

Business Analytics Capstone Framework for Strategy

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Problem Statement

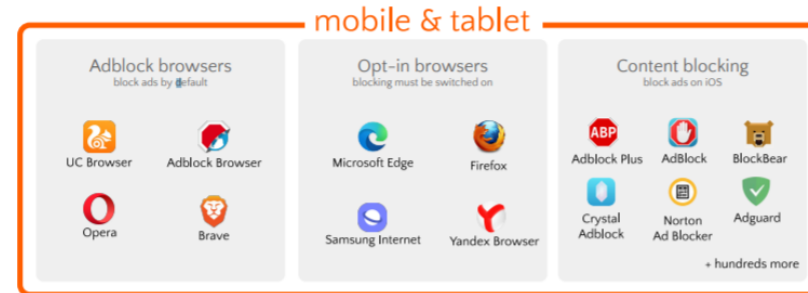
Problem Statement—

Describe the Problem Adblockers present to GYF

Use this space for describing the problem. Be as specific as possible! You should focus on the implications of adblockers on GYF's ad-buying customers; in exploring this, you might also consider the implications for GYF's end users, operations, and/or internal organization.

- **Adblocker – a computer program that prevents advertisements from being displayed on screen, from example when you visit a website**
- In 2015 Apple's iPhone 6s ships with a new operating system that allows users to install software that blocks banner ads from appearing on mobile web browsers.
- GoYaFace, Inc. (GYF) was incorporated in 2000 and today is a large digital search engine, email/messaging, and internet content company. GYF focuses on three core business units: GYF Search, GYF Mail & Chat, and GYF Digital Media. GYF Search is an internet search platform similar to those offered by [Google](#) and Microsoft ([Bing](#)). GYF Mail & Chat offers email and chat services similar to [Gmail](#) and Gchat. GYF Digital Media includes several subject-matter specific content destinations, including GYF News, GYF Sports, GYF Business, GYF Style, and GYF Technology. These sites provide original content and interactive features like fantasy football; for example, GYF Sports is comparable to [Yahoo Sports](#). GYF has users all over the world and its three core business are offered free of charge to end users.
- Last year, mobile advertising sales accounted for 70% of GYF's total digital advertising revenue.
- Adblocker is a massive threat for GYF and similar companies such as Google, Facebook, Yahoo. In 2019 only mobile AdBlock users number reached 527M.

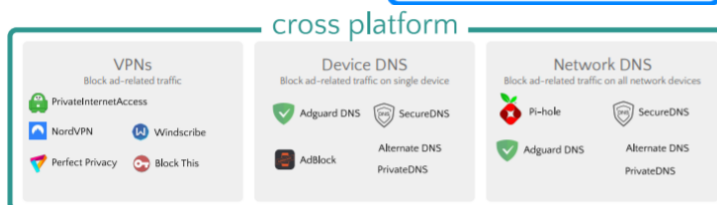
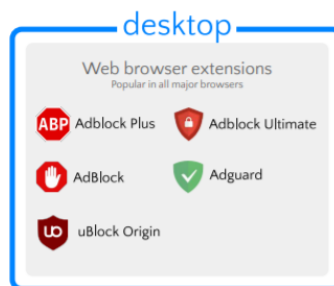
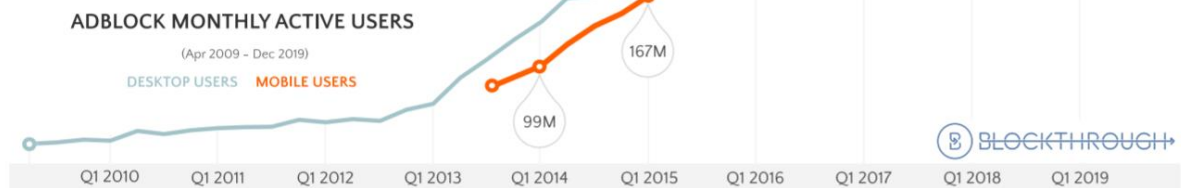
GYF's customers are nervous as there is basic version of how most Internet publishers make money: They produce content, they get people to click on that content, and they make money from the companies who put ads around that content. That's called display advertising, and the more clicks a publisher gets, the more money it can make this way. This has been a primary revenue source for many online publishers for decades, and it lets some publishers survive without charging users for content.



