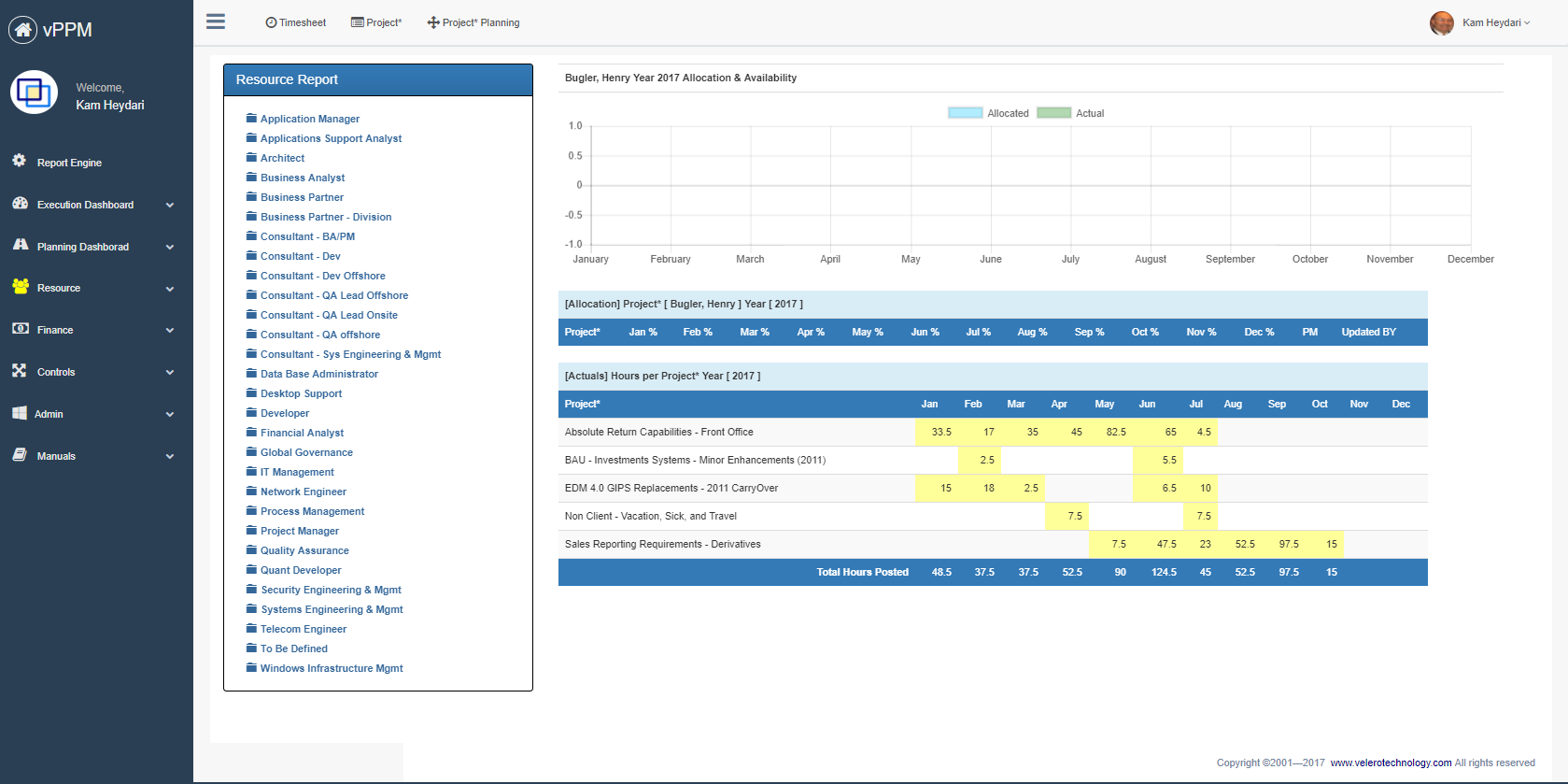
2021

Planning & Management



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**Assignment Name:**

Meta (Facebook) fraud detection

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# Company Strategy & Scorecard

## Company Background

Short background on the Company

Facebook now Meta is a **social networking site** that makes it easy for you to **connect and share** with family and friends online.

