Analysis of Participant Data in Program Offerings:

Understanding Demographics, Education, and Industry Trends

at Colab Innovation Centre

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April 26th, 2023

1. Executive Summary

My analysis of participant data at Colab Innovation Centre reveals a diverse group primarily in their late 20s to early 40s, with a slight male majority. Participants are highly educated, often holding advanced degrees, from different industries ranging from finance and technology sectors. Program preferences vary by industry and education level, with higher education correlating with specialized program choices. Program cost and duration are linked, and participants prioritize high-value, efficient learning. Salary expectations are high, and remote work flexibility is highly desired. The program enrollment changes seasonally, highlighting the need for strategic program timing. To optimize program offerings, I recommend targeted marketing, diverse program formats, industry alignment, remote work options, and strategic scheduling. To further enhance our program offerings and address the underrepresentation of women in certain fields, we are implementing a value stream mapping (VSM) process. This process aims to streamline operations, reduce cycle times, and increase value-added time, ultimately improving efficiency and diversity in program delivery.

Table of Contents

Table of Figures

2. Background

In this report, I have analyzed participant data collected from our innovation center. This dataset included details like each participant's unique ID, demographic background, education level, the gender in which they identify, the age of each individual, the industry, the specific programs they completed, and a verbal survey question at the end of each program to understand their salary expectations after the program to what will drive the skills learned which were centered around remote job or better salary. My goal was to provide our board members with actionable insights that would help us improve our program offerings and more effectively meet the diverse needs of our participants. The insights gained from this analysis will be used to inform the VSM process, ensuring that our efforts to increase efficiency and diversity are data-driven and aligned with the needs and preferences of our target audience.

To address the underrepresentation of women in certain programs and enhance operational efficiency, we are implementing a value stream mapping (VSM) process. This initiative aims to streamline processes, reduce cycle times, and increase value-added time, ultimately improving program delivery and diversity. The VSM process will involve analyzing the current state of operations, identifying bottlenecks, and implementing improvements to achieve a more efficient and diverse future state.

3. Constraint and Scope of Study

Our Value stream map will focus on addressing the following constraints:

- Low female participation in programs
- Slow periods during marketing and SWOT analysis

The scope of the VSM project includes:

- Expanding program offerings
- Increasing staff

- Reducing wait times

By addressing these constraints and expanding our scope, we aim to create a more inclusive and efficient program delivery process.

4. Analysis and Findings

4.1. Demographics

My analysis of participant demographics revealed that our programs attracted a diverse mix of ages and genders. Age-wise, we saw participants from a wide range, but most people were in their late 20s to early 40s. Regarding gender, the split was not fully balanced, we had slightly more male participants than female participants during the duration of a timeline (2021-2023). I included charts to visually demonstrate these age and gender distributions.