Mobile Adblock Users

More than twice as many people block ads on mobile web vs. desktop

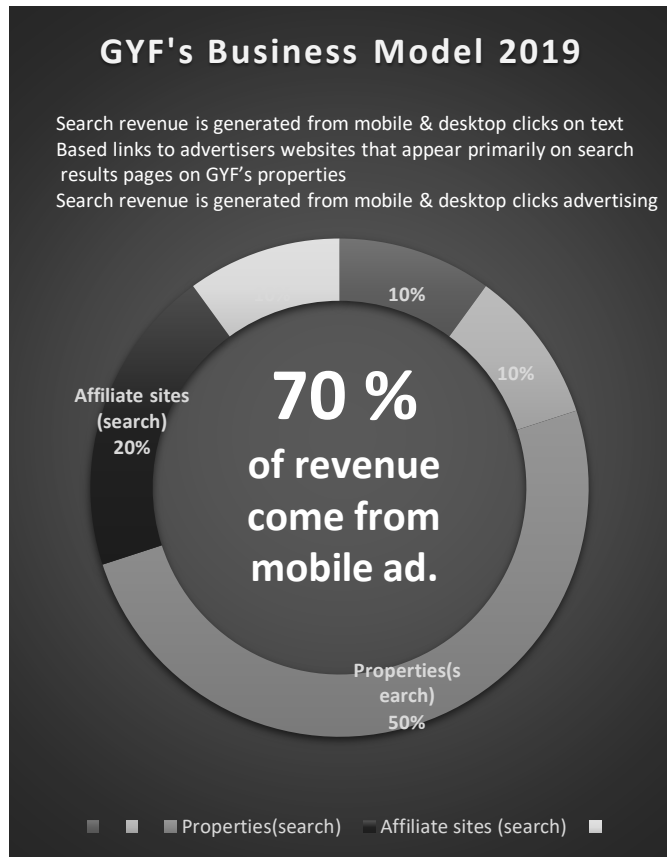
- This growth is driven by mobile web browsers that block ads by default, especially in Asia.
- UC Browser is the most popular adblock browser. We estimate it has **405M** users worldwide.
- We estimate that **Opera** had **123M** mobile users in Dec 2019. Opera Mini now enables adblocking by default for new installations.
- The **Brave** adblock browser is growing fast in the US and Europe with **10.4M** users in Dec 2019 and **89% YoY** growth.



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End users

Customer data lost

Operation

Predicting lost of revenue

Internal organization

Organization restructure

\$65.8 billion 2019 
72.2 % from mobile ad.

\$65.4 billion 2019 
94% from mobile ad.

\$1.07 billion 2019 
55% from mobile ad.

Sources: <https://bluemoondigital.co>, <https://edge.media-server.com/>, <https://fourweekmba.com/>

Problem Statement–

Application Exercise 1 – Research Methods and Tools (Optional)

Use this space for to answer the questions set out in Application Exercise 1: 1. Given your definition of the problem faced by GYF, what type(s) of research will you employ to learn more about the strategy the DATA Team should pursue? 2. What research tools could you use to conduct that research?

Problem – GYF threat is Adblocker software. 527 million mobile phone users 236 million desktop users. This program has very negative impact on GYF's revenue as well as other companies which main income coming form digital advertisement.

GYF need to find answers:

Why people installing the program?

What is the profile of adblockers?

Does customers don't like adverts?

Is any new product demand?

Market research plan – GYF will use all own sauces as well as collaborate with others internet and social media giants.

Data collection & analysis depends from research.



Data analyses

Check if if any pattern is being formed.

Action

If research answers address question GYF can taka an action and apply plan.

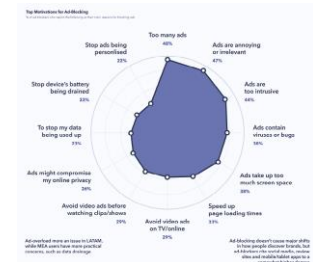
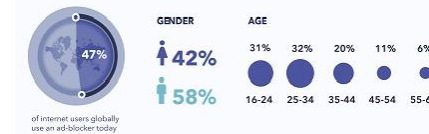
GYF Type of research & tools

- Exploratory Market Research: due to very little information about new potential product GYF needs to gain insights about it before find solution. That will be done by primary and secondary data research.



- Descriptive Market Research: The descriptive research is concerned with testing the hypothesis to find out the accurate answers of the research problem. Such as, who are the prospective buyers of the product?, How the products are consumed?, What fraction of the population uses the product?, What is the demand forecast? And who are the potential competitors? The objective of the descriptive market research is to measure the frequency with which the things occur and the extent to which the variables under study are correlated. GYF will conduct 2 research problems new product & Adblocker issue.

PROFILING AD-BLOCKERS



- Causal Market Research: GYF will try to establish the cause-and-effect relationship between the variables, such as if the Adblocker will have impact at new GYFs product. Causal research is a way of seeing how actions now will affect a business in the future.
- Predictive Market Research: GYF will try to predict and forecast certain market variable such as predicting the future sales, the projection of growth, test market to predict the success of a new product, defining of firm's product line, etc.