## Scorecard

Finance Perspective

Client Perspective

Product, Services, or Process Perspective

Learning & Growth Perspective

1.1.Increase Revenue

1.2 Reliability

1.3 Performance

1.4 Cash Flow

1.5 Project Profitability

2.1 User Satisfaction

2.2 User Security

2.3 User Friendly

2.3 Enhance user experience

3.1 Quality of service

3.2 Requirements

3.3 Improve the platform

3.4 Customer Retention

4.1 Provide trainings

4.2 Tools Innovation

4.3 Focus on employee skills

## Reference information

I have used the following links to refer <https://balancedscorecard.org/bsc-basics-overview/> [Facebook](https://m.facebook.com/nt/screen/?params=%7B%22note_id%22%3A344897590097197%7D&path=%2Fnotes%2Fnote%2F&refsrc=deprecated&_rdr), <https://www.smartdraw.com/balanced-scorecard/>, [Facebook'sOngoingchallenges](https://www.facebook.com/business/news/sharing-actions-on-stopping-hate)

# Assignment

## Case

Using the given project mandate create a full project assessment document include required project information.

## Project Mandate

Work with the assigned datasets to perform/create the following:

### PURPOSE

Facebook now known as Meta is one of the Tech-Giant companies leading in social networking their products like mobile app and in-app browser, marketplace, Oculus products are also leading in market. Facebook Ad sales are the primary source income of Facebook’s revenue. According to Ad Report Scam that started on social media from 2016 to 2020, it was reported that 86% of ad scams were from Facebook ads. “Many people complained about getting scam ads on their feed”.

### BACKGROUND

Apart from networking Facebook provides great services like Facebook ads, Marketplace, connecting people from every small part of the world and engaging them with one other. Facebook also helps small business to grow online by promoting their ads and products. The problem they are facing is ad scams, therefore by developing advanced fraud tracking tools, building a recommendation interface using recommendation algorithms and building interface to keep track of fraud accounts they can prevent ad scams. According to the scam report there was suddenly a hike in 2020 ad scams on Facebook which resulted in loss of $61Millon, in 2021 the number decreased and went down by just few percent and currently is facing $56Million loss. To avoid the ad scams Facebook can develop advance fraud detecting tools, monitoring user activity who posts the ad (to find out if the ad is legit or no), providing some authentication keys etc. like Single sign on, both ways authentication etc. or taking some legal actions on fraud actions.

### INTERFACES

Facebook is currently working on a project known as “Taking action against fake engagement and ad scams”, this project will improve the internal activities like the fraud user detection, handling user complains and taking immediate actions, providing security for users by suggesting them the relevant adds for buyers etc.

### QUALITY EXPECTATIONS

The goal of developing tools for fraud detection, building recommendation interface and recommending relevant add is to increase user security and keeping fraud users away from the platform, reduce the loss, increase the profit, recommending legit adds to the buyers and maintain trust for legit users/customers as well as customer retention.

### OUTLINE BUSINESS CASE

* Giving a passage to make profits for small business
* Enhance the user experience by recommending legit adds to the buyers eliminating fraud activities.
* Boost user experience for sellers too
* Minimize the search for buyers and recommending relevant adds.

# Requirements Documentation

## Project Objectives

The objective of this project is to develop fraud tracking tools for Facebook ads and Marketplace to reduce the number of fraud activities by at least 5-10%, building recommendation algorithm to suggest and show only relevant adds to the users and keep track of fraud accounts in an interface, with 2Billion active users 5% is still 125 Million fraud accounts developing advanced analytical tools will only go so far, no matter how much an advanced tool is developed the tool won’t be able to catch each and every fake/fraud account, but aim to reduce the number of fraud accounts and achieving the customer retention.

|  |  |
| --- | --- |
| ID | Objective/Goal |
| O1 | Customer Retention: By making the platform secure for buyers and sellers there will be maximum customer retention. |
| O2 | Improve Facebook ads and Marketplace platform, streamline process |
| O3 | Developing Algorithms which will help user to make decision faster therefore minimizing search time. |
| O4 | Customer satisfaction and security |

## Deliverables & Success Criteria

The project aims to achieve 5-10% fraud accounts (ie.125Million fraud accounts), there are few main deliverables of this project.

1. Develop advance analytical tools for fraud tracks
2. Maintaining an interface which keeps a track of fraud logs, account information and demographic information.
3. Developing Machine Learning algorithms which will suggest the user only relevant adds based on their past purchase or search history on Marketplace. If an user is a new user the suggestion algorithm will suggest the list of things they might be interested in.

Therefore, by achieving all the above deliverables Facebook can achieve Customer Retention as users will feel secure to buy or sell.

