Business Analytics Capstone Framework for Strategy

Quyen Nguyen

March 26, 2023

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Background Information

Company Profile:

- GoYaFace, Inc. (GYF) was incorporated in 2000 and today is a large digital search engine, email/messaging, and internet content company.
- GYF's business model most closely resembles Yahoo's business model as it existed in 2015 and early 2016.

Adblocking problems with GYF:

- A major portion of GYF's revenue comes from selling advertising to other companies who place ads on GYF's digital services.
- Last year, mobile advertising sales accounted for 70% of GYF's total digital advertising revenue.
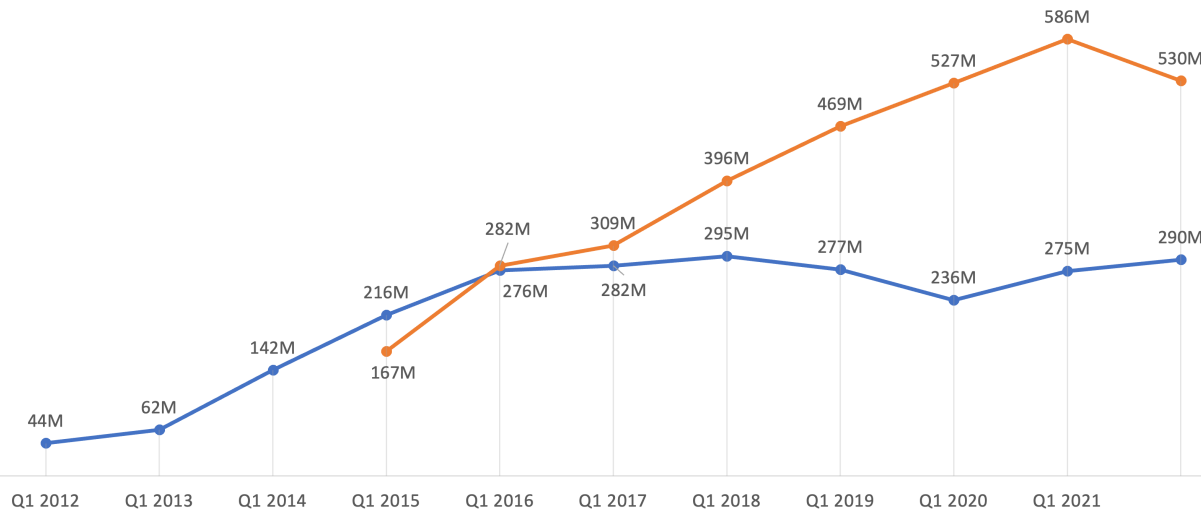
Problem Statement

Problem Statement–

Adblockers problem of GYF:

- Last year, mobile advertising sales accounted for 70% of GYF's total digital advertising revenue.
- The internet is considered the most important medium for advertisers and accounts for 51% of total media ad spend in 2020. (Statista, 2021)
- According to its annual report, Verizon's media business saw a revenue increase of $1.7 billion, or 16.6% in 2018 compared to 2017. Most of this revenue increase is attributable to the influx of advertising dollars Verizon Media now collects from Yahoo sites (Investopedia, 2022)

Adblock Users

Desktop Users — Mobile Users

- Over 820 millions of devices were blocking ads by Dec 2021
- 64% of global adblocking happens on mobile

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Problem Statement–

Describe the Problem Adblockers present to GYF

Why people install adblockers:

People use ad blockers because ads are annoying and disruptive

Why do you use an ad blocker?