Strategy

Strategy

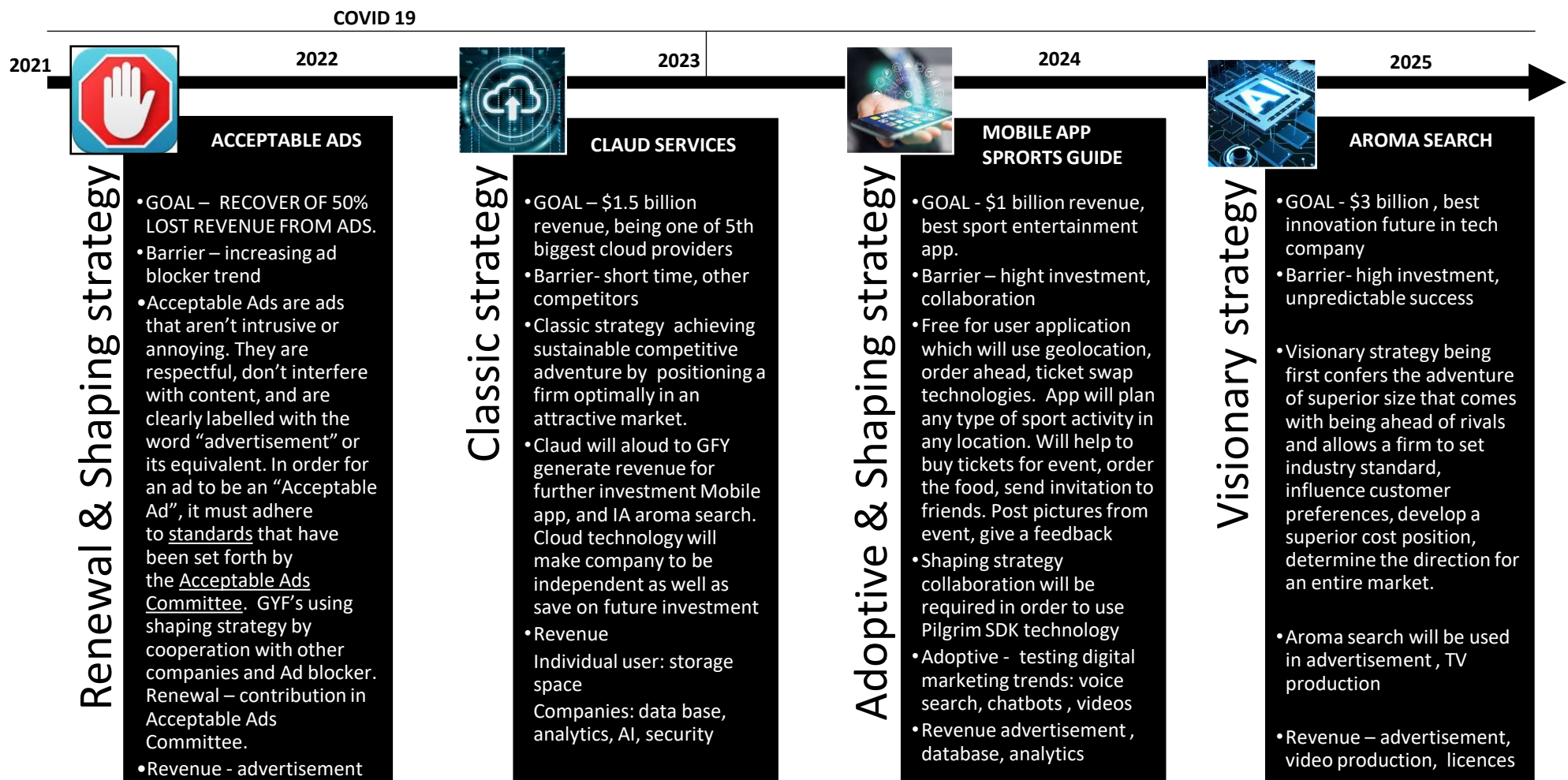
Describe your proposed strategy

Make sure your strategy is clear, well-defined, and feasible

GYF's strategy is based on deep analytical model: SWAT, Porter5, Value chain, Trend Analysis, Technology forecasting, Ratio analysis, R&D product manufacturing analysis, Regulatory and legislative analysis, Organization and personality assessment, Risk analysis.

GYF decided to follow on mission "As a leader in global daily habits like email, entertainment, news and sports, we strive to inspire, delight and entertain". The binges value of GYF's are customers. The company do not ignore subscribers that making possible to attract ads because that potential can affect numbers of end customers. GYF will develop ads of the future which compromise publishers and end users business. The goals are to protect, minimize lost of revenue from mobile ads as well as to build modern global company. GYF is able to change current business model by implementing new products which will cover predicted lost from mobile advertisement and massively increase revenue.