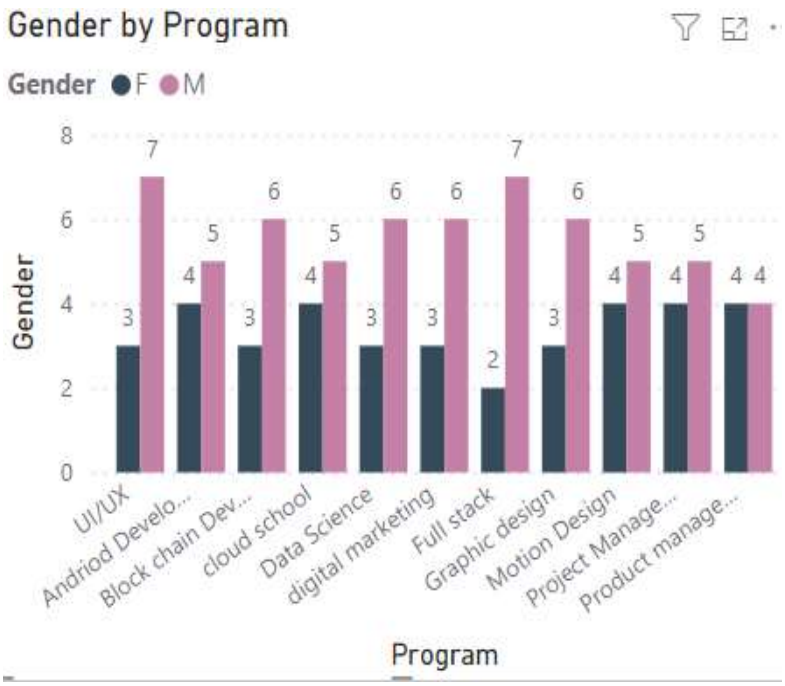


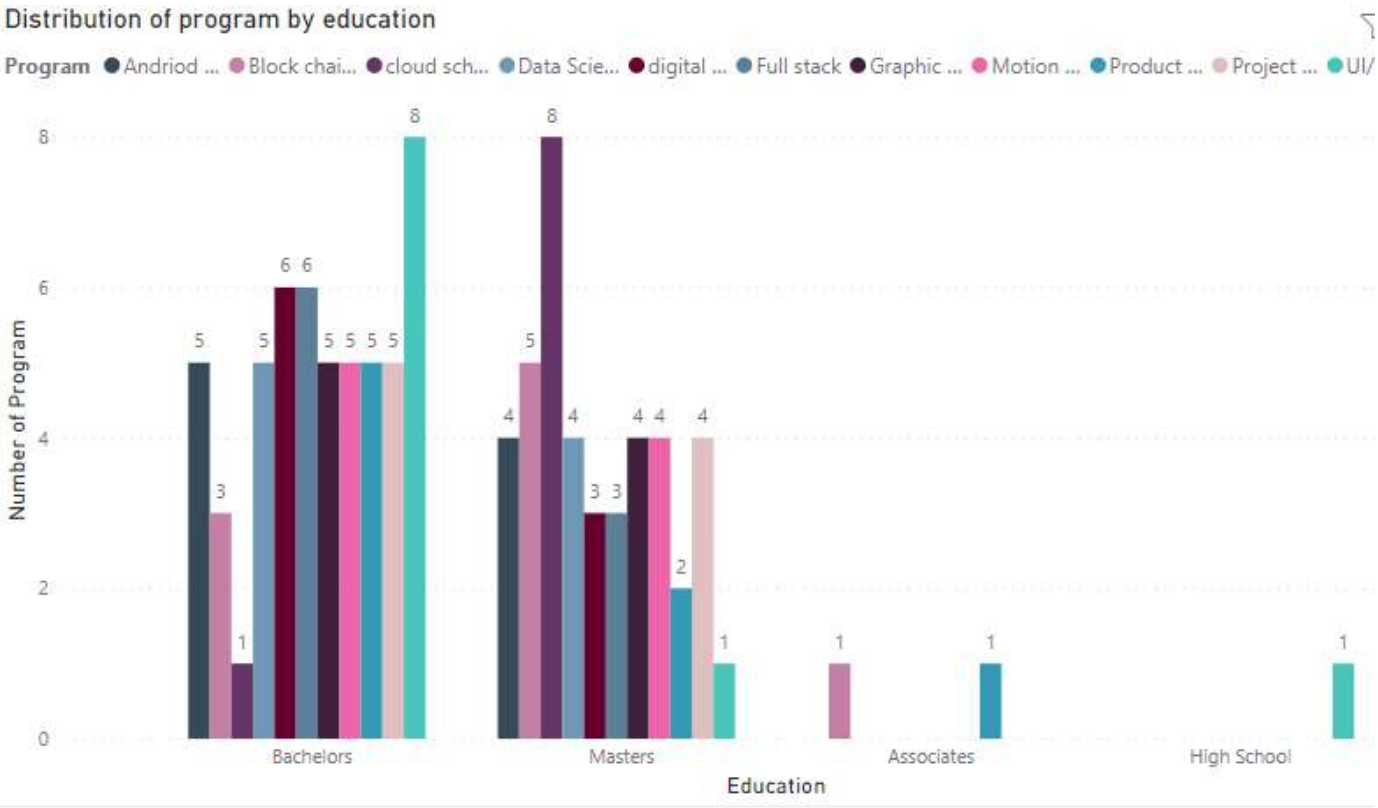
Figure 1: Gender distribution by program enrollment.