Ads are annoying/intrusive — 64%
Ads disrupt what I'm doing — 54%
Security concerns — 39%
Better page load time/ reduced bandwidth use — 36%
Offensive/ inappropriate ad content — 33%
Privacy concerns — 32%
Reduced data usage (for mobile plans) — 22%
I don't like contributing to a business making money off my browsing — 18%
Ideological reasons — 8%
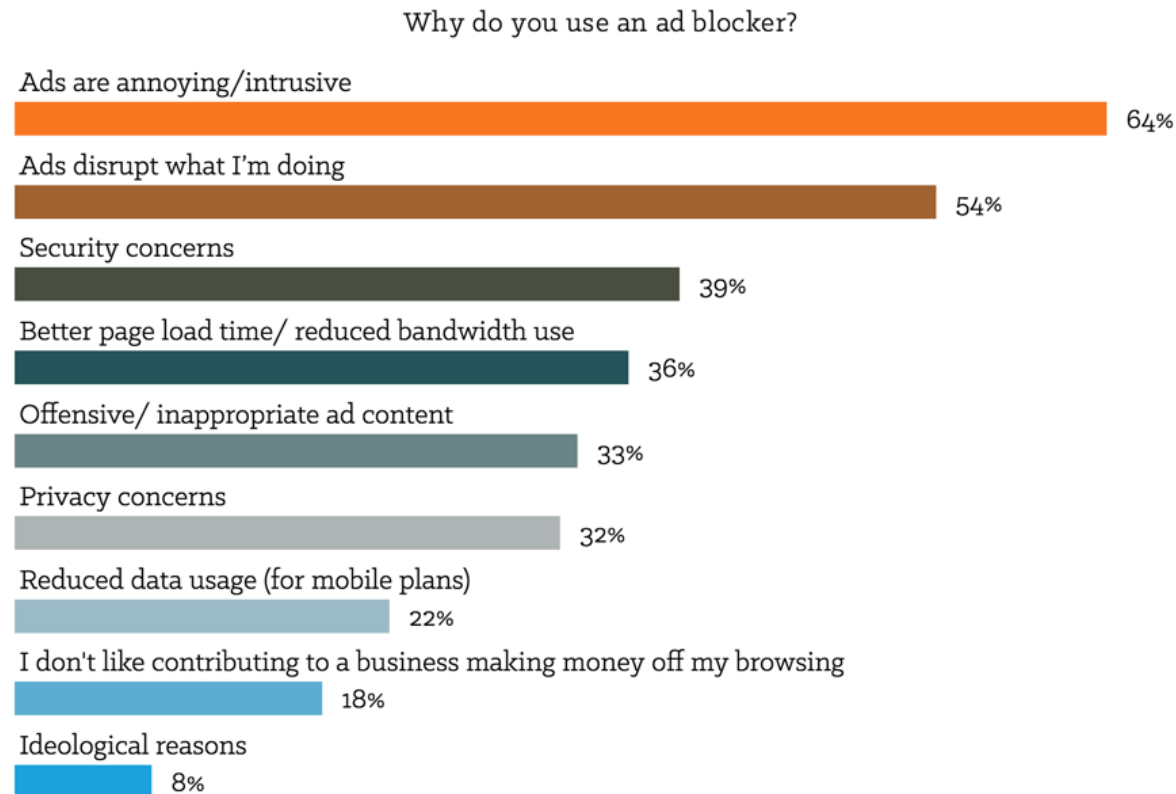
Base: 731 ad blocker users in the US, UK, Germany, and France
Source: HubSpot Adblock Plus Research Study, Q2 2016

HubSpot
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Problem Statement–

Problem Analysis with GYF Case:

- *Revenue generated from digital advertising*: Since GYF offers its three core business (GYF Search, GYF Mail & Chat, and GYF Digital Media) free of charge to end users, major portion of GYF's revenue comes from selling advertising space for other companies. Adblockers will reduce the appearance of advertising to users, therefore, potentially impacts the free of charge business model of GYF
- *Relationship with advertisers and consumers:*
  - For advertisers, ads pay the bill. Adblockers will harm the relationship with advertisers because their paid ads are not presented in the GYF site.
  - For consumer, the actual impact puts the loss in revenue from digital advertising around the $14.2 billion mark, year over year. (Emory Business, 2021)
- *Apple Support for Adblockers on its devices and services*: Starting with ios 9 version in 2016, Apple showed their support for the adblocking app. This may move users to the app on devices rather than the website.
- Whitelist on Adblockers: In 2016, Adblock Plus released a new product allows publishers and tech companies such as Google, Microsoft, etc. pay for whitelisted ads. This function will let the ads appear if the users select "acceptable ads" settings on Adblock app. (CNBC, 2016). This leads to the problem that the publishers need to spend more money on digital ads for this functions. In addition, ads revenue may be moved from GYF company to Adblocking company if the publishers do not want to be double charged.