GYF's 5 years global AMBIDEXTERITY strategy



Strategy

Describe your proposed strategy

+135%



PEOPLE ANALITICS

Ad blocker and other financial crisis affected GYF's number of employees. From 2007 to 2016 GYF jobs were cut off about 40% . New strategy is to increase GYF's services and generate revenue of \$6.3 billions. That will be required systematic increase of heads in next 5 years a cross of the globe. Current number of employees are 8 500 goal is 20 000.

Employer Branding

HR –public relations & identity social responsibility, culture



HR
WORKFORCE PLANNING

SuccessFactors People Analytics, Enabled by SAP Analytics Cloud

Since the dawn of automated HR reporting, analytics, and planning, HR has had no other option than to procure and implement multiple systems to deliver individual capabilities — a reporting tool for transactional data, a standalone analytics application for descriptive metrics, and a business intelligence package for advanced analytics with machine learning.

SAP – will be very good tool for GYF due to multifunction. Can be use in recruitment, workforce planning, training , progression , compensation & benefits, retention. The most important is fact that program will help to measure productivity vs. performance on global size



RETENTION – GYF's financial situation, lost revenue from ads. can lead on one hand to jobs cut off but on the other hand high qualified employees can start leaving the job. Best tools to asses current situation is survey

ARTIFICIAL INTELLIGENCE:
NOW HIRING

IA REICRUTMENT - is a new technology which aloud GYF's run firs stage interview on long distance. That save time and improved recruitment decisions. Special algorithm will comperre the best employee performance with new candidate abilities.

PRODUCTIVITY MEASURE VS. PERFORMRNC

GYF's performance evaluation will be:

50% what employee accomplished , 50% how employee accomplished it, as judged by those affected

GYF – will use 11 key HR metrics:

1. Absence rate, 2. Absence rate per manage, 3. Over time expense, 4. Employee productivity index, 6. Training expenses per employee, 7. Training efficiency, 8. Employee happiness, 9. Voluntary turnover rate, 10. Talent turnover rate, 11. Retention rate per manager



TALENT – GYF will use meanly e-learning platform. The organisation also see needs to organise a regular meetings in a groups depend from current program

EMPLOYEE ENGAGEMENT – means employee psychologically & emotionally connected to the company. According Gallup comp. Manager who help set up performance goals are 17x more likely to be engaged . Theirs employees 59%. 80% turnover can be attributed to direct manager GYF –will run quarterly meeting with managers in order to share the company plan. Aligned up and down as well as left and right



COMPENSATION & BENEFITS - A tool that is used to foster values and culture GYF will use this instrument that enables them to achieve their objectives. GYF objectives are to build a system of rewards that can motivate the employees to perform.

Strategy

Application Exercise 2 – Hiring a Team Leader (Optional)

- Based on the information provided in Application Exercise 2, describe here why you would hire Carrie Candidate or Peggy Prospect to be the second-in-command of the DATA Team.

I would hire Carrie to be the second in command of the Data Team due to her very good qualification as well as her total metric performance 0.25 which is 38.88 % high than Peggy's one .

Metric	Carrie	Peggy
Background/Experience	0	0
Work samples	0.54	0
Cognitive ability test	0.51	0
Structured interview	0	0.51
Job knowledge test	0	0.48
Integrity test	0.41	0.41
Personality test	0.31	0
References	0.26	0
	0.25	0.18

Effects and Measurement






Effects

Describe the anticipated effects of your strategy

Please describe the anticipated effects of your strategy. Make sure you address the effects on customers, revenue, and the internal organization

ANTICIPATED EFFECTS OF STRATEGY

Acceptable ads. will affect positively end of users & publishers. Hard messages strategy doesn't work. Company responds for customer expectation and even exceeded them. Survey results about Ad blocker shows that customers doesn't mind advertisement but are very unhappy about how aggressively they are presented. Mobile app –sport guide is application dedicated to fun an relax. People after work searching for event and have organize time by app. They actually watching adverts . App bring also younger customer to the company. GYF currently is missing that segment . Aroma Search that is an unique AI technology which attract advertisement world and build strong brand name. Claud service that is a standard service which should attack current end new users. Expected total users are 8.4 billions it means GYF is very attractive for potential publishers. New users shift revenue. Expected total is 6.3 billions. All projects will affect size of internal organizations. Expected number of employee 20 000. However scale effects help to lower cost 20% and optimize risk.

EFFECTS	ACCEPTABLE ADS	CLAUD SERVICES	MOBILE APP SPORT GUIDE	AROMA SEARCH
Happy customer 	0.9 billion	1.5 billion	1 billion	5 billions
More revenue 	\$0.8 billion	\$1.5 billion	\$1 billion	\$3 billion
Increased size of Internal organisations 	8 500	8 000	1 000	2 500
Lower cost 	-20%			
Strategic risk 	9	0.09	12	5.75

Effects

Application Exercise 3 – Designing a Deterministic Optimization Model

Provide an explanation of the calculations you performed to build an optimization model using decision variables, constraints, and an objective; this model could use the scenario in Application Exercise 3, or one of your own devising.

Maximize Productivity net

Internal Hard Skills * 0.2 x External Hard Skills * 0.7 + Internal Soft Skills * 0.6 x External Soft Skills * 0.4

Budget ≤ 65 000

Where Hard Skills training Internal + External ≥ 20 000

Where Soft Skills training Internal + External ≥ 12 000

Where Internal program is 0.6 of External Hard Skills + External Soft Skills = 0.6

Business Analytics Capstone 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
(in \$ thousands)

135

Spending Amounts (in \$ thousands)

Training	Hard Skills	Soft Skills
Internal	10	23
External	10	22

Total Spending Budget (in \$ thousands)

Productivity Increase in Hard
Productivity Increase in Soft
Productivity Increase Internal v. External

65	≤	65
20	≥	20
45	≥	12
19	=	0.6

Measurement

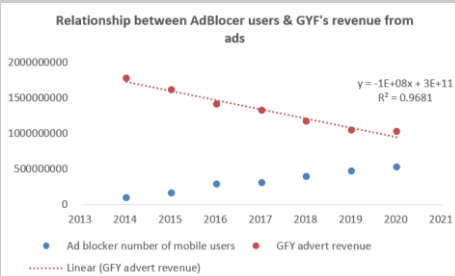
Describe the anticipated effects of your strategy and how you will measure them

OPERATION ANALITICS

ACCEPTABLE ADS

Forecasting

Simple Liner Regression is showing relationship between Adblocker users & GYF's revenue from ads.



Forecasting function

1000000000 - \$ 992 661 847

500000000 - \$ 776 568 271

800000000 - \$ 614 498 090

If number of Adblocker's users will increase up to 800000000 relatively GYF's revenue will continuing dropping to \$ 614 498 090 which is 25% less than LY . GYF has to invest in acceptable ads in order to minimalized their lost from ads.

Calculation of Adblocker users – desktop user measured via the download activity of blacklist. Mobile adblocking measured via percentage of traffic from web browsers. Ads. – pay per click, time, geographic, key words, quality scores, searching words, total side traffic

CLAUD SERVICES

Simulation

GYF is new on market as a cloud provider. The way how company can approaching the price for cloud storage is offering 25% lower competitive price. Current average market price is \$1.84 /100GB per month.

5 top competitors of Cloud Storage price per month

	100GB	100GB	100GB	100GB	100GB
	1.66	1.99	2.0	1.56	1.99
Amazon Web Service					
Microsoft One Drive					
Google Cloud Drive					
Alibaba Cloud					
IBM Cloud					

Price Plan 25% less than aver.	Wireless Data Plan	Simulation Run	price (\$)	users (billions)
Operations Analytics		1	1,15864	1,588068903
		2	1,40057	1,313755163
Number of users (billions)	1,00	3	1,43366	1,283431924
Market average price (\$)	1,84	4	1,35464	1,358291272
		5	1,60467	1,146652736
		6	1,25164	1,470069864
Expected price (\$)	1,38	7	1,53416	1,199353899
St. Dev. of number of users	0,1	8	1,65802	1,10975634
		1000	1,38379	1,329680128
			Sample Mean	1,38568
			Sample St. Dev.	0,09755

If hypothetically company lower price 25% instead of obtaining 1billion customer should get 1.33 with risk Standard Deviation 0.09

Service/System availability, reliability (mean time between failure and mean time to repair), response time, security, throughput, capacity, scalability,latency, service and helpdesk, cost per customer

MOBILE APP SPORT GUIDE

Sample Test

Testing number of sports funs 15.8 billions against world population shows low probability to have similar number of sports funs . However,

Total world population		
Type of sport	Sports funs	%
1 Football	3,500,000,000	45%
2 Cricket	3,000,000,000	38%
3 Basketball	2,000,000,000	26%
4 Hockey	2,200,000,000	28%
5 Tennis	1,000,000,000	13%
6 Volleyball	900,000,000	12%
7 Table tennis	900,000,000	12%
8 Baseball	500,000,000	6%
9 Rugby	400,000,000	5%
10 Golf	300,000,000	4%
Total Sports Funs	15,800,000,000	202%

t-Test: One-Sample Assuming Unequal Variances		Confidence Level of Mean	
	no. of sport funs		no. of sport funs
Mean	1580000000	Mean	1580000000
Variance	1,47956E+18	Standard Error	384649913
Observations	10	Median	950000000
Hypothesized Mean	0	Mode	3000000000
df	9	Standard Deviation	1216369827
t Stat	-16,2076686	Sample Variance	1,47956E+18
P(T<=t) one-tail	2,87403E-08	Kurtosis	-1,582763602
t Critical one-tail	1,833112933	Skewness	0,592158613
P(T<=t) two-tail	5,74806E-08	Range	3100000000
t Critical two-tail	2,262157163	Minimum	400000000
		Maximum	3500000000
		Sum	15800000000
		Count	10
		Confidence Level(95,0%)	870138555,8
		Upper	2450138556
		Lower	709861444,2