Figure 1 shows a significant difference in gender representation across various programs. Programs like Digital Marketing and UI/UX have the highest percentage of male students (with a total number of 7

each) while fields like Product Management, Full Stack, and Graphic Design have very low female enrollment (4,4 and 2 respectively). This highlights a potential gender disparity in specific technical program choices. This finding underscores the need to integrate diversity into our program offerings, a key focus of our VSM initiative. The current VSM process has a total cycle time of 4 months, with only 22 days being value-added time. The future state process will reduce the total cycle time to 3 months and 24 days, with 24 days being value-added time. This improvement in efficiency will allow for quicker program iterations and adjustments to better cater to the diverse needs of our participants.

4.2. Education

When I looked at participant education levels, most had either bachelor's or master's degrees. We also had a smaller number of people with associate degrees or high school diplomas. What was interesting was my correlation analysis – it showed that participants with higher degrees tended to choose our more



specialized programs. I included charts to clearly illustrate how education levels varied between the programs we offer.

Figure 2 shows how many different educational programs are offered at each level, from high school up to a master's degree, specifically focusing on its technology fields. There were 54 participants with bachelor's degrees, 42 with master's degrees 2 with associates, and 1 with high school certificate leading to a total of 99 participants and 11 programs across all educational levels. This highlights the importance of offering a variety of programs to cater to different educational backgrounds, a consideration that will be incorporated into the VSM process to ensure that our program offerings are accessible and relevant to individuals at all educational levels.

4.3 Industry

My analysis showed that the most common industries for our participants were finance and technology, with healthcare and education also well represented. Interestingly, as I dug into the data, I discovered that certain programs attract more people from specific industries. For example, our data science program drew heavily from the technical sector. I've included charts that clearly show these industry participation patterns.

Figure 2: Program distribution across the educational level.

