

# ToS Evaluator

Value Creation Analysis

Emilie Burton, Ryan Kim, Jerry Tsou, Arief Hutahaeen  
eb736, rk494, ct558, arh272

## Table of Contents:

<b>Table of Contents:</b>	<b>2</b>
<b>Step 1: Business Model Canvas</b>	<b>3</b>
Key Partners	3
Key Activities	4
Key Resources	5
Value Propositions	6
Customer Relationships	7
Channels	8
Customer Segments	8
Cost Structure	9
Revenue Streams	9
<b>Step 2: Identify Points of Comparison</b>	<b>10</b>
<b>Step 3: Research What's New and What's Old</b>	<b>10</b>
What's New	10
What's Old	10
<b>Step 4: Iterate the Demand Side: Will People Buy/Use It?</b>	<b>11</b>
<b>Step 5: Iterate the Supply Side: Can You Make It?</b>	<b>11</b>
<b>Step 6: Feedback &amp; Iterate</b>	<b>12</b>
Notes from Critters	12
Notes from Other Teams	12
Notes from Mark	12

## Step 1: Business Model Canvas

### Key Partners

*Who are our key partners? Who are our key suppliers? Which key resources are acquired from partners? Which key activities do partners perform?*

- Software Distributors
  - Key purpose: make software more accessible
    - Online application marketplaces to market the application (i.e. app stores, npm, yarn)
    - Web browser companies
  - Key resource: distribution method
- Service Providers
  - Key purpose: Website-host companies providing servers or domains
    - Cloud service providers for digital content distribution
  - Key resource: keeps our service alive and accessible via the Internet
- Software/App Developers
  - Key purpose: Third parties developing the software or application for the product
    - Companies/individuals providing libraries and package managers to build the back-end (i.e. npm)
  - Key resource: libraries/packages they created
- Users:
  - Key purpose: quality control
  - Key resource: user feedback
- Legal Advisor who review the terms and conditions and summary
  - Key purpose: accuracy of our system
  - Key resource: legal advice and knowledge
- Other non-profit organizations sharing the same causes
  - Key purpose: share a user-base
  - Key resource: databases of users concerned with privacy
- Government
  - Key purpose: validation of our cause
  - Key resource: funding and certification of non-profit status

## Key Activities

*What key activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams?*

### *Value Propositions:*

- Software Development
  - V-Slice
  - Research
  - Prototyping
  - User Testing
  - Alpha/Beta release and usage collection
  - (cycle repeats until product reaches the Minimum Viable Product)

### *Distribution Channels:*

- Online Marketing to help advertise our services
- Word-of-mouth distribution amongst customers
- Acquiring a license to validate our distribution method
- Developing APIs to make access to our services much easier
- Maintain a Github repo to make distribution and documentation easier

### *Customer Relationships:*

- Feedback collection to provide insight on how to improve the product
- Establishment of goodwill to encourage the possibility of social change

### *Revenue Streams:*

- Fundraising e.g. grants to maintain our services
- Donation from users
- Merchandising to help raise funds and increase brand awareness

## Key Resources

*What key resources do our Value Propositions require? Our Distribution Channels? Customer Relationships, Revenue Streams?*

### *Value Propositions:*

- Knowledge on data privacy and security
- Templates of Terms of Service (ToS) from various companies
- Documentation for software
- Programing tools and engineers

### *Distribution Channels*

- Distribution methods (channels to approach individuals)
- Knowledge of non-profit activities

### *Customer Relationships:*

- User testing and feedback
- A network of non-profit organizations

### *Revenue Streams:*

- A network of donors and users

## Value Propositions

*What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?*

*Value to customer:*

- Make users feel empowered and safe by explaining or summarizing the ToS to the users and help them protect their privacy
  - Users can understand the ToS
  - Users know how the terms impact users' data/privacy
  - It help the users to defend their rights
- Social Impact
  - Raising awareness on how companies use personal data and the impact to the users
  - Advocation of better business practice on the user data
  - Increase of perception on how the users interact with companies
  - Encourage users to become an agent of change on governance of personal data

*The problem we are solving:*

- Users don't understand ToS and blindly agree to it

*Bundles of product/services for each segment:*

- Parsing ToS
- Education on legal jargon
- Offer a website with similar service with "better" ToS

*Customer needs we are satisfying:*

- Make users feel empowered and safe by explaining or summarizing the ToS to the users and help them protect their privacy
- Being part of an impact-driving activities

## Customer Relationships

*What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of the business model? How costly are they?*

*Type of relationship does each of our Customer Segments:*

- For general users: All users get the same summary of the ToS
- For users who value their personal data more: Help them negotiate for a customized ToS/understand their rights
- Targeted customers: Every individual who uses online service
  - We hope to be partners with individuals when they are signing the ToS.
  - Build a positive reputation for fighting for users' rights and thus increase user bas

*Established relationships:*

- Legal Consultation: Arief Hutahaeen (Team Member, Cornell Tech)
- Guidance:
  - Mark Herschberg (Team Advisor, Averon)
  - Tom Ristenpart (Security Professor, Cornell Tech)
- Connection to other nonprofits: Karan Girotra (Product Studio Professor, Cornell Tech)