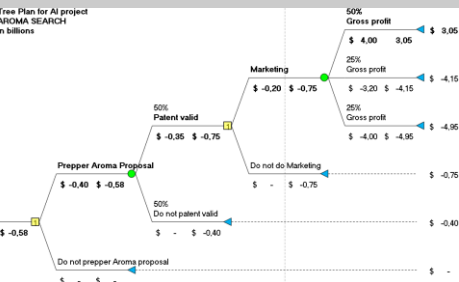
mean for number of funs is 1.58 billion with high confidence mean level of 2.45 billion and low confidence level 0.70 billion. That indicate GYF could be successful to acquired 1billion users

API- calls per day, check ins, check ins a day, countries, monthly active users, photos, registered users, total user tips

AROMA SEARCH

Decision three

Aroma Search is the most challenging GYF's project. Investment in AI can be very profitable \$3.05 billions however may bring lost of \$4.95 billions.



Company has to invest in first year \$0.58 billion for this project.

Cost per view, earned action, video viewership, impression, engagement, Cost per action, ad frequency, conversion rate by channel,

Measurement

Application Exercise 4 – Identifying Key Drivers

Apply the “causal business model” performance measurement framework to your strategy

CAUSAL BUSINESS MODEL

Hypothesis – GYF’s culture is open for analyses financial and non financial performance. If company will decide to invest in employees training developing hard & soft skills that should increase potentially number of new customers as well as improve customer satisfaction and behaviour. Automatically company should grown that will reflect on their revenue

How to measure A ?

Employee value

Level 1- basic requirement conducted

In job description

Level 2- goes beyond responsibilities

Does things better quicker cheaper

Level 3 – proactively generates new

Ideas new way of working and new

Process for efficiency & effectiveness

Frequency – every quarter

Data – employee performance review,

KPI's

Employee satisfaction

Employee net promoter score

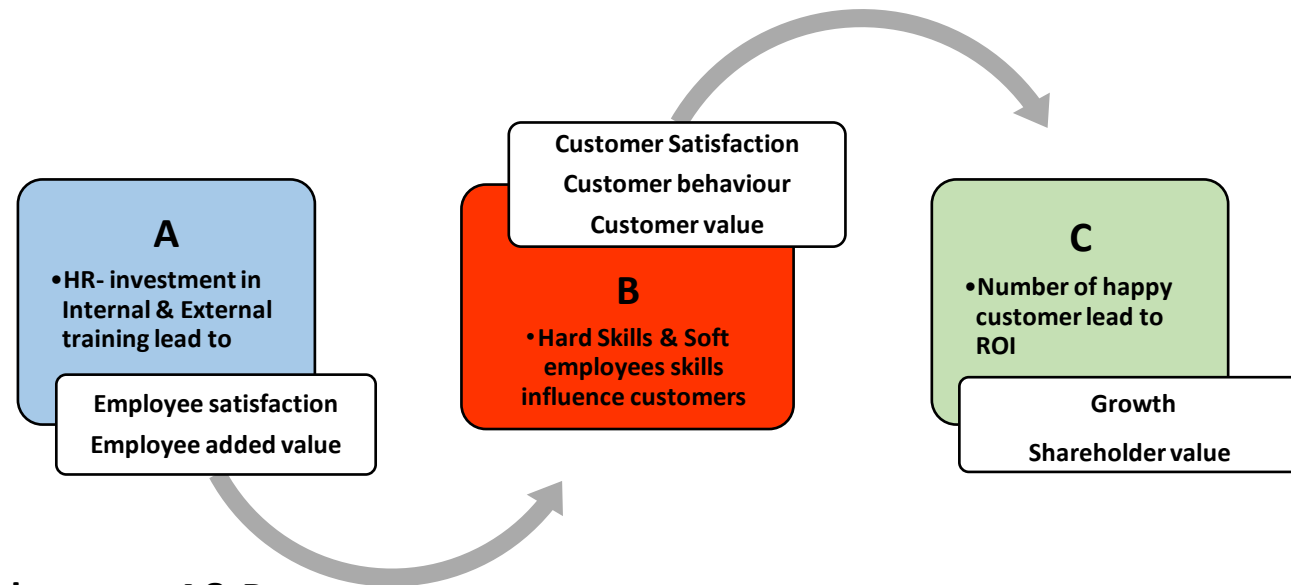
Data – survey, informal chat, suggestion box

Absenteeism rate

Data – HR report

Employee turnover rate

Data – HR report



Link between A& B

Customers affinity is driven by employees. Due to better employees knowledge achieving stronger customer metrics, outperform competitors and increase profit.

Metrics: Customer Satisfaction – net promoter scores, customer retention, customer effort scores.

Customer behaviour – churn overview, advocacy, purchasing, search results

Customer value - lifetime value, customers satisfaction survey

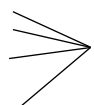
Value driver

Internal hard skills 0.2

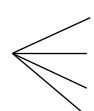
Internal soft skills 0.6

External hard skills 0.7

External soft skills 0.2



Customers



Competition
Satisfaction

Acquire new customer
Retain existing customer

Value driver measurement- GYF increased investment in external & internal soft skills due to positive effect of acquiring new customers. Measurement – 1 Reaction learner survey before and after training, 2 Learning-scoring system after course, 3. Behavioural change – measured through improvements in efficiency. 4. Business impact measured through productivity gain, impact on quality, reduction in re-works, getting higher number of work assets first time right, 5. ROI calculated by converting business impact gains to monetary value

Measurement

-20%



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

FINANCE ANALYTICS

GYF's long term (5 years) strategy is to increase revenue to 6.3 billions and reduced costs 20% .Organization is planning 4 projects which complements each others. Acceptable Ads. & Cloud service should bring ROI in one-year time. That will aloud invest for new technology Mobile app from year 1-3, a research Aroma search year 1-5. Savings: Cloud service will give technical support for Mobile app sports guide . Aroma search patent will change the word of advertisement and TV production. Will be use in Mobile app, desktop ad. Videos Ext.



SAP Analytics Cloud and SAP S/4 HANA
Optimizing financial planning

- Compare actual and plan data
- Create forecasts
- Leverage financial planning capabilities including :

Prediction
Simulation
Spreading
Visionally
Collaboration

Dashboards & scorecards



ORGANIZATION ISSUES

Global projects
Limited time
Linkage between projects
Linkage with HR & Marketing
Investment in new technology
Target set up
Collaboration with other companies



PREDICTION

Investment in new technology will pay off
Economies of scale project would help grown
Coordination HR & Marketing activity will save cost
Collaboration with other company's will save costs



CUSTOMER SATISFACTION

Is non financial metric
GYF will invest for it after building prediction regression model and checking if this strategy is pay off.
Company will rank the weigh. GYF is planning to do marketing research in order to measure analytics results



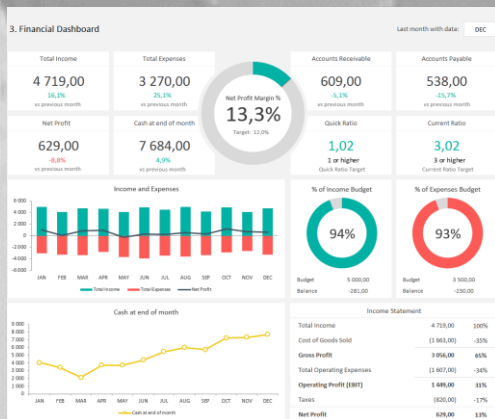
RIGHT DRIVER

GYF will choose activity that adds worth to their product, service & brand, reused risk and promote growth accordingly with strategic goals.
Organization planning go analyse different type of drivers: operational, financial and sustainability

FINANCIAL AND NON FINANCIAL MEATRICS

Customer awareness, customer satisfaction, market share, shareholder value, market capitalization, return on asset , return on investment, P&L, operating cash flow

- **Recurring Revenue Metrics** — income and expense areas, such as recurring service contract fees, subscription fees, product maintenance fees, Revenue Growth Rate, Cash Conversion Cycle.
- **Recurring Revenue Overview** — include Recurring Revenue Proportion, Recurring Revenue Growth Rate, Recurring Revenue Exit Rate.
- **LOB Efficiency Measure** — Operating Cycle Time (production rate), Capacity Utilization Rate, Process Downtime Level, Human Capital Value Added, Employee Engagement Level, Quality Index.
- **Finance Department** — Operational KPIs should also include obscure indicators such as Finance Error Report KPI, Payment Error Rate KPI. And, a variety of indicators in areas of billing and transaction management, collections, and others
- **KPIs** — Cost Ratio of Customer Acquisition to Lifetime Value, Lifetime Value, Customer Acquisition Cost, and others, Customer Profitability Score, Relative Market Share.