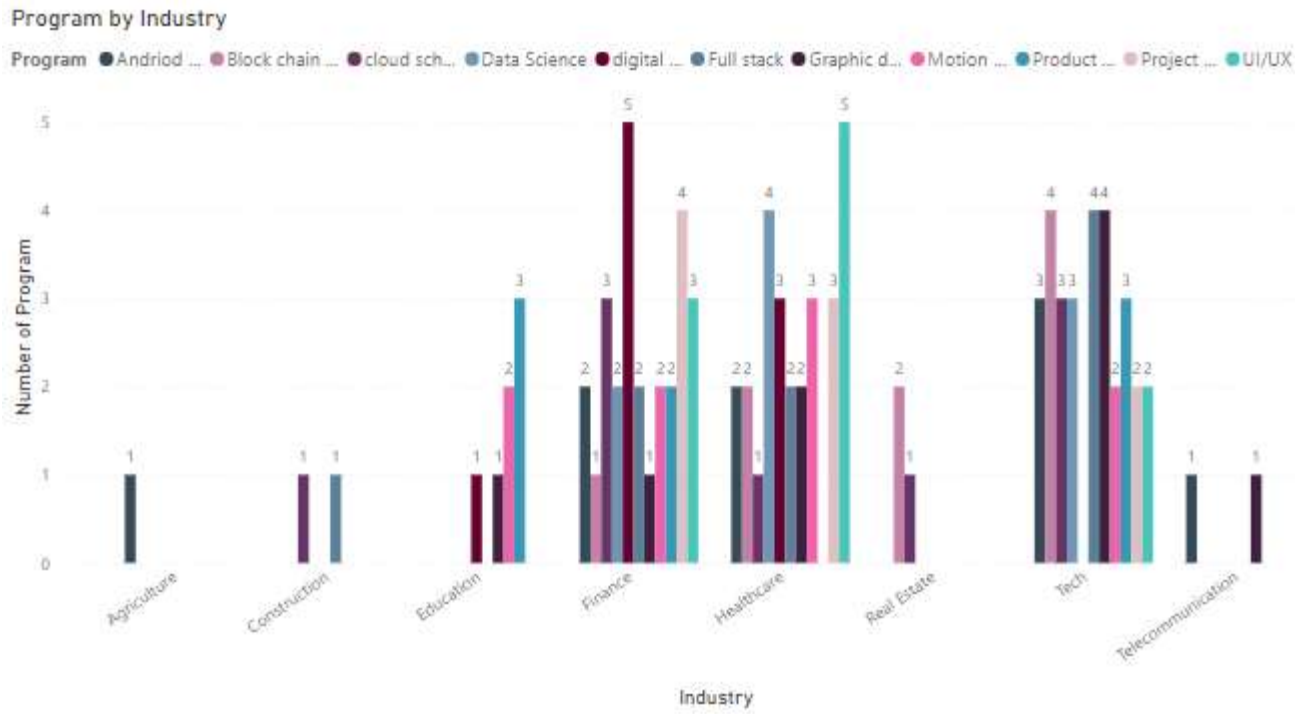


Figure 3: shows the program distribution by industries.

Figure 3 shows us which industries our participants come from, broken down by the specific program they chose. highlighting some interesting trends, for example, people from the technical sector are much more likely to choose our Data Science program, while those already in education tend to gravitate towards our education program. There were some industries like healthcare and finance in which participants in those programs didn't have any connection. This helps us understand how different professional sectors view our program offerings. This suggests that targeted marketing efforts could be employed to attract participants from underrepresented industries to specific programs, aligning with the VSM goal of expanding program offerings and increasing diversity.

4.4 Program Details

My analysis revealed that program costs and lengths varied quite a bit. Some programs were significantly more expensive and ran for a longer time than others. Interestingly, I discovered that longer programs

were generally more expensive. I've included charts that demonstrate the cost and duration differences between our programs.

Figure 4 shows the cost by Duration.

Figure 4 tells us that longer programs generally cost more. You can see those short programs, maybe around six months long, cost an average of $50. But those lasting almost 4 months tend to cost $150. This clearly shows that investing in shorter and more valuable programs will usually mean a higher price tag. This information can be used to inform pricing strategies and program duration decisions in the VSM process, ensuring that programs are financially accessible and offer value for their duration.

4.5 Salary Benefit and Expectations Post-Completion

My analysis of salary and benefits showed that pay varied based on the participant's industry and the specific program they completed. There were small differences in pay between men and women as well. Many participants expected to see salary increases or better benefits in their industry after finishing our programs. Additionally, there was a clear preference for remote work options, indicating that people value flexibility. These insights show that it's important I continue to align our programs with both what employers are looking for and the desire for flexible work arrangements. I've included charts that demonstrate the choice of salary benefits and expectations after completing the required program.

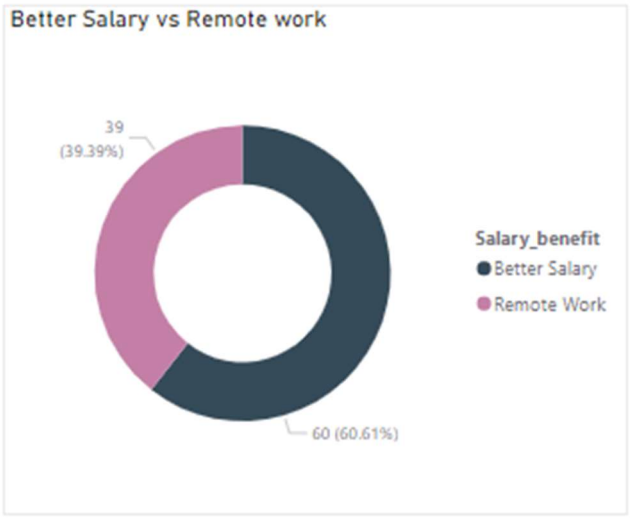


Figure 5 shows the Better salary & Remote Work

Figure 5 shows us that more participants want a salary boost after completing our programs depending on which program they chose. A percentage of 60% wanted a better salary after completion of the required program as something to look forward to, while 39% were more clinging to finding remote jobs for comfort and openness to paths. This tells us that some of our programs are likely to prepare people for higher-paying careers than others. These findings highlight the importance of aligning program outcomes with participant expectations, such as salary increases and remote work opportunities. The VSM process can incorporate these insights to optimize program delivery and ensure that it meets the career goals of participants.