*Cost:*

- Consultation and Guidance: relatively cheap, easy to access
- General User-base: expensive, requires a lot of time and effort to collect user data and establish goodwill
- Large Businesses: expensive, hard to maintain and get feasible results in the short-term
- Small Businesses: moderately expensive, easier to establish relationships with due to their smaller business infrastructures

## Channels

*Through which of our Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are cost-effective? How are we integrating them with customer routines?*

*Channel to reach customer segments:*

- Online and offline marketing

*Current method:*

- N/A

*Integration with channels:*

- Offline marketing will mention our online presence

*Best method:*

- Online marketing

*Cost-effective:*

- Online marketing

*Integration with customer routines:*

- Reaching to customers by using web-extensions
- Currently not reaching to customers. Though there is a 3rd party website (TosDR) that looks at the ToS of big companies.
- Integrated with customer's routine as it part of their web browser.

## Customer Segments

*For whom are we creating value? Who are our most important customers?*

*For who:*

- For general users: All users get the same summary of the ToS
- For users who value their personal data more: Help them negotiate for a customized ToS/understand their rights

*Most important customers:*

- People who are specifically concerned with security/privacy
- Small businesses who strongly desire/require a returning customer base



## Cost Structure

*What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive?*

*Important costs:*

- Product Maintenance (obtain resources needed and development)
- Server maintenance
- Marketing and brand awareness
- License acquisition
- User testing: time and capital

*Most expensive resource:*

- Distribution
- Application development (our time)

*Most expensive activity:*

- Marketing/customer relations

## Revenue Streams

*For what value are our customers really willing to pay? What do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenue?*

*Customers really willing to pay:*

- N/A

*What/How/ currently pay:*

- N/A

*How would they prefer to pay:*

- Online donations

*Each revenue stream contributes to overall revenue:*

- Donation from users
- Funding from government, grants, non-profits

## Step 2: Identify Points of Comparison

- ToS;DR [<https://tosdr.org/>]
  - DuckDuckGo's browser add-on
  - AI for legal documents [<https://www.luminance.com>, [www.legalzoom.com](http://www.legalzoom.com)]
  - GDPR [ <https://eugdpr.org>]
- 

## Step 3: Research What's New and What's Old

- What's New
  - More ready access to a word parser that can interpret the legal jargon
  - Advent of Machine Learning has widened the pool of possibilities when it comes to natural language processing.
- What's Old
  - Parsers - text parsers exist
  - Browser add-ons exist
  - Applications for local machines exist and are distributed via various methods (i.e. app stores, online marketplaces)

## Step 4: Iterate the Demand Side: Will People Buy/Use It?

- Most adults actually cannot read ToS very well:
  - [https://www.vice.com/en\\_us/article/xwbq7j/online-contract-terms-of-service-are-incomprehensible-to-adults-study-finds](https://www.vice.com/en_us/article/xwbq7j/online-contract-terms-of-service-are-incomprehensible-to-adults-study-finds)
- The question is: why do people not want to read the ToS of whatever products they are using?
  - It's too hard to comprehend! Reading ToS is a barrier to easy usage, so people ignore it!
  - <https://www.theguardian.com/technology/2015/jun/15/i-read-all-the-small-print-on-the-internet>
  - In actuality, it would appear that it's not the length of the ToS that matters - it's the legibility. If you cannot understand it in the first place, why bother?
- Would people actually be willing to read the Terms of Services if they were easier to read?
  - The article above from the Guardian seems to think so

## Step 5: Iterate the Supply Side: Can You Make It?

- Short answer: yes, the technology is there
  - Browser add-ons help improve ease-of-access
    - Ex. DuckDuckGo's browser add-on
  - ML for parsing text - technology does exist in most programming languages
    - Python:
      - PyPDF2 (To convert simple, text-based PDF files into text readable by Python)
      - textract (To convert non-trivial, scanned PDF files into text readable by Python)
      - nltk (To clean and convert phrases into keywords)
    - Java: <https://pdfbox.apache.org/>
    - JavaScript (Node.js): <https://www.npmjs.com/package/pdfreader>
- Long Answer: Maybe
  - Biggest problem: discovering the best avenue for distribution and management
    - Ex. some ToS are inbuilt with software (i.e. Apple's iOS, when activating for the first time on a phone, opens the ToS right out of the box.
    - Some ToS are on websites as print - this is easy enough though

- What about ToS with home applications (i.e. when installing a new program)?
    - Operational costs:
      - Who will be managing the software and improving the text parser over time?
      - What are the costs associated with launching new apps into the marketplaces of digital products (i.e. Apple's App Store)?
    - The technology is definitely feasible though - this is a certainty.
    - Need lawyers to determine how accurate NLP algorithm is.
  - Long Term Goal:
    - Education
    - Non-profit
- 

## Step 6: Feedback & Iterate

### Notes from Critters

- Maybe best for B2B - no business would want to integrate this with B2C
  - Companies probably won't allow people to edit terms and conditions as this will change their business structure
- Seems useful from a fundamental POV, but applying it, in reality, would be difficult
- Similar to GDPR in its intended purpose

### Notes from Other Teams

- Seems really useful
- They like the idea

### Notes from Mark

- 95% of ToS are v similar - so practically easy to do
  - Note that this is not "legal advice"
  - