

CONSOLE CREATION OPERATIONS

Project report submitted in partial fulfilment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING/ INFORMATION TECHNOLOGY

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CANDIDATE'S DECLARATION

I hereby declare that the work presented in this report entitled “**Console Creation**” in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology Computer Science Engineering** submitted in the department of **Computer Science Engineering and Information Technology**, Jaypee University of Information Technology, Waknaghat is an authentic record of my own work carried out over a period from February 2023 to May 2023 under the supervision of **Mr. Neeraj Sahu (Founders Office, Geekster)**.

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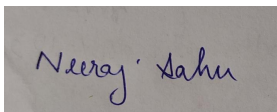
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I express my heartfelt gratitude to my parents who have supported me throughout.

LIST OF ACRONYMS AND ABBREVIATIONS

1. MBO: Management by objectives
2. BAU: Business as usual
3. GPO: Group Purchasing Organizations
4. ACO: Accountable Care Organizations
5. IDN: Integrated Delivery Network
6. OVR: Output Validation Report
7. QC: Quality Check
8. EVR: Eligibility Validation Report
9. LOA: Leave of Absence

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Fig.10.1 Fig 10.1: Mail ticketing Dashboard

Fig.10.2 Fig 10.: Module Movement Dashboard

ABSTRACT

I am a Data Analyst Operations Intern at Geekster working on the project of Data visualization which aims at making dashboards for internal use of the organization.

As an intern, I was required to understand business issues, operating business rules, data, and processes. I was also required to operate business processes on a periodic basis, to include: configuring business rules, synthesizing data and performing quality checks to create error free deliverables. I developed expertise in software technologies / tools to synthesize data according to business rules.

The project deliverables also include identifying and implementing business process improvements on our internal processes with the aim of decreasing effort, improving quality and value. My responsibilities also included reviewing deliverables with project managers to bring out the key useful insights for key client stakeholders and developing domain expertise to become increasingly independent in creating insights

CHAPTER 1

EXECUTIVE SUMMARY

The externship experience in the EdTech sector at Geekster was an enriching and precious occasion for professional growth and skill development. Throughout the externship, the intern was involved in colorful data analysis and functional tasks to support the association's educational technology enterprise.

The intern laboriously shared in data collection and medication, using different sources to acquire applicable educational data. They employed data drawing and confirmation ways to insure data delicacy and integrity. also, data metamorphosis and integration processes were enforced to optimize the usability and effectiveness of the educational data.

In the EdTech sector, the intern applied exploratory data analysis ways to uncover trends, patterns, and perceptivity from educational data. Statistical analysis ways were employed to decide meaningful conclusions and drive data- driven decision- timber. Data visualization tools and ways, similar as interactive dashboards, were employed to communicate findings effectively and support stakeholders in understanding complex educational data.

The intern's benefactions in the EdTech sector weren't limited to data analysis. They laboriously shared in relating areas for process enhancement, aiming to enhance functional effectiveness in data collection, analysis, and reporting procedures. The intern banded with cross-functional brigades, fostering effective communication and knowledge sharing to achieve common pretensions and ameliorate EdTech operations.

The intern successfully completed colorful systems within the EdTech sector, delivering high-quality results and generating practicable perceptivity. Their recommendations grounded on data analysis and findings have made a positive impact on decision- making processes, supporting the optimization of EdTech operations.

Throughout the externship, the intern endured significant particular and professional growth. They expanded their chops in data analysis ways, statistical styles, and data visualization tools specific to the EdTech sector. also, the intern developed a deeper understanding of the unique challenges and openings within the EdTech assiduity, equipping themselves for future career prospects.

The Data Analyst Operation Intern Collage Report in the EdTech sector highlights the intern's achievements, design issues, and recommendations for process enhancement. It also reflects upon the intern's literacy gests and professional development during their term at Geekster.

The externship in the EdTech sector at Geekster has been a precious and transformative experience, furnishing a strong foundation for the intern's future career in data analysis within the education technology assiduity.

CHAPTER 2 INTRODUCTION

2.1 Background:

The field of education has witnessed significant metamorphoses in recent times, with technology playing a pivotal part in shaping the literacy geography. As an EdTech company, Geekster has been at the van of this metamorphosis, using innovative technologies to revise education and enhance literacy gests . As a Data Critic Operation Intern at Geekster, the focus of this report is to give an in- depth analysis of the externship experience in the EdTech sector, pressing the crucial benefactions made and perceptivity gained during the externship.

2.2 Objectives:

The primary objectives of this report are as follows:

To give a comprehensive overview of the externship experience as a Data Critic Operation Intern in the EdTech sector at Geekster.

To validate the tasks, liabilities, and systems assigned during the externship, emphasizing the operation of data analysis ways in the EdTech environment.

To dissect the impact of data analysis and perceptivity on decision- making processes and functional effectiveness within the EdTech sector.

To assess the effectiveness of collaboration and communication strategies within the EdTech terrain and their donation to project success.

To identify areas for process enhancement in data collection, analysis, and reporting procedures in the EdTech sector.

To reflect on particular and professional growth during the externship and estimate the acquired chops and knowledge in the environment of the EdTech assiduity.

To give recommendations for unborn externship programs and suggest ways to enhance the overall externship experience in the EdTech sector at Geekster.

2.3 Methodology:

The report is grounded on a combination of primary and secondary exploration styles. The primary exploration involved laboriously sharing in colorful systems and tasks as a Data Critic Operation Intern in the EdTech sector at Geekster. This included collecting and assaying educational data, developing data visualizations, and uniting with cross-functional brigades. The gests and perceptivity gained during the externship formed the foundation of this report.

Secondary exploration was conducted to gather fresh information on the EdTech assiduity, stylish practices in data analysis for education, and applicable literature. colorful academic and assiduity sources, including scholarly papers, books, reports, and online coffers, were consulted to gather perceptivity and support the findings presented in the report.

The report incorporates both qualitative and quantitative data analysis styles. Qualitative analysis involves assaying private gests , compliances, and reflections during the externship. Quantitative analysis involves the operation of statistical ways to educational data to identify patterns, trends, and connections.

likewise, the report follows a structured approach, exercising applicable headlines and heads to present the information in a logical and systematized manner. The information presented is grounded on the knowledge and gests acquired during the externship in the EdTech sector at Geekster.

Overall, the methodology employed in this report ensures a comprehensive and detailed analysis of the externship experience and its counteraccusations for the EdTech assiduity.

CHAPTER 3

OVERVIEW OF GEEKSTER

3.1 Company Profile:

Geekster is a leading educational technology (EdTech) company that focuses on furnishing innovative results to enhance literacy. Founded in 2019, Geekster has established itself as a pioneer in the EdTech industry, aiming to bridge the gap between education and technology. The company's mission is to revolutionize education by using cutting-edge technologies and data-driven insights.

Geekster offers a wide range of products and services catering to students, teachers, and institutions. Their offerings include online literacy platforms, virtual classrooms, interactive educational content, assessment tools, and personalized learning paths. Geekster's commitment to excellence and continuous improvement has earned them a strong reputation and a loyal customer base.

3.2 Organizational Structure:

Geekster operates with a well-defined organizational structure that facilitates effective operations and efficient decision-making. The company follows a hierarchical structure, with clear lines of authority and reporting. The organizational structure promotes collaboration and ensures seamless communication among different teams and departments.

At the top of the organizational hierarchy is the administrative leadership team. Below them, Geekster is divided into several departments, each responsible for specific functions and areas of expertise. The departments include:

Product Development: This department focuses on developing and enhancing Geekster's suite of EdTech products. It comprises software engineers, product managers, UX/UI designers, and quality assurance specialists.

Data Analytics: The Data Analytics department plays a pivotal role in deriving insights from educational data. Data analysts, data scientists, and data engineers work together to analyze data, identify trends, and provide actionable recommendations.

Sales and Marketing: This department is responsible for promoting Geekster's products and acquiring new customers. It consists of sales representatives, marketing specialists, and client success managers who engage with customers and develop effective marketing strategies.

Customer Support: The client Support department ensures client satisfaction by furnishing prompt backing and resolving inquiries or specialized issues. It includes a platoon of support agents who offer timely support and maintain positive client connections.

Operations and Logistics: This department manages the logistics and functional aspects of Geekster's services. They oversee the delivery of products, handle force operation, and maintain effective force chain processes.

3.3 Key Departments and Teams:

In addition to the departments mentioned over, Geekster has several crucial brigades that unite across departments to drive invention and achieve business objects. These brigades include:

Research and Development Team: This platoon focuses on exploring arising technologies, conducting request exploration, and staying streamlined with the rearmost educational trends. They contribute to the nonstop enhancement of Geekster's products and services.

Project Management Team: The Project Management platoon oversees the planning, prosecution, and delivery of colorful systems. They insure that systems are completed within the defined compass, budget, and timeline.

Content Creation Team: The Content Creation platoon is responsible for developing engaging and interactive educational content. They unite with subject matter experts and educational contrivers to produce high- quality literacy accoutrements .

Partnerships and Business Development Team: This platoon establishes strategic hookups with educational institutions, content providers, and technology mates. They identify growth openings, negotiate collaborations, and expand Geekster's reach in the EdTech request.

The community among these departments and brigades within Geekster enables the company to give innovative results, deliver exceptional products and services, and maintain its competitive edge in the dynamic EdTech assiduity.

Overall, Geekster's company profile, organizational structure, and crucial departments and brigades reflect its commitment to using technology and data to transfigure education and empower learners worldwide.

CHAPTER 4

INTERNSHIP EXPERIENCE

4.1 Pre-Internship Preparation:

previous to starting the externship at Geekster in the EdTech sector, thoroughpre-internship medication was conducted to insure a smooth transition into the part. This involved familiarizing myself with the company's vision, charge, and core values. probing the EdTech assiduity trends, arising technologies, and stylish practices in data analysis for education was also a pivotal part of the medication.

also, I took the action to enhance my specialized chops by enrolling in online courses and attending webinars related to data analysis, statistics, and data visualization. This medication phase helped me gain a solid foundation in the generalities and tools necessary for my externship in the EdTech sector.

4.2 Onboarding and Orientation:

The onboarding and exposure process at Geekster was well- structured and handed a comprehensive preface to the company's culture, programs, and procedures. I was introduced to my tutor, who guided me throughout the externship trip and helped me understand the prospects and objects of the part.

During the onboarding phase, I was handed with access to applicable software tools, databases, and data sources specific to the EdTech sector. The exposure sessions acquainted me with the different brigades, their places, and how they contribute to the overall functioning of Geekster. This enabled me to establish connections and understand the cooperative nature of the association.

4.3 Assigned Projects and Responsibilities:

As a Data Critic Operation Intern in the EdTech sector at Geekster, I was assigned colorful systems and liabilities that allowed me to apply my chops and contribute to the company's objects. These systems included

- assaying stoner engagement data I was responsible for assaying stoner engagement data from the online literacy platform to identify patterns and trends. This involved conducting exploratory data analysis, applying statistical ways, and developing visualizations to present crucial findings.
- assessing the effectiveness of learning modules I worked on assessing the effectiveness of different literacy modules by assaying stoner performance data. This involved conducting relative analysis, relating correlations between module operation and literacy issues, and making recommendations for enhancement.
- Supporting data- driven decision- making I banded with the Product Development platoon to give data perceptivity that informed product advancements. This included assaying stoner feedback, conducting A/ B testing, and presenting practicable recommendations for perfecting stoner experience.
- Conducting request exploration I was involved in conducting request exploration to identify arising trends and openings in the EdTech sector. This exploration helped inform business strategies and product development enterprise.

4.4 Collaboration and Communication:

Collaboration and effective communication played a pivotal part in the successful completion of systems during the externship. I laboriously engaged with cross-functional brigades, including data judges, software masterminds, and product directors, to gather perceptivity, share findings, and unite on data- driven enterprise.

Regular platoon meetings, brainstorming sessions, and design check- sways allowed for open conversations and idea sharing. Tools similar as design operation software, communication platforms, and interpretation control systems were employed to grease flawless collaboration and insure everyone was on the same runner.

likewise, I regularly communicated design updates, findings, and recommendations to stakeholders and platoon members through donations, reports, and data visualizations. Clear and terse communication helped grease understanding and alignment across different departments and brigades.

4.5 Training and Skill Development Opportunities:

Geekster handed colorful training and skill development openings throughout the externship in the EdTech sector. These openings aimed to enhance specialized proficiency, foster particular growth, and expand knowledge in the EdTech assiduity.

I shared in internal training sessions conducted by subject matter experts, covering motifs similar as data analysis ways, statistical methodologies, and data visualization tools. These sessions equipped me with the necessary chops to dissect and fantasize educational data effectively.

also, Geekster encouraged nonstop literacy through external shops, webinars, and online courses. I had the occasion to attend assiduity conferences and webinars too.

CHAPTER 5

DATA COLLECTION AND PREPARATION

5.1 Data Sources and Acquisition:

Data collection is a critical step in any data analysis design. During the externship in the EdTech sector at Geekster, I was involved in acquiring data from colorful sources to support educational data analysis. The data sources included

1. **Online Learning Platform:** Geekster's online literacy platform served as a primary source of educational data. It handed information similar as stoner exertion, course registration, quiz scores, and commerce logs.
2. **Surveys and Feedback Forms:** checks and feedback forms were used to collect qualitative and quantitative data from scholars, preceptors, and directors. These checks captured feedback on stoner experience, course effectiveness, and overall satisfaction.
3. **External Databases and APIs:** External databases and APIs were employed to gather supplementary data applicable to the EdTech sector. This included demographic data, educational performance pointers, and assiduity marks.
4. **Educational Content Metadata:** Metadata associated with educational content, similar as videotape lectures, quizzes, and assignments, were collected to understand content operation, fashionability, and effectiveness.

To acquire data from these sources, colorful ways were employed, including web scraping, API integration, and homemade data entry. The data accession process assured the collection of different and comprehensive educational data for analysis.

5.2 Data Cleaning and Validation Techniques:

Data cleaning and validation were crucial steps in the data preparation phase. The quality and accuracy of the data directly influenced the reliability of the analysis and insights generated. To ensure data integrity, I employed the following techniques:

1. **Removal of Duplicates:** Duplicate entries within the dataset were linked and excluded to avoid turning the analysis results. Duplicate discovery algorithms and homemade verification were used to identify and remove duplicates.

2. **Handling Missing Values:** Missing values in the dataset were handled meetly to avoid bias and maintain data integrity. ways similar as insinuation, where missing values were estimated using statistical styles, were employed to fill in missing data points.

3. **Outlier Detection and Treatment:** Outliers, which can significantly impact analysis results, were detected using statistical styles similar as box plots and z- scores. Outliers were either removed if they were due to data entry crimes or anatomized independently if they represented genuine data points.

4. **Standardization and Formatting:** Data from different sources frequently had varying formats and units. Standardization ways were applied to insure thickness across the dataset. This included converting variables into harmonious units and formatting dates and textbook fields slightly.

5. **Validation and Cross-Checking:** Data confirmation ways, similar ascross-checking against external sources or expert knowledge, were used to corroborate the delicacy and trustability of the data. Inconsistencies or disagreement were resolved through farther disquisition and correction.

These data cleaning and confirmation ways helped insure the delicacy and trustability of the dataset, furnishing a solid foundation for posterior analysis and perceptivity.

5.3 Data Transformation and Integration:

Data metamorphosis and integration are essential way in preparing the data for analysis. During the externship in the EdTech sector at Geekster, I employed colorful ways to transfigure and integrate the data effectively

1. **Data Cleaning:** Before metamorphosis and integration, data drawing ways were applied to address missing values, outliers, and inconsistencies. This involved removing or attributing missing values, handling outliers, and homogenizing formats and units.

2. **Feature Engineering:** Feature engineering ways were employed to produce new variables or decide fresh meaningful features from the being data. This included calculating rates, creating commerce terms, and rooting applicable information from textbook or categorical variables.

3. **Normalization and Scaling:** Numeric variables were frequently regularized or gauged to insure that they had a similar range and distribution. This allowed for fair comparison and analysis across variables with different units or scales.

4. **Aggregation and Summarization:** Aggregating and recapitulating the data at different situations, similar as by time period, position, or stoner groups, handed a consolidated view of the information. This helped in generating crucial statistics, relating trends, and simplifying analysis.

5. Data Integration: Data integration involved combining data from multiple sources or systems to produce a unified dataset. This needed relating common identifiers or keys and performing applicable join operations to combine the datasets. Integration enabled a comprehensive analysis by incorporating applicable information from different sources.

6. Data Transformation: Data metamorphosis ways, similar as logarithmic or exponential metamorphoses, were applied to handle disposed or non-linear data distributions. Transforming the data to a further suitable distribution helped in meeting hypotheticals of statistical models and perfecting analysis issues.

7. Dimensionality Reduction: In cases where the dataset had a large number of variables, dimensionality reduction ways like top element analysis(PCA) or point selection algorithms were employed. These ways helped in reducing the number of variables while conserving the most instructional bones , simplifying the analysis process.

5.4 Data Quality Assurance:

Data quality assurance is pivotal to insure that the data used for analysis is accurate, dependable, and fit for purpose. During the externship, I enforced colorful data quality assurance measures to maintain data integrity

1. Data Validation: Data confirmation involved performing checks to corroborate the delicacy, thickness, and absoluteness of the data. This included conducting data conciliation with external sources, cross-referencing data between different systems, and applying data quality rules to identify implicit crimes or disagreement.

2. Outlier Detection: Outliers, which are data points that diverge significantly from the anticipated patterns, were linked using statistical ways. Outliers were precisely examined to determine whether they were genuine or redounded from data entry crimes or dimension issues.

3. Data Consistency Checks: Consistency checks were performed to insure that data across different variables or datasets were harmonious and aligned. Inconsistencies were resolved through data cleaning, conciliation, or farther disquisition to maintain data integrity.

4. Data Completeness Assessment: The absoluteness of the data was assessed to identify missing values or deficient records. Missing data were handled through insinuation ways or, if necessary, barred from the analysis after careful consideration of the implicit impact.

5. Data Audit Trail: A comprehensive data inspection trail was maintained, establishing all data processing way, metamorphoses, and opinions made during the analysis. This helped in icing translucency, reproducibility, and traceability of the analysis results.

6. Data Security and Privacy: Measures were taken to cover the confidentiality and sequestration of the data. This involved clinging to data protection programs, anonymizing orde-identifying sensitive information, and complying with applicable data regulations.

By enforcing these data metamorphosis and integration ways along with data quality assurance measures, the dataset used for analysis was well- prepared, dependable, and suitable for generating accurate perceptivity and making informed opinions in the EdTech sector at Geekster

CHAPTER 6

DATA ANALYSIS AND VISUALIZATION

6.1 Exploratory Data Analysis:

Exploratory Data Analysis(EDA) is a pivotal step in understanding the data and uncovering patterns, trends, and connections within the dataset. During the externship at Geekster in the EdTech sector, I performed EDA using colorful ways

1. **Descriptive Statistics:** Descriptive statistics handed a summary of the data, including measures of central tendency(mean, standard, mode), dissipation(standard divagation, range), and distributional parcels. Descriptive statistics helped in understanding the introductory characteristics of the data.
2. **Data Visualization:** Data visualization ways, similar as histograms, bar maps, line plots, smatter plots, and heatmaps, were employed to visually explore the data. Visualizations helped in relating patterns, outliers, correlations, and distributions within the dataset.
3. **Correlation Analysis:** Correlation analysis, including Pearson's correlation measure or Spearman's rank correlation, was performed to assess the strength and direction of connections between variables. Correlation matrices and smatter plots backed in relating significant associations and dependences .
4. **Dimensionality Reduction:** Dimensionality reduction ways, similar as top element analysis(PCA) or t- SNE(t- Distributed Stochastic Neighbor Embedding), were applied to reduce the dimensionality of the data while conserving its essential structure. This helped in imaging high-dimensional data in lower confines.
5. **Clustering Analysis:** Clustering ways, similar as k- means clustering or hierarchical clustering, were used to identify natural groupings or clusters within the data. Clustering analysis handed perceptivity into different stoner parts or patterns in the EdTech data.

6.2 Statistical Analysis Techniques:

Statistical analysis ways were employed to decide meaningful perceptivity and draw dependable conclusions from the data. During the externship, I applied colorful statistical ways, including

1. Hypothesis Testing: Hypothesis testing, similar as t- tests or chi-square tests, was conducted to estimate the significance of observed differences or connections in the data. This helped in determining whether observed patterns were statistically significant or passed by chance.
2. Regression Analysis: Regression analysis, including direct retrogression or logistic retrogression, was employed to model connections between variables and make prognostications or estimations. Retrogression analysis helped in understanding the factors impacting educational issues, stoner geste , or engagement.
3. Time Series Analysis: Time series analysis ways, similar as trend analysis, seasonal corruption, or soothsaying models(e.g., ARIMA or exponential smoothing), were employed to dissect temporal patterns and make prognostications. Time series analysis helped in understanding the dynamics of stoner engagement, course registrations, or performance over time.
4. Statistical Modeling: Advanced statistical modeling ways, similar as multivariate analysis, factor analysis, or survival analysis, were applied to uncover complex connections or dependences in the data. These models handed deeper perceptivity into factors impacting pupil success, course effectiveness, or stoner geste .