4.6 Seasonal Trends

When I looked at program enrollment data from 2020 to 2022, I noticed some clear seasonal trends for example in 2020 the 3rd quarter of the year there was a wilder increase in participants. For 2021 there was more increase in participants in the 2nd and 3rd quarter of the year and lastly, in 2022 there was a mild range of increase in population during the 1st quarter of the year. The number of people signing up for our programs wasn't always the same some months were much busier than others. I created charts to visualize these enrollment patterns, making it easy to see the peaks and troughs throughout each year.

Figure 6 shows the Number of gender by months in 2020

Figure 6 shows that people don't sign up for our programs at the same rate all year long. Enrollment numbers go up and down, with a big enrollment spike in male participants towards August, and then a drop-off in the spring and summer months. This showcases that more male audiences are willing to join a skill program towards the summer period where they are more likely to enroll. There was a known turnout in the year 2020 for female audiences to come to our program training.

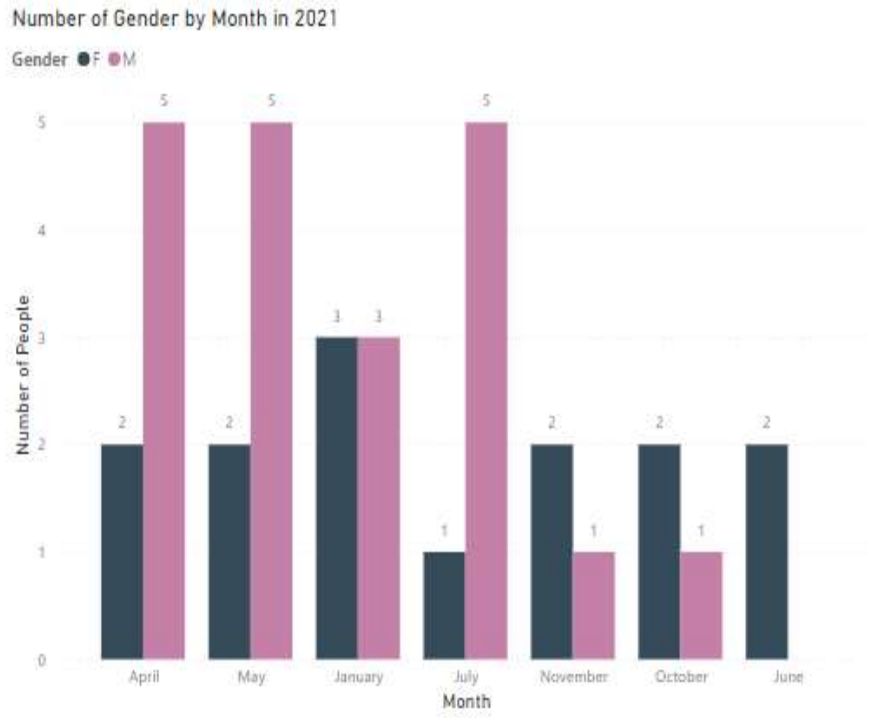


Figure 7 shows the number of gender by months in 2021

Figure 7 7 shows that Enrollment numbers increased with male audiences from January to April (winter to spring. This showcases that more male audiences are willing to join a skill program towards the winter period in 2021 where they are more likely to enroll. Based on the news it was predicted to see few

