severely skewing the average retention rate with the current calculations*
2. *Define retention as a value between 0% and 100%. If there are students that join the class after the start period then they should be considered "Late Start" students. Retention rates should not exceed 100% for data visualization purposes. Retention must be properly defined by Digital Nest; more explanation of this is located in page 8 of the final report.*
3. *The mid attendance is very inconsistent so the consultants did not have any useful suggestion for this column.*
4. *Consultants changed all average retention rate calculations by calculating the average of the "retention %" column. It was originally calculated using weighted averages, but there is too much missing data for this to be consistent. Additionally, this ensures that the missing start and end data does not skew the retention rates*

3.0 –STATISTICAL ANALYSIS

The consultants researched the definition of retention rate to assist them in calculating the retention rates in the files and dashboard. The consultants also noted where there was missing data or anomalies in the data that was collected. An example of this was where the “Targeted” column was much smaller than the “Registered” column in the files.

4.0 - RECOMMENDATIONS

Question 1 Recommendations: Clients collected two weeks worth of surveys and recommend making data collection a higher priority for consistency in productivity data

Question 2 Recommendations: Be sure to input data as often and accurately as possible. There are many sections of missing data. This will cause analysis to be harder in the future. Data collection should be a main task for any chosen employee.

Question 3 Recommendations: The formulas are correct and up to date on the dashboard. Input start and end attendance for every class for best results.

Question 4 Recommendations: These calculations have been done and formulas have been put into place. Retention rates should always be between 0% and 100%. Input start and end attendance for every class for best results.

Question 5 Recommendations: The average retention rate on the dashboard shows a proper value under 100% so that predictions can be made more properly.

5.0 - RESOURCES

All suggestions, notes, and instructions have been placed in the master comment on the Data Dashboard. The cell has been highlighted in yellow to ensure that it is easy to find in the future. Examples of calculations have also been provided in the comment to show how the values are created.

6.0 - CONSIDERATIONS

One thing to consider is that the average retention rates are no longer calculated based on the weight of each class. The missing data for each semester was causing the retention rates to be severely skewed. Calculating retention rates and accounting for weights were not efficient due to the lack of data. If start and end data becomes consistent, then calculating the average and accounting for weights will be acceptable.

7.0 – APPENDIX OF DELIVERABLES

1. Two weeks of surveys are located in the proper tabs of the Google Sheet in the Digital Nest Drive
2. The updated Dashboard and all of its included sheets are located in the proper file in the Digital Nest Drive.

Completion Statement and Signature lines

As on-site supervisor of ____Nicholas and Jerri__, I hereby agree that the student completed and submitted all necessary materials as proposed. Uncompleted tasks were not due to student negligence, but time or resource constraints (such as COVID-19). The student completed their community service at a satisfactory level within the guidelines of the original proposal.

____Franco Sanchez_____May 4, 2020___

Site Supervisor's Signature Date

I have discussed and agreed with the site supervisor's assessment that I completed my service hours at a satisfactory level within the guidelines of the original proposal.

__Jerri Schorr_____05/08/2020_____

Consultant Signature Date

__Nicholas Vasquez_____05/08/2020_____

Consultant Signature Date