Problem Statement–

Describe the Problem Adblockers present to GYF

Question GYF should ask DATA team:

1. *Are customer willing to pay for content on GYF sites or the ad-free services version of GYF sites?*
2. *What is the impact of Adblockers on GYF revenue?*
3. *Should GYF incorporate Adblockers? If yes, how should we do that from the competitive analysis?*
4. *Should GYF make users turn off Adblockers to continue their experience on GYF sites?*
5. *Should GYF pay Adblockers for their Whitelisting services?*

Problem Statement–

Research Methods:
- Causal research methods to answer the questions about impact of Adblockers on GYF revenue and the recommendations for how GYF should deal with Adblockers
- User experience research method to understand the GYF customer regarding their experience with ads on the sites and their tentative behavior if GYF try new approach for Adblockers problem

Tools:
- A/B testing with current sites
- Survey: may be conducted on GYF sites, survey apps such as Qualtrics or survey services by other market research companies
- Social Media Analytics

Strategy

Strategy-Revenue diversification

The strategy is developed based on the problem statement of GYF and learned from other similar role model in the fields. Its main addresses are revenue diversification, strategic relationship with advertisers and adblocking system.

Ad-free subscription: (GYF Digital Media)

- GYF company should conduct the market research through survey, AB testing and CRM data to understand their customer behavior towards adblocking usage and paid services.
- In a research conducted by Bitmovin in 2022, 68% of 2000 people surveyed in the US said they are willing to purchase ad-free subscription (Bitmovin, 2022). This shows a huge potential in implementing this model in GYF sites, including GYF News, GYF Sports, GYF Business, GYF Style, and GYF Technology.
- To be successful in transforming from free-of-charge to this subscription-based business model, GYF need to pay attention to these points:
  - ➢ Reasonable pricing: GYF can use the competitor-based and bundling pricing strategy to determine the price charged to customer.
    - o Using competitor-based pricing, GYF can charge the price for their services lower than Adblocker, so that the customer may find more reasonable to pay for GYF service rather than the adblocking apps. As many as 46% of people said in a survey that they would start a subscription because of low cost (Cloudwards, 2022).
    - o Since GYF Digital Media offer customer a wide rage of content destination, they can use bundling pricing strategy to charge different price depending on customer choice. A great example is Google offer the combo of Youtube Music Premium and Youtube Premium combo with a lower price together.

Strategy-Revenue diversification (cont)

The strategy is developed based on the problem statement of GYF and learned from other similar role model in the fields. Its main addresses are revenue diversification, strategic relationship with advertisers and adblocking system.

➢ Exclusive content: To justify the price GYF charge their customer and increase their customer satisfaction, GYF editor board should consider developing more exclusive quality content on their sites, as 24% of people said they paid for subscription because of this reason (Cloudwards, 2022).

➢ Educate the users with free-trial: The transformation could be smoother if GYF company offer free-trial to their current customer to have them experience the quality services through ad-free subscription. GYF can offer the users 3-month free trial for a period of time in the early stage and then reduce to 1-month free trial for new users after the market get familiar with the model.

Strategy-Strategic relationship with advertisers

The strategy is developed based on the problem statement of GYF and learned from other similar role model in the fields. Its main addresses are revenue diversification, strategic relationship with advertisers and adblocking system.

Email newsletter: GYF can offer the unsubscribe user the email newsletter subscription to continue experiencing their unlimited content for a number of trials in a month. This will help GYF in two ways:

- Give the users the trial of exclusive experience of service subscription and exclusive content; therefore, they are motivated to subscribe to GYF service to continue this experience.
- The email generated from this can be used as a target customer data for the advertisers.

The email newsletter can also be offered to services subscribers to keep them active on GYF sites and seeing relevant and high-quality ads.

Paid-content: The publisher and advertisers can pay GYF to publish the ad-supported content on GYF sites. These will be made to be the same with other normal content, with a link of the advertisers at the end of the content.

Affiliate marketing: In this model, GYF can choose the company with the services that may match their customer's need and present them on their sites. The advertisers only need to pay GYF if someone click on the links, similar with cost-per-click model. With this strategy, the ads will be more relevant and less annoyed to the users while the revenue is still generated for GYF.

Strategy-Adblocking system

The strategy is developed based on the problem statement of GYF and learned from other similar role model in the fields. Its main addresses are revenue diversification, strategic relationship with advertisers and adblocking system.

Acceptable ads:
- Clearly, people do not fully reject to see all the ads, they just do not like seeing the annoyed ads. Some relevant advertisement may be very helpful for their buying behavior. Therefore, if GYF can moderate the ad blocking monetization strategies on their sites, people will not need to pay for adblocking apps.
- Acceptable ads are ads that aren't annoying or intrusive and will not include pop-ups, auto play audio, etc. These ones are clearly labeled with "advertisement" or its equivalent. (Adblock, 2023). The opt-in rate from users that support it is more than 95% and a total of 216 millions of adblock users (Blockthrough, 2022).
- More than 82% of people surveyed said they would prefer a lighter ad experience by default (Blockthrough, 2022).

GYF adblocking extension: GYF can deal with annoyed ads by releasing their own ad-blocking extensions, same with Microsoft did with their search engine Microsoft Edge in 2016. This extension will help avoid the annoyed and tracked ad on the browser and work similar with ad blocker in some cases (Business Insider, 2020)

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Strategy

Application Exercise 2 – Hiring a Team Leader (Optional)

Correlation with subsequent performance (0-1)

Method	Correlation
Work Samples	0.54
Cognitive Ability Tests	0.51
Structured Interviews	0.51
Job Knowledge Tests	0.48
Integrity Tests	0.41
Unstructured interviews	0.31
Personality test (conscientiousness)	0.31
Reference Checks	0.26
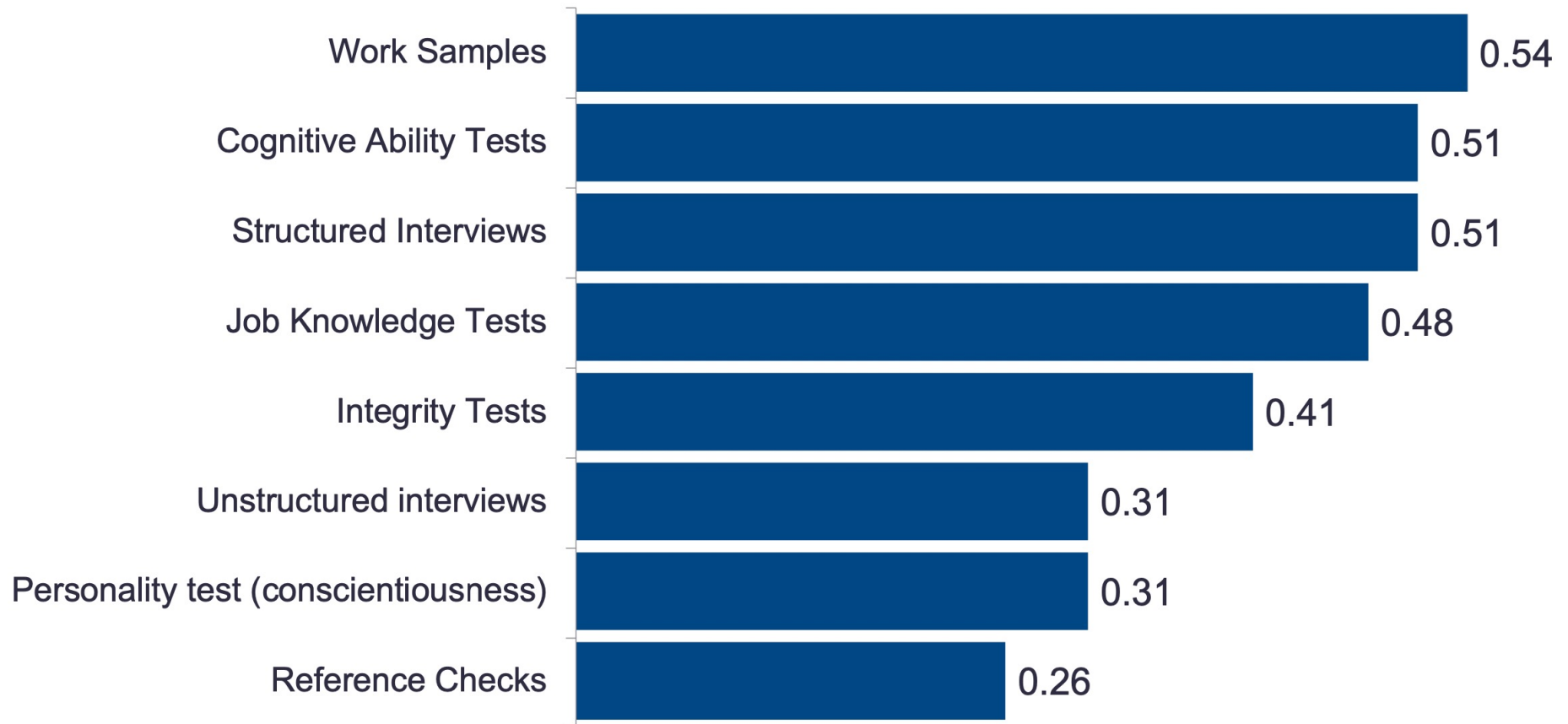
Strategy

Application Exercise 2 – Hiring a Team Leader (Optional)

Metric	Carrie Candidate	Peggy Prospect	Who's better?
Background/ Experience	•Marketing experience in software company and bank. •Little experience in ad-selling, more in ad-buying side.	•Good experience in digital content in startups and large company •Focus on similar issue with adblocking in previous companies	Peggy Prospect
Work samples	Excellent, creative problem solving	Less dynamic but show mindset for organization and efficiency	Carrie Candidate
Cognitive ability test	90%	75%	Carrie Candidate
Structured interview	Clear and engaging but not always directly responsive.	Very well-performed, deep knowledge of the digital advertising landscape. Personality fits team culture.	Peggy Prospect
Job knowledge	Not show a strong understanding of GYF's business model.	Showing a strong familiarity with the kinds of tasks she would be assigned	Peggy Prospect
Integtriy test	same	same	-
Personality	Goal-oriented, hard-driving, and creative.	Detail-oriented, open minded, and able to work as part of a team.	-
References	Excellent	Some solid: more focus in short term than long term	Carrie Candidate

According to the correlation chart provided in People Analytics course (Wharton), Peggy Prospect should be chosen to be Senior Associate Director for Digital Advertising Strategy to develop and implement above strategy for addressing the problem of adblocking at GYF.

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Effects and Measurement

Effects

The effects are anticipated with positive (+) in green and negative (-) in orange on company itself, customers and advertisers.

```
                                              ┌──► Higher and more stable revenue generated
                                              │
                                              ├──► Increase the outlook of the brand with the
                                              │     premium user experience and developed
┌──────────────┐      ┌──────────────┐        │     exclusive content offered
│   Revenue    │──────►│   Ad-free    │────────┤
│diversification│      │ subscription │        ├──► Customer loyalty → Higher lifetime value
└──────────────┘      └──────────────┘        │
                                              ├──► May face higher customer churn (losing
                                              │     current customer)
                                              │
                                              ├──► Take time to educate the market
                                              │
                                              └──► Hard to share with others without
                                                    subscription
```

Effects

The effects are anticipated with positive (+) in green and negative (-) in orange on company itself, customers and advertisers.

Strategic relationship with advertisers

Email newsletter
- Keep customer engaged and active
- Keep partnership with advertisers
- Can be annoying to customer
- Need to analyze and use data correctly

Paid content
- More friendly ads
- Greater value of ads to customers
- Generate less revenue
- Not very attractive to advertisers

Affiliate marketing
- More relevant and high-quality ads
- Less advertisement cost for advertisers
- No guarantee of revenue for company
- Need more time and effort in choosing