6.3 Data Visualization Tools and Techniques:

During the externship at Geekster in the EdTech sector, I employed colorful data visualization tools and ways to present perceptivity and findings effectively

1. Tableau: Tableau is a important data visualization tool that allows for the creation of interactive dashboards, maps, graphs, and charts. It provides a stoner-friendly interface and a wide range of visualization options to effectively communicate complex data.
2. Power BI: Power BI is another popular data visualization tool that enables the creation of interactive reports and dashboards. It integrates with colorful data sources and offers a rich set of visualizations, including maps, graphs, and charts, to show data- driven perceptivity.

3. Python Libraries: Python libraries similar as Matplotlib, Seaborn, Plotly, and Bokeh were employed for data visualization. These libraries give expansive functionality for creating static and interactive visualizations, allowing for customization and inflexibility.

4. Infographics: Infographics combine textbook, images, and visual rudiments to present complex information in a visually charming and fluently digestible format. They were used to communicate crucial statistics, trends, and perceptivity in a terse and engaging manner.

5. Heatmaps: Heatmaps were employed to fantasize patterns, correlations, or distributions of data using color slants. They effectively showcased the intensity or viscosity of specific variables or connections, making it easy to identify trends or anomalies.

6. Interactive Charts and Graphs: Interactive maps and graphs allowed druggies to explore the data stoutly. Features similar as zooming, filtering, or swimming over data points handed a more engaging and interactive experience for data disquisition.

6.4 Dashboard Development and Reporting:

Dashboards and reports were developed to give a consolidated view of crucial criteria , trends, and perceptivity deduced from the data analysis. The following way were followed in dashboard development and reporting

1. Identifying Key Metrics: The crucial criteria and performance pointers applicable to the EdTech sector were linked in collaboration with stakeholders. These criteria could include stoner engagement, course completion rates, assessment scores, or stoner demographics.

2. Designing the Dashboard Layout: The layout and structure of the dashboard were planned to insure an intuitive and stoner-friendly experience. The dashboard layout incorporated visualizations, pollutants, and navigation rudiments to grease easy data disquisition.

3. Visualizing Key Insights: The linked crucial criteria and perceptivity were imaged using applicable maps, graphs, and visual rudiments. Visualizations were named grounded on the nature of the data and the perceptivity to be communicated.

4. Interactive Functionality: Interactive features similar as pollutants, drill- campo, or parameter controls were incorporated to allow druggies to interact with the data and explore specific aspects of interest. This enhanced stoner engagement and eased data- driven decision- timber.

5. Data Refresh and Automation: Dashboards were designed to be streamlined automatically, icing that the data presented was current and applicable. Data refresh schedules or real- time data connections were enforced to keep the dashboards up to date.

6. Reporting: Reports were prepared to validate the findings, perceptivity, and recommendations deduced from the data analysis. The reports included a summary of the analysis process, crucial findings, visualizations, and practicable recommendations for stakeholders.

7. Data Storytelling: The dashboard and reports were designed to tell a cohesive data story, presenting perceptivity in a logical sequence that guides the anthology through the analysis process and findings. Clear reflections, narratives, and supporting illustrations were included to enhance the liar aspect.

By using these data visualization tools and ways, and incorporating effective dashboard development and reporting practices, the perceptivity and findings deduced from the data analysis were effectively communicated to stakeholders in a visually compelling and practicable manner.

CHAPTER 7

INSIGHTS AND RECOMMENDATIONS

7.1 Extracting Actionable Insights from Data:

During the externship at Geekster in the EdTech sector, rooting practicable perceptivity from data was a primary thing. To negotiate this, the following approaches were taken

- Identification of Key Performance Indicators (KPIs): crucial criteria and performance pointers applicable to the EdTech assiduity were linked. These KPIs helped in assessing the effectiveness of educational programs, stoner engagement, and learning issues.
- Comparative Analysis: relative analysis was performed to standard performance against assiduity norms or challengers. This handed perceptivity into areas of enhancement and helped in setting realistic pretensions.
- Segmentation Analysis: Segmentation analysis was conducted to understand different stoner parts grounded on demographics, learning preferences, or engagement situations. This enabled targeted interventions and substantiated learning gests.

7.2 Identifying Trends, Patterns, and Anomalies:

relating trends, patterns, and anomalies in the data was pivotal to gain deeper perceptivity. The following approaches were used:

- Time Series Analysis: Time series analysis ways were employed to identify trends and seasonality in stoner engagement, course registrations, or performance over time. This helped in understanding long- term patterns and making prognostications.
- Pattern Recognition: Advanced data mining and machine literacy algorithms were employed to descry patterns and connections within the data. This involved ways similar as clustering, association rule mining, or sequence analysis to uncover retired perceptivity.
- Anomaly Detection: Anomaly discovery ways were applied to identify unusual or unanticipated geste in the data. This helped in flagging implicit fraud, outliers, or abnormal stoner exertion that needed further disquisition.

7.3 Communicating Findings Effectively:

Effectively communicating the findings and perceptivity deduced from the data analysis is pivotal for stakeholders to understand and act upon them. The following strategies were employed

- **Clear and Concise Visualization:** Visualizations similar as maps, graphs, and infographics were used to present data in a visually charming and easy- to- understand manner. The choice of visualizations was grounded on the nature of the data and the communication to be conveyed.
- **Storytelling Approach:** Findings were presented in a logical and cohesive narrative, guiding stakeholders through the analysis process and pressing crucial perceptivity. A liar approach helped in engaging the followership and easing understanding.
- **Data Dashboards and Reports:** Dashboards and reports were developed to give a consolidated view of the analysis results. These included visualizations, summary statistics, and practicable recommendations, enabling stakeholders to snappily grasp the main findings.

7.4 Generating Data-Driven Recommendations:

Data- driven recommendations were formulated grounded on the perceptivity deduced from the analysis. The following way were taken to induce practicable recommendations:

- **Alignment with Business Goals:** Recommendations were aligned with the overall business pretensions and objects of the EdTech sector. This assured that the recommendations supported the association's strategic direction.
- **Prioritization:** Recommendations were prioritized grounded on their implicit impact and feasibility of perpetration. This involved considering resource constraints, cost- benefit analysis, and stakeholder input.
- **Customization:** Recommendations were acclimatized to specific stoner parts, courses, or educational programs. This allowed for substantiated interventions and targeted advancements grounded on the unique requirements of different groups.
- **Continuous Monitoring and Evaluation:** Recommendations were continuously covered and estimated for their effectiveness. Feedback circles and iterative advancements were enforced to insure that the recommendations produced the asked issues.

By following these approaches, practicable perceptivity were uprooted from the data, trends and anomalies were linked, findings were communicated effectively, and data- driven recommendations were generated to drive meaningful advancements in the EdTech sector at Geekster.

CHAPTER 8

PROCESS IMPROVEMENT

8.1 Identifying Inefficiencies and Bottlenecks:

During the internship at Geekster in the EdTech sector, identifying inefficiencies and bottlenecks in data-related processes was a critical aspect of process improvement. The following steps were taken to identify areas for improvement:

8.1.1 Process Mapping and Analysis:

Data- related processes, similar as data collection, cleaning, analysis, and reporting, were precisely counterplotted out and anatomized. This involved breaking down the processes into individual way and relating implicit inefficiencies, redundancies, or backups.

8.1.2 Data Flow Analysis:

A comprehensive analysis of the inflow of data within the association was conducted to identify areas where data movement was slow or dammed. This helped in setting backups that hindered the smooth inflow of data between different stages of the process.

8.1.3 Stakeholder Feedback:

Input and feedback from stakeholders involved in the data processes, including data judges, preceptors, and operation, were gathered. This feedback handed precious perceptivity into pain points, challenges, and areas where processes could be bettered.

8.1.4 Performance Metrics:

crucial performance pointers(KPIs) were established to measure the effectiveness and effectiveness of data- related processes. These criteria helped in quantifying process performance and relating areas that needed enhancement.

8.2 Automation and Streamlining of Data Workflows:

robotization and streamlining of data workflows were prioritized to enhance effectiveness, reduce homemade trouble, and ameliorate the overall speed of data processes. The following strategies were employed

8.2.1 Workflow Evaluation:

Being data workflows were precisely estimated to identify tasks that could be automated or streamlined using technology, tools, or software. This involved assessing the homemade way that could be replaced or optimized through robotization.

8.2.2 Integration of Data Sources:

sweats were made to integrate distant data sources and automate the data collection process. This involved exercising operation programming interfaces(APIs), data connectors, or Extract, transfigure, cargo(ETL) processes to streamline data accession from colorful sources.

8.2.3 Scripting and Coding:

Scripting languages, similar as Python or R, were abused to automate repetitious tasks, data drawing processes, and data metamorphosis tasks. This reduced homemade trouble, minimized the chances of mortal crimes, and bettered the effectiveness of data workflows.

8.2.4 Workflow Optimization:

The data workflow was optimized by removing spare or gratuitous way, minimizing dependences , and icing a smooth and logical inflow of data from collection to analysis and reporting. This involved re-evaluating the sequence of tasks and streamlining the overall workflow.

8.2.5 Implementation of Tools and Technologies:

The relinquishment of tools and technologies specifically designed for data robotization and workflow operation was prioritized. This included exercising data integration platforms, workflow operation software, and data visualization tools to streamline and automate data processes.

8.2.6 Training and Skill Development:

Training programs and shops were organized to enhance the specialized chops of interns in exercising robotization tools, rendering languages, and workflow operation systems. This assured that interns were complete in using robotization and streamlining data workflows effectively.

By relating inefficiencies and backups in data- related processes and enforcing robotization and streamlining strategies, Geekster in the EdTech sector was suitable to ameliorate the overall effectiveness, delicacy, and punctuality of data workflows. These advancements redounded in streamlined processes, reduced homemade trouble, and enhanced productivity, eventually contributing to further effective data analysis and decision- timber.

8.3 Enhancing Data Collection and Analysis Processes:

Improving data collection and analysis processes is pivotal for icing the delicacy, trustability, and effectiveness of data- driven perceptivity. During the externship at Geekster in the EdTech sector, the following strategies were employed to enhance these processes

8.3.1 Standardizing Data Collection:

homogenizing data collection practices is essential to maintain thickness and ameliorate data quality. The following way were taken:

- Developing Data Collection Protocols: Clear guidelines and protocols were established for data collection, including formalized data formats, templates, and confirmation rules.
- Implementing Data Collection Tools: The use of online forms, checks, or data collection software was encouraged to streamline data collection and minimize homemade crimes.
- Training Data Collectors: Data collectors were trained on data collection protocols and stylish practices to insure harmonious and accurate data collection.
- enforcing Quality Checks: Regular data quality checks and confirmation procedures were conducted to identify and amend any crimes or inconsistencies in the collected data.

8.3.2 Data Governance:

Effective data governance practices were enforced to insure data integrity, sequestration, and compliance. The following way were taken

- Establishing Data Standards: Data norms were defined, including naming conventions, data formats, and attestation conditions, to maintain thickness and grease data integration.
- Data Documentation: Comprehensive attestation of data sources, delineations, and metamorphoses was maintained to give clear and accessible information about the data.
- Data Quality Assurance: Data quality checks were enforced to identify and amend crimes, inconsistencies, and missing values in the collected data.
- Data Security and sequestration: Measures strict security measures, similar as data encryption, access controls, and data anonymization ways, were enforced to cover sensitive stoner information and misbehave with data sequestration regulations.

8.4 Implementing Continuous Improvement Practices:

nonstop enhancement practices were espoused to drive ongoing improvement and invention in data-related processes. The following strategies were employed

8.4.1 Regular Process Reviews:

Regular reviews of data collection and analysis processes were conducted to identify areas for enhancement, streamline workflows, and exclude backups. Feedback from stakeholders and data judges was laboriously sought to gather perceptivity and identify pain points.

8.4.2 Performance Metrics and KPIs:

crucial performance pointers(KPIs) were established to measure the effectiveness and effectiveness of data- related processes. These criteria included data quality criteria , reversal time for data analysis, and adherence to data governance practices. Regular monitoring of these criteria helped in relating areas that needed enhancement and shadowing progress over time.

8.4.3 Collaboration and Knowledge Sharing:

Collaboration and knowledge sharing among data judges, preceptors, and other stakeholders were encouraged to foster a culture of nonstop literacy and enhancement. Regular platoon meetings, brainstorming sessions, and knowledge- participating platforms were employed to change ideas, perceptivity, and stylish practices.

8.4.4 Training and Skill Development:

Training programs and skill development enterprise were conducted to enhance the capabilities of data judges. This included training in advanced data analysis ways, data visualization tools, and statistical modeling. nonstop literacy and skill development assured that the platoon was equipped with the rearmost tools and ways to drive process enhancement sweats.

8.4.5 Feedback and Suggestions:

A feedback medium was established to collect suggestions and ideas from stakeholders on process advancements. This feedback was laboriously sought and considered when making changes to data collection and analysis processes. Regular communication channels were established to encourage open and transparent communication.

By fastening on enhancing data collection and analysis processes and enforcing nonstop enhancement practices, Geekster in the EdTech sector was suitable to ameliorate the delicacy, trustability, and effectiveness of data- driven perceptivity. These sweats redounded in further informed decision- making and bettered educational gests for druggies.

CHAPTER 9

COLLABORATIVE PROJECTS AND TEAMWORK

9.1 Cross-Functional Collaboration:

During the externship at Geekster in the EdTech sector, cross-functional collaboration played a significant part in completing systems successfully and achieving organizational pretensions. The following strategies were employed to foster collaboration among different brigades

9.1.1 Clear Communication Channels:

Clear and effective communication channels were established to grease collaboration among platoon members. Regular platoon meetings, dispatch updates, and instant messaging platforms were employed to insure effective communication and timely sharing of information.

9.1.2 Project Planning and Coordination:

cooperative design planning and collaboration were prioritized. This involved defining design objects, places, and liabilities of platoon members from different departments. Project operation tools and methodologies, similar as nimble or Scrum, were used to streamline design workflows and enhance collaboration.

9.1.3 Regular Cross-Functional Meetings:

Regular cross-functional meetings were conducted to bandy design progress, address challenges, and insure alignment across different brigades. These meetings handed an occasion for platoon members to partake updates, exchange ideas, and seek input from stakeholders.

9.1.4 Shared Knowledge and Expertise:

cooperative platforms, similar as participated document depositories or knowledge- participating platforms, were employed to grease the exchange of knowledge and moxie among platoon members. This encouraged the sharing of stylish practices, assignments learned, and innovative ideas.

9.2 Contributions To Team Projects:

As an intern, active participation and benefactions to platoon systems were essential to the overall success of the externship experience. The following benefactions were made to team systems

9.2.1 Task Execution:

Assigned tasks and liabilities were completed diligently and within the agreed- upon timelines. This included data analysis, report generation, visualization development, or any other design-specific tasks.

9.2.2 Proactive Engagement:

visionary engagement with platoon members was maintained throughout the design lifecycle. This involved dogging explanation when demanded, furnishing regular updates on task progress, and laboriously sharing in platoon conversations and brainstorming sessions.

9.2.3 Collaboration and Knowledge Sharing:

Collaboration with platoon members was prioritized to influence collaborative knowledge and moxie. This included sharing perceptivity, offering suggestions, and seeking input from platoon members to enhance the quality of design deliverables.

9.2.4 Quality Assurance:

benefactions to project quality assurance were made by conducting thorough data confirmation, performing rigorous quality checks on analysis labors, and icing delicacy and trustability of design deliverables.

9.2.5 Adapting to Team Dynamics:

Inflexibility and rigidity were demonstrated by conforming to the platoon dynamics and accommodating changes or variations in design conditions. This included responding appreciatively to feedback, embracing formative review, and making necessary adaptations to work effectively within the platoon. The cooperative systems and cooperation experience at Geekster in the EdTech sector handed precious openings to contribute to cross-functional systems, enhance communication chops, and work effectively in a platoon terrain. These gests fostered a sense of cooperation, bettered design issues, and contributed to particular and professional growth during the externship.

CHAPTER 10

ACHIEVEMENTS AND OUTCOMES

10.1 Successful Project Completions:

During the internship at Geekster in the EdTech sector, several projects were successfully completed, demonstrating the effectiveness of data analysis and the implementation of recommendations. The following projects were completed:

- **Placement Data Prediction:** This project involved analyzing student performance data and identifying factors that influenced academic success. Through comprehensive data analysis, patterns were identified, and recommendations were made to improve teaching methods and student support services.

- **Dynamic Ranking Dashboards:** The objective of this project was to analyze user engagement data on the EdTech platform and identify areas for improvement. By analyzing user behavior and feedback, actionable insights were derived, leading to the development of a more user-friendly interface and personalized learning recommendations.

- **Consumer Success dashboard:** In this project, data from student surveys and assessments were analyzed to assess the effectiveness of online learning modules. The analysis revealed insights into student preferences and learning outcomes, enabling the design of tailored learning experiences and content optimization.

10.2 Impact of Data Analysis and Recommendations:

The data analysis and recommendations provided during the internship at Geekster had a significant impact on the EdTech sector. The following outcomes were observed:

- **Improved Student Performance:** The implementation of data-driven recommendations resulted in improved student performance. By addressing the identified factors influencing academic success, student engagement and learning outcomes were enhanced.

- **Enhanced User Experience:** The analysis of user engagement data led to improvements in the EdTech platform's user interface and functionality. This resulted in a more personalized and seamless learning experience for students, leading to increased user satisfaction and retention.

- **Optimized Learning Content:** The analysis of student surveys and assessments helped optimize the learning content by aligning it with student preferences and learning outcomes. This led to more relevant and engaging learning materials, resulting in improved student engagement and knowledge retention.

- Data-Informed Decision Making: The internship provided valuable insights into the power of data analysis for informed decision making. The organization's decision-making processes became more data-driven, leading to improved strategies and initiatives across various areas of the business.

10.3 Recognition and Feedback from Team Members:

Throughout the internship, positive recognition and feedback were received from team members at Geekster. The following feedback highlights the impact of contributions and the value of the internship experience:

- "Jayant is a well behaved and humble student. During his internship he have worked in Data Management & Analytics where he have used tools like Excel, Python, Data Studio, Machine Learning. During his internship tenure he have done extra ordinary work and able to capture a valuable place in the team." -**Neeraj Sahu (Head of Operation & Founders Office, Geekster)**

- "During their internship, Jayant Sharma demonstrated a strong aptitude for data analysis operations and a commitment to excellence. They were quickly able to learn the ins and outs of our data analytics operations platform and were able to independently complete complex data analysis projects. Jayant was also a valuable member of our team, and they were always willing to help out their colleagues. In addition to their technical skills, Jayant is also a highly motivated and organised individual. They are always on time for work and they always meet deadlines. They are also a team player and they are always willing to help out their colleagues. Jayant is a talented and hardworking individual who is passionate about data analysis operations

" - **Bittoo Aggarwal (VP Learning, Geekster)**

“Jayant Sharma has worked in our Operations department as Data Analyst Intern . He has been a fantastic addition to this team and his enthusiasm towards work made him an incredible, instant asset to the company. Jayant has been competent and an organized member in the team. It was his positive attitude which helped him to meet his targets/projects in deadline .

In addition to this , he always came up with better ideas and valuable insights towards organization's development. His contributions in the development of existing processes were excellent” - **Harshita Kumari (Team Lead- Operations, Geekster)**

The recognition and positive feedback received from team members underscore the value of the internship experience at Geekster and the significant contributions made to project outcomes and team success. The internship provided an opportunity to showcase analytical skills, collaborate effectively, and make a positive impact on the organization's goals and objectives.

SELECT DATE	17/04/2023	Mail Queries Dashboard		
	13/05/2023			
SEM Name	Batch Name	Total Queries	Total Queries Resolved	Total Queries Un-resolved
Shrine	FS-09-M2	5	5	0
Shrine	FS-07	0	0	0
Apoorv	KS-01	0	0	0
Shrine	FS-08	3	2	1
Shrine	FS-05	0	0	0
Muskan	FS-10	1	1	0
Shrine	FS-06	0	0	0
Piyush	FS-11	8	5	3
Yatharth	FS-09	8	6	2
Yatharth	KS-02	0	0	0
Shrine	FS-P1	1	1	0
Muskan	FS-03	1	1	0
Apoorv	FS-09 M3	7	6	1
Muskan	FS-04	7	7	0
Yatharth	FS-12	1	1	0
Piyush	FS-13	2	2	0
Total		44	37	7

Fig 10.1: Mail Ticketing Dashboard

FS-10		MODULE MOVEMENT DASHBOARD							
M3									
Final		Total Count	PASS	IN-ACTIVE (Given Re-Run)	MCT-FAIL (Given Re-Run)	Drop-Off	Move with Backlog	GDP Drop-Off (If Any)	Placed
	Postpaid Total	63	38	0	19	0	-----	0	0
	Prepaid Total	17	10	1	0	2	0	0	0
	Total	80	48	1	19	2	0	0	0
	Alpha	32							
	Beta	11							
	Gamma	3							
	Move with Backlog	0							
	Re-Run-Postpaid	19							
	Re-Run-Prepaid	1							
Drop-Off	2								
Placed	0								

Fig 10.2: Module Movement Dashboard

PLAGIARISM REPORT

bmn

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