Effects

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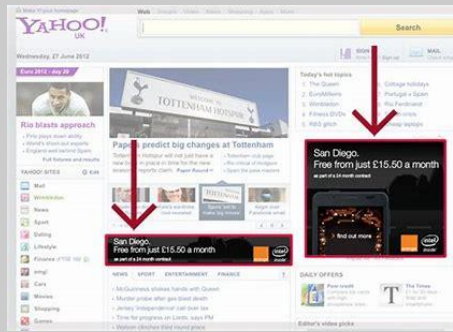
CUSTOMER ANALYTICS

ACCEPTABLE ADS

Adblocker strategies



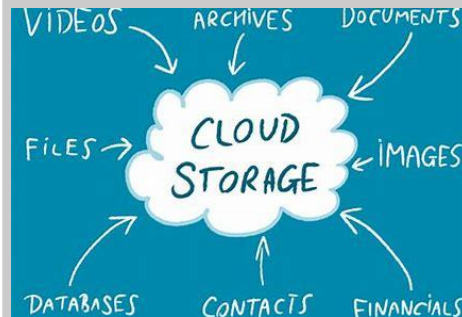
Acceptable ads example



CUSTOMER CHURN

Type of customer analytics- attitudinal GYF will systematically collect data of adblocker users and compering with acceptable ads data. Company will be also collecting data from server which will be measuring existing user satisfaction. GYF also will be using marketing metrics

CLAUD SERVICES



Cloud benefits



MULTIPLE MEDIA

Type of customer analytics- descriptive GYF will have a few offer for cloud storage. They planning to measure what is the most important for theirs customers: Price, size of storage, technical futures or software tools?

MOBILE APP SPORT GUIDE

CHATBOTS



GEOLOCATION
Latitude: 51° 32' 45.37" N
Longitude: 0° 00' 33.29" E
You are in London Stratford. There is football match on Queen Elizabeth Olympic Park at 1pm. You can have after slide from Stratford Orbit tower and diner in one of Westfield shopping centre restaurants

TICKETSWAP
That sound great. Can I purchase tickets for 8 people?

ORDER AHEAD
Definitely! I just send you 20% off e-voucher valid for group of 8-10 people. Please see below list of all restaurant and pubs with order ahead arability

Are you serious? Instead of queuing for drink & food I can have fun with my friends, take a photos posted on app and review my day. I love it!

CUSTOMIZED ENTERTAINMENT

Type of customer analytics- interactional Expectation from this project is to bring younger customers to GYF. Company will be measure customers details (age, sex). Type of interaction with application, popular localization, frequency of using 3 type of technology: geolocation, ticket swap, order ahead. Customers feedback will be analgsed and application will be evaluate with customers needs

AROMA SEARCH

CUSTOMERS EXPERIENCE



UNIQUE EXPERIENCE

Type of customer analytics- behavioural 3 years Before project will be launched GYF planning to collect and analysed different AI data . Voice search, 3D, and virtual visualization can give idea about customers interested in new experiences. Organization will attempt to predict future customers expectations.

MEASUREMENTS PLAN

Conclusion

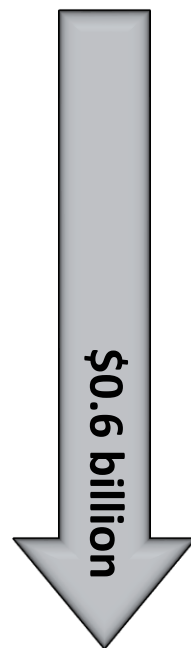
Summarize your key points from the preceding slides

The fundamental part of strategy is execution in global area. GYF is planning to implement culture of execution. Managers meeting happening weekly, monthly, yearly. Shareholders meeting quarterly and yearly. Subjects to action: objective set up, structure, incentives, metrics, acceptable criteria, cost, duration, risk, required changes and achievements. Communication on organizational level is a priority.

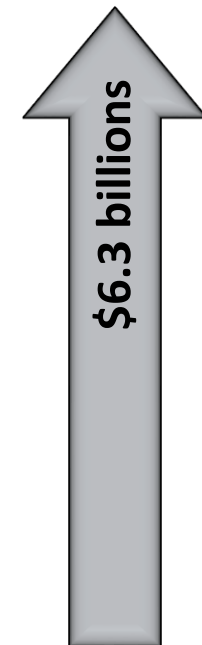
Going back to Adblocker problem if GYF doesn't take any action their revenue potentially can drop by 52%. Clear new strategy could change situation and increase revenue about 384% in next 5 years. GYF is using widespread metric ROI to evaluate the forecasted profitability on different investments. In this case ROI is calculated by income method.

GYF is applying analytic in to heirs strategy. Analytics are helping to make reasonable business decisions. GYF's strategy can be very successful.

NO STRATEGY



	2021 Phase 1 – 2022	ROI	43%
	2021 Phase 2 - 2023	ROI	83%
	2021 Phase 3 - 2024	ROI	100%
	2021 Phase 4 - 2025	ROI	100%
Analytics KPI's set up Finance, HR, Operation, Customers			
COST	DURATION	RISKS	



STRATEGY

Thank you!