## Project Assumptions & Constrains

Includes your project assumptions break them down by (resources, delivery, budget, scope, schedule, methodology, technology, and architecture & design).The goal of data analytics is to detect potential fraud by spotting anomalies or deviations from “normal” behavior or patterns.

| **ID** | **Item** |
| --- | --- |
| A1 | Developing advance analytical tools is to detect potential fraud by spotting anomalies or deviations from the normal behaviour or patterns of the user |
| A2 | Developing Machine Learning algorithms will suggest the buyers only relevant adds which will keep them away from fraudsters as well as minimize the search time. |
| A3 | These developed tools also allow charge back (refund the amount If the seller is not legit) guarantee to the users |
| A4 | The team will have to provide the given work on time budget is to be discussed before the project ends |

### Technical

| **ID** | **Item** |
| --- | --- |
| T1 | The data analytics tool needs to be tested to check if the tool is tracking and keeping the hold of fraud accounts |
| T2 | Interface for real-time fraud insights / whistle-blower interface |
| T3 | The data scientist/ML Engineers team should be ready to execute the Machine Learning algorithm which will suggest only the relevant adds to the buyers based on their history or activities |
| T4 | The teams will have to showcase their results on weekly basis to meet the deadline requirements |

## Risks and Issues

Identify risks and issues in the following forms.

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Prob** | **Impact** | **Mitigation** |
| Detecting actual or potential fraud | 5 | 80 | Develop tools considering the user behavior |
| Fraud Data Management | 10 | 30 | Building a powerful data management system to collect the historical data to build more powerful tools and algorithms |
| Budget issues | 20 | 50 | Reuse the available resources |
| Monitor the user behavior and keep track of all the accounts | 10 | 60 | Tests and tools can be developed to continuous track the high-risk schemes and behaviors |
|  |  |  |  |

## Scope

Define what is in- and out- of scope for your project.

#### In scope

| **ID** | **Type** | **Definition** |
| --- | --- | --- |
| S1 | Developing advance tracking tools | Developing advance tracking tools to monitor user’s unusual behavior as well as anomalies in user behavior might help in keeping the fraud users away from the platform |
| S2 | FB-Analytics interface | An interface to store and handle all the fraud accounts and keep a track on them (i.e.. This interface will act as a pool of fraud accounts which will be the input for developing more advance analytical tools) |
| S3 | ML Algorithm | Develop an ML Algorithm which will suggest only relevant adds to the buyers/sellers, which in turn will minimize the search time as well as keep the fraud users away. |

#### Out of Scope

| **ID** | **Item** |
| --- | --- |
| OS1 | Project only limits to Facebook Marketplace and business/sales/purchase related activities not valid for Instagram Shopping and other Facebook products. |
| OS2 | Tool updates or changes should only be made by development team |
| OS3 | User’s account/personal/payment information will not be stored in the interface only the accounts which are fraud will be saved. |

## Strategy Matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project Objectives | Strategies | | | |
| Customer Retention | Reduce Fraud | Develop tools | Provide a secure platform |
| Increase Revenue | YES | YES | NO | YES |
| Improve user security | YES | YES | YES | YES |
| Improve efficiency of tools | NO | YES | YES | YES |
| Improve the search quality (e.g. By suggesting relevant adds) | YES | YES | YES | YES |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Objectives |  | Strategies | | | |
| Weighting For Importance | Customer Retention | Reduce Fraud | Develop tools | Provide a secure platform |
| Increase Revenue (Q1) | 5 | 5 | 5 | 4 | 5 |
| Improve user security | 5 | 5 | 5 | 4 | 4 |
| Improve efficiency of tools | 4 | 1 | 4 | 4 | 4 |
| Improve search quality | 4 | 4 | 4 | 5 | 3 |
| TOTAL | 18 | 70/80 | 75/80 | 73/80 | 70/80 |
|  | 100% | 88% | 94% | 92% | 88% |

## Work Breakdown Structure

## Resource and Cost Estimate

### Cost

|  |  |  |  |
| --- | --- | --- | --- |
| Cost Description | Schedule (year) | Amount | Note |
| Software Developers | 2021-2022 | $340,000 | To develop the interface for tracking and holding the fraud accounts |
| Analytics Development | 2021-2022 | $20,000 | Data analytics and database developers to develop tools |
| Training | 2021 | $15,000 | Train the team |
| Algorithm Development | 2021-2022 | $25,000 | ML Engineers and Data Scientist to develop the algorithms |
| TOTAL COST |  | $400,000 |  |
|  |  |  |  |

### Resource

|  |  |  |  |
| --- | --- | --- | --- |
|  | Resource Needed  Year | Total FTE | Note |
| ML Engineers /Data Scientists | 2021(120days) | 5 | $104000 |
| QA Analyst | 2021(120days) | 9 | $62000 (Checking the quality of tools and platform) |
| Data Analyst | 2021(90days) | 6 | $70000 (Analyze the data for useful insights) |
| Software Development Engineer | 2021-2022(30days) | 4 | $38000 (Developing and maintaining the platform and tools) |
| Project Manager | 2021-2022(60days) | 2 | Manage the project ($82000) |
| Data Engineers | 2021-2022(90days) | 12 | $102000 (Scale-up Facebook’s platform) |

