

**Final exam, 200 points\***

**DNSC 6290– Spring 2021**

**Customer Analytics**

**Time: Thursday May6 th7:30 pm- 9:30 PM EST**

**Deadline: 9:30 pm EST, submission via Blackboard under ‘Final exam’**

[**Alipilehvarm@gwu.edu**](mailto:Alipilehvarm@gwu.edu)

**\*Please write your Final answers in BLUE Color**

**Your name:**

**Question1 [25 points]**

Find one example for each below business with different types of retention and frequency:

**1.1 [15 points]**

|  |  |
| --- | --- |
|  | **A business example (or name of the company)** |
| High Frequency, Low retention |  |
| Low Frequency, High retention |  |
| High Frequency, High retention |  |

**1.2.** For the last type of the business model with *High Frequency-High retention* what would be the best revenue model and monetization strategy? **[10 points]**

**Question2 [90 points]**

**2**. Suppose that an online Media company (e.g., local news website) makes money from different revenue models (e.g., sponsorship, display ads, pay-per-click, affiliate). The site has 800,000 monthly sessions coming from 100,000 unique visitors. On average each time a visitor visits the site, she visits 12 pages per visit while spending 19 minutes on the site.

* The site has a display-ad contract with advertisers which pays the Media site $2 for every thousand times visitors seeing a banner on the site. There is only 1 banner per page.
* Also, the company has pay-per-click revenue from inserting ads relevant to the visitor by offering different kinds of content. Suppose that there is only 1 ad per page with the ad click through rate of 1% (conversion rate or the odds someone click on the ad). The average revenue per click is $0.40 as well.

1. How much is the***total monthly revenue per unique visitor*** in the site from above two advertisement revenue models**? [30 points]**
2. Assuming the total monthly revenue per unique visitor calculated from part a) is all profit, if the media site would like to make 200% ROI in their marketing spend, **how much should be the MAX of CAC** (customer Acquisition cost)? **[30 points]**
3. How the media company can improve the monthly revenue advertisement per unique visitor? **[30 points]** *(be creative)*

**Question 3 [80 points]**

Below is a snapshot of Quarterly Buyer engagement for an ecommerce company.

**3.1** what we can learn from this business by looking to the new buyer behavior**? [25 points]**

**3.2.** From below table, can we calculate the total revenue in **Q4**? **[30 points]**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Q1** | **Q2** | **Q3** | **Q4** |
| **Number of buyers** | 1000 | 1300 | 1700 | 2100 |
| **Avg order value $ (AOV)** | $150 | $175 | $190 | $210 |
| **Avg Order by Buyer** | 1.3 | 1.5 | 1.5 | 1.6 |
| **Total Revenue** |  |  |  | **?** |

**3.3.** From above table, how much is **Avg Quarterly NET growth in Buyers Revenue (Revenuer Per buyer)** for the last 3 quarters given the Quarterly changes in AOV? **[30 points]**