Effects

The effects are anticipated with positive (+) in green and negative (-) in orange on company itself, customers and advertisers.

```
                              ┌──────────────────────────────────────────────────────┐
                    ┌────────▶│ Better match with customer ads preference            │
              ┌─────────────┐ │ → better experience → higher LTV                     │
              │             │ └──────────────────────────────────────────────────────┘
              │ Acceptable  │ ┌──────────────────────────────────────────────────────┐
         ┌───▶│    ads      │─┤ Effectively monetize the majority of adblock          │
         │    │             │ │ traffic                                               │
         │    └─────────────┘ └──────────────────────────────────────────────────────┘
         │                    ┌──────────────────────────────────────────────────────┐
┌────────────┐               └▶│ Need time and efforts to develop and follow          │
│ Adblocking │                  │ the restrictions                                     │
│  system    │                  └──────────────────────────────────────────────────────┘
└────────────┘
         │    ┌─────────────┐ ┌──────────────────────────────────────────────────────┐
         │    │             │ │ Act as a adblockers on some sites with ad             │
         └───▶│ GYF         │─┤ trackers and annoyed ads                              │
              │ adblocking  │ └──────────────────────────────────────────────────────┘
              │ system      │ ┌──────────────────────────────────────────────────────┐
              └─────────────┘ └▶│ Break the relationship with some advertisers         │
                                └──────────────────────────────────────────────────────┘
```
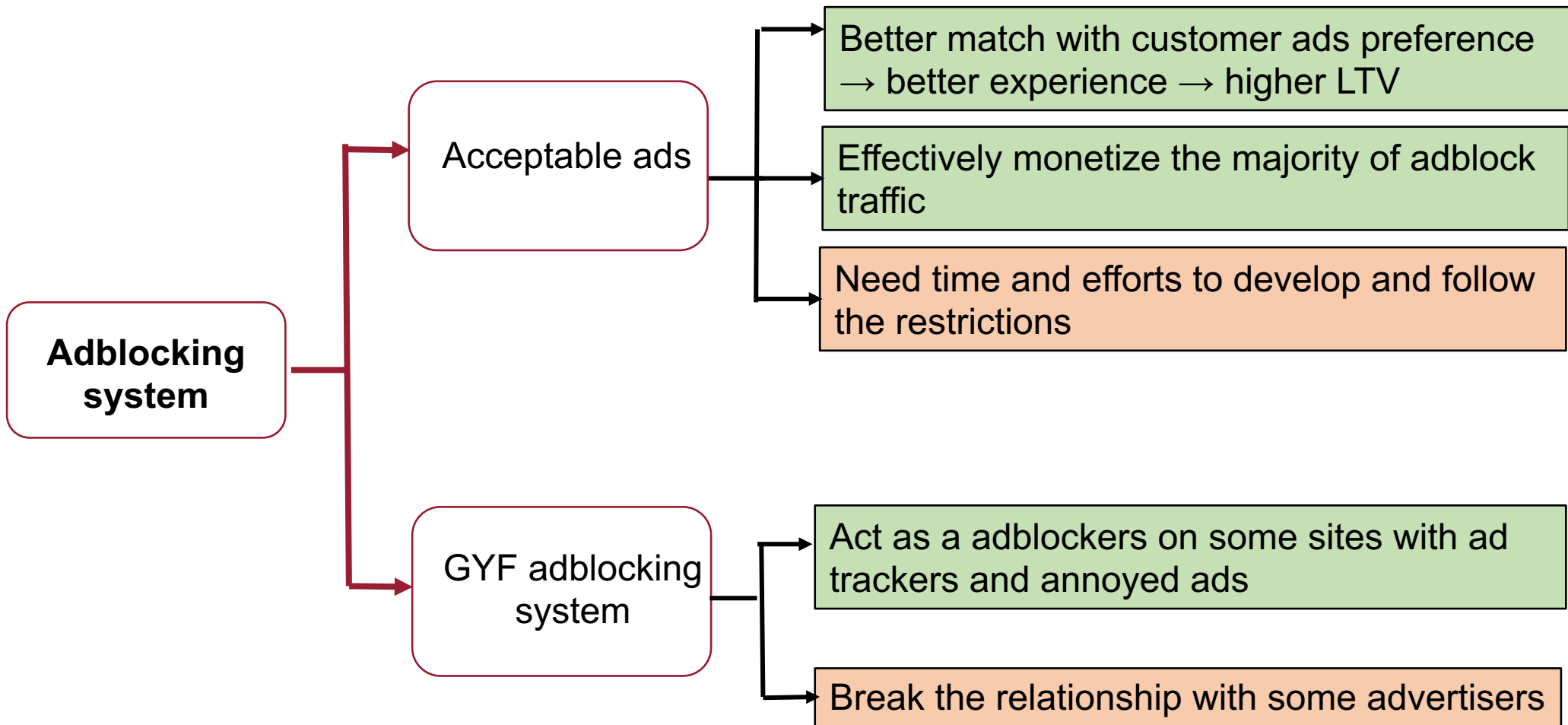
Adblocking system

- Acceptable ads
  - Better match with customer ads preference → better experience → higher LTV
  - Effectively monetize the majority of adblock traffic
  - Need time and efforts to develop and follow the restrictions
- GYF adblocking system
  - Act as a adblockers on some sites with ad trackers and annoyed ads
  - Break the relationship with some advertisers

Effects

Summary: GYF has a robust training program for hard skills and soft skills program with External and Internal. DATA team has a budget of $65,000 to allocate all training options to reach the best productivity return rates (show in the Excel in next slide).