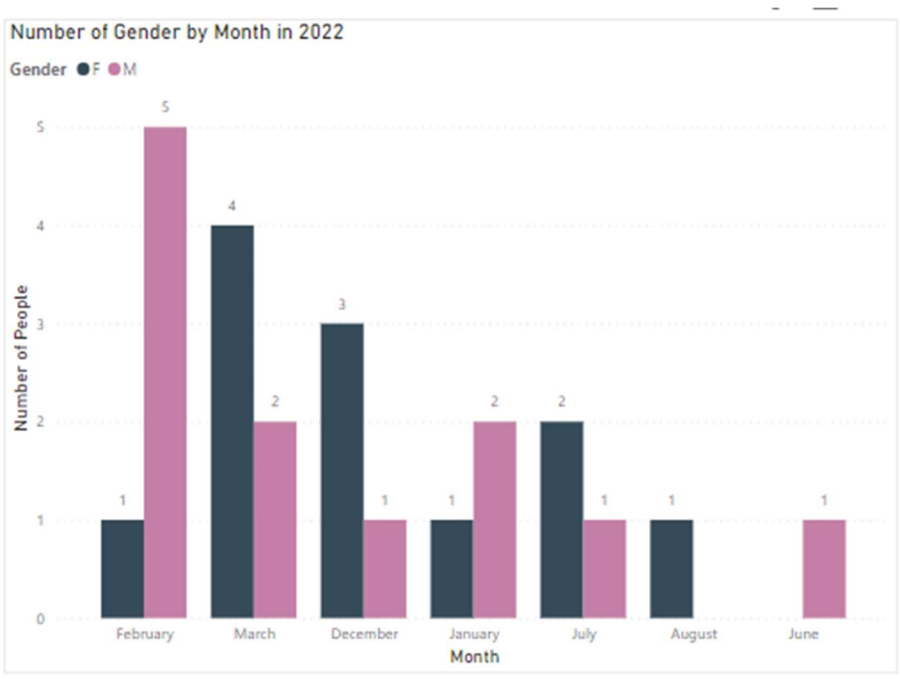


Figure 8 shows the number of genders by months in 2022.

Figure 8 shows that other enrollment numbers increased with male audiences in February 2022. This also indicates that more male audiences are willing to join a skill program towards the winter period in 2022 when they are more likely

to enroll. There was a better turnout for female audiences to come to our program training compared to the two previous years (2020 & 2021).

5. Conclusion

In conclusion, by analyzing the data from our innovation center participants, we've discovered several key insights that can help us enhance our program offerings and marketing strategies. Our participants vary in age and education, with a slight majority of men. However, some programs have a gender imbalance, indicating the need for targeted interventions to promote diversity. We also found that higher education levels correlate with specialized program choices and that certain industries are interested in specific courses. Additionally, we observed that program cost and duration are related, with a preference for shorter, high-value courses. Participants generally expect higher salaries and value remote work opportunities, highlighting the need to align our programs with market demands. Furthermore, we identified seasonal enrollment fluctuations, offering valuable insights for optimizing program scheduling. By leveraging these findings and integrating them into our Value Stream Mapping (VSM) process, we can create more effective, inclusive, and efficient programs that cater to the diverse needs and expectations of our participants.

6. References

The analysis utilized SQL for data management and Power BI for data visualization. Additional data was collected from company inventory and surveys using tools like Google Forms Skill analysis pdf.pdf

Colab sql.pdf

Data collection was obtained from company inventory data

Cheryan, S., Plaut, V. C., Handron, C., & Hudson, L. (2015). The Stereotype Threat vs. The Stereotype Promise: The Effect of Stereotypes on Women's STEM Performance. Psychology of Women Quarterly, 39(3), 338–352.

Gartner. (2019). Gartner Survey Reveals Talent Shortages Remain Top Risk, But Leaders Are Prioritizing Upskilling to Close Gaps.