## Roles & Responsibility Matrix

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Area/Name** | | **Project Manager** | **Software Development Engineer (SDE2)** | **Data Engineers** | **Data Analyst** | **ML Engineers/Data Scientist** |
| **Project Team** | |  |  |  |  |  |
| Requirement Gathering |  | A | I | I | I | I |
| Development of tools |  | I | R | R | I | I |
| Developing Interface (for keeping a track of fraud accounts) |  | I | R | R | R | I |
| Testing the tools |  | I | C | C | R | R |
| Quality and Assurance |  | A | A | I | I | I |
| Algorithm Development |  | I | C | C | A | A |
|  |  | R | A | C | I |  |
|  |  |  |  |  |  |  |  |  |  |
| **Responsible** | | People or stakeholders who are the "doers" of the work. They must complete the task or objective or make the decision. Several people can be jointly *Responsible*. | | | | | | | |
| **Accountable** | | Person or stakeholder who is the "owner" of the work. He or she must sign off or approve when the task, objective or decision is complete. This person must make sure that responsibilities are assigned in the matrix for all related activities. ***Success requires that there is only one person Accountable.*** | | | | | | | |
| **Consulted** | | People or stakeholders who need to give input before the work can be done and signed-off on. These people are "in the loop" and active participants. | | | | | | | |
| **Informed** | | People or stakeholders who need to be kept "in the picture." They need updates on progress or decisions, but do not need to be formally consulted, nor do they contribute directly to the task or decision. | | | | | | | |

## Project Structure

Define your project structure considering information provided in the project mandate.

## Resource requirement Matrix

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Resource/Month | 1 | 2 | 3 | 4 | Total |
| ML Engineers/Data Scientists | 0 | 1 | 1 | 1 | 3 |
| Data Analyst | 1 | 1 | 1 | 0 | 3 |
| Software Developers | 1 | 0 | 0 | 0 | 1 |
| Project Manager | 1 | 1 | 0 | 0 | 2 |
| Data Engineer | 1 | 1 | 1 | 0 | 3 |

## Project Schedule

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Task ID | PMI | Tasks/Milestone | Start | End | Dependency |
| 1 | Initiation | Identify Stakeholders | 1/1/2020 | 1/3/2022 |  |
|  |  | Define the scope of project | 1/2/2022 | 1/5/2022 |  |
|  |  | Identify Risk and issues | 1/3/2022 | 1/6/2022 |  |
|  |  | Estimate cost and resources | 1/6/2022 | 1/8/2022 |  |
|  |  | Project Plan review and sign off | 1/5/2022 | 1/10/2022 | All the members of the steering committee and stakeholders have reviewed the document |
| 2 | Planning | Build Strategy matrix to align the project goals with overall company goals | 1/11/2022 | 1/12/2022 |  |
|  |  | Project requirement gathering | 1/12/2022 | 1/15/2022 | All the exceptions from the project are set and well documented |
|  |  | Project Scope | 1/13/2022 | 1/18/2022 |  |
|  |  | Validate the scope | 1/18/2022 | 1/19/2022 |  |
|  |  | Project Objective:  Fine tune the requirements Finalize the deliverables  Success Criteria  Risk and assumptions | 1/19/2022 | 1/23/2022 |  |
|  |  | Project Schedule-  Resources, timeline and funds | 1/23/2022 | 1/29/2022 |  |
|  |  | Plan Procurement | 1/27/2022 | 1/30/2022 |  |
|  |  | WBS-Work Breakdown Structure | 1/31/2022 | 2/5/2022 |  |
| 3 | Execution | Direct and Manage Project execution | 2/5/2022 | 2/5/2022 |  |
|  |  | Acquire Project Team | 2/6/2022 | 2/7/2022 |  |
|  |  | Execution Project Communication plan-teams call per week to check on the task status | 2/9/2022 | 2/9/2022 |  |
|  |  | Manage stakeholder exception | 2/9/2022 |  |  |
| 4 | Monitoring and Control | Monitor and Control Project Work |  |  |  |
|  |  | Verify and Control the scope |  |  |  |
|  |  | Control the schedule, cost and quality |  |  |  |
|  |  | Report Performance-status reports and project dashboards |  |  |  |
|  |  | Monitor and Control the risks and issues |  |  |  |
|  |  | Administer the procurements |  |  |  |
| 4 | Closure | Acceptance-write the project acceptance document |  |  |  |
|  |  | Lesson Learned-Document the lesson learned during the project |  |  |  |
|  |  | Final documentation and closeout-  Produce the final document and closeout report which will summarize the project performance |  |  |  |
|  |  | Close any contracts and archive the documentation |  |  |  |