Definitions of variation used:

HI = Hard skills (Internal)   SI = Soft skills (Internal)

HE = Hard skills (External)   SE = Soft skills (External)

Optimization model:

- *Objectives:* Maximize $0.2*HI + 0.6*SI + 0.7*HE + 0.4*SE$ (red cells in Excel in next slide)
- *Decisive variables*: HI, SI, HE, SE (blue cells in Excel in next slide)

- *Constraints:*

+ Budget: **HI +SI +HE + SE <= 60,000**

+ Hard skills training program must achieve at least $20,000 in total net productivity increase

0.2* HI + 0.7* HE >= 20,000

+ Soft skills training program must achieve at least $12,000 in total net productivity increase

0.6*SI + 0.4*SE >=12,000

+ The Internal program should achieve at least 60% of the net productivity increase realized for the External program.

(0.2* HI + 0.6*SI) >= 60% (0.7* HE +0.4*SE)

Effects

Application Exercise 3 – Designing a Deterministic Optimization Model

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Application Exercise 3

Net Productivity Increase (in $ per $ spent on training)

Training	Hard Skills	Soft Skills
Internal	0.2	0.6
External	0.7	0.4

Total Net Productivity Increase

$ 42,823.53

Spending Amounts (in $ thousands)

Trainging	Hard Skills	Soft Skills
Internal	0.00	26764.70
External	38235.30	0.00

Total Spending Budget (in $ thousands)	$ 65,000.00	<=	$ 65,000.00
Productivity Increase in Hard	$ 26,764.71	>=	$ 20,000.00
Productivity Increase in Soft	$ 16,058.82	>=	$ 12,000.00
Productivity Increase Internal v. External	60.00%	>=	60%

Using the Solver in Excel with algebraical factors outline in the previous slide, the maximum total net productivity increase is $42,823.53. To achieve this number, GYF DATA team should spend $26,764.7 in Internal Soft Skills training and $38,235.3 in External Hard Skills Training.

However, in my opinion, any model has limitation since it recommend not to spend on Internal Hard Skills and External Soft Skills training. Therefore, GYF DATA team should discuss and work with HR department to develop the best solution for the training program.

Measurement

Describe the anticipated effects of your strategy and how you will measure them

Strategy	Action	Financial measure	Non-financial measure
Revenue diversification	Ad-free subscription	✓ Monthly/Annual recurring revenue	✓ Churn Rate ✓ Renewal rate ✓ Market share
Strategic relationship with advertisers	Email newsletter	✓ Revenue generated ✓ Cost-per-click revenue	✓ Number of subscribe/unsubscribe in monthly, yearly ✓ Click-through rate
	Paid-content	✓ YOY change in revenue	✓ Number of articles/month
	Affiliate marketing	✓ Cost-per-click revenue	✓ Conversion rate ✓ Click traffic
Adblocking system	Acceptable ads		✓ Ads traffic ✓ Customer satisfaction ✓ Number of annoyed and track ads taken out
	GYF adblocking system		✓ Extension install rate ✓ Customer satisfaction

Conclusion

Key points take away

Problem Statement:
- Rising popularity of adblocking apps and extensions → Challenge the ad-revenue model of GYF
- Support of Apple in adblocking apps

Strategy:
- Revenue diversification: ad-free subscription
- Strategic relationship with advertisers: email newsletter, paid content, affiliate marketing
- Adblocking system: acceptable ads, GYF adblocking extension

Effects and measurement:
- Each action has their own positive and negative effects on GYF company, customer and advertisers
- Measurement should be both in financial and nonfinancial

Conclusion: Adblocking, with the rising usage, is a major problem challenging the ad-revenue business model of GYF. The Strategy recommended will be implemented successfully with the transformation in GYF strategic plan and the corporation of all the departments in the company.

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