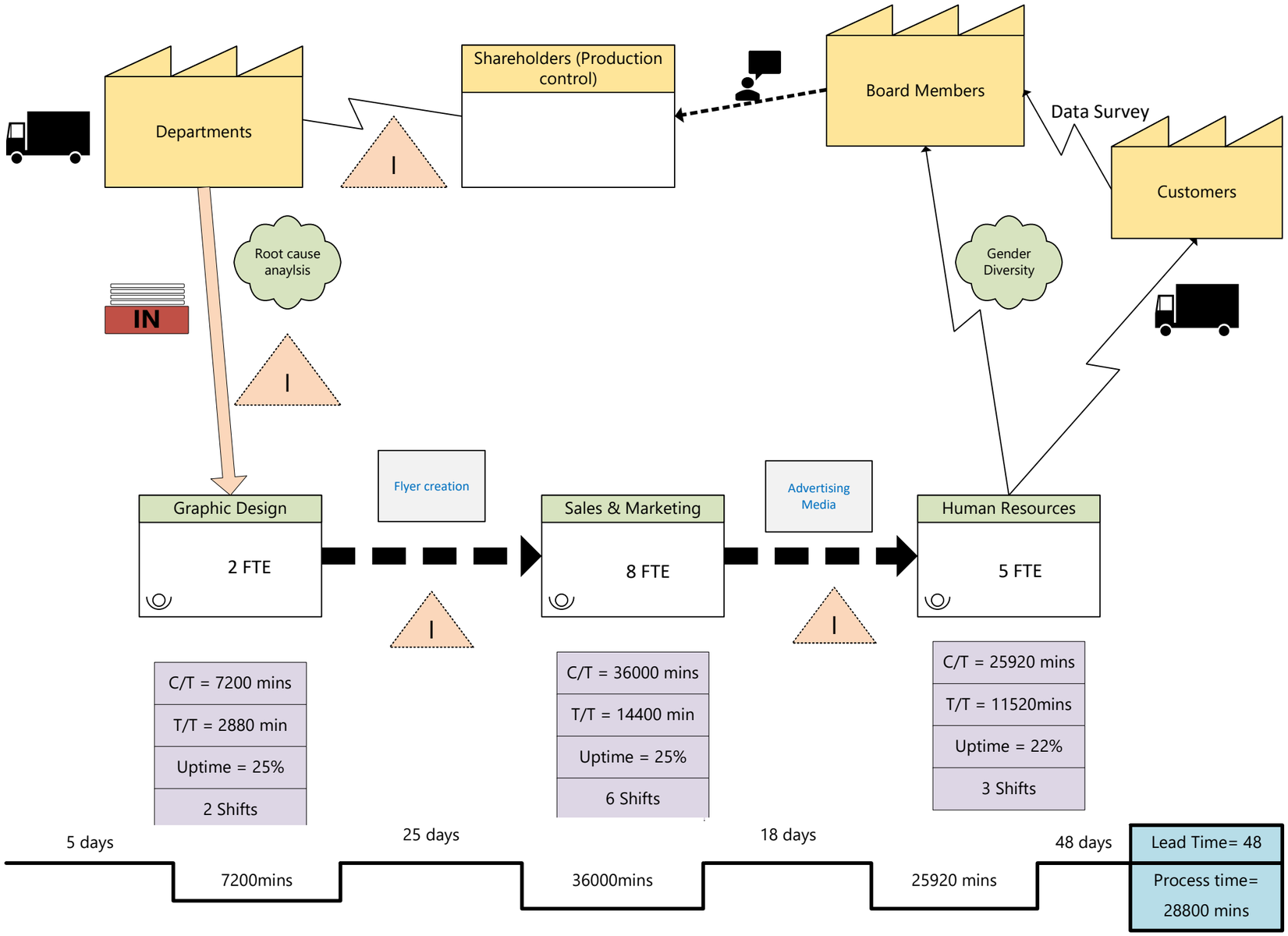
Owl Labs. (2021). State of Remote Work 2021.

Rother, M., & Shook, J. (2003). Learning to See: Value Stream Mapping to Add Value and Eliminate Muda. Lean Enterprise Institute.

Womack, J. P., & Jones, D. T. (2003). Lean Thinking: Banish Waste and Create Wealth in Your Corporation. Simon and Schuster.

World Economic Forum. (2020). The Future of Jobs Report 2020

7. Value Stream Map


Departments
Shareholders (Production control)
Board Members
Data Survey
Customers
Root cause anaylsis
IN
Gender Diversity
Graphic Design
2 FTE
Flyer creation
Sales & Marketing
8 FTE
Advertising Media
Human Resources
5 FTE
C/T = 7200 mins
T/T = 2880 min
Uptime = 25%
2 Shifts
C/T = 36000 mins
T/T = 14400 min
Uptime = 25%
6 Shifts
C/T = 25920 mins
T/T = 11520mins
Uptime = 22%
3 Shifts
5 days
7200mins
25 days
36000mins
18 days
25920 mins
48 days
Lead Time= 48
Process time= 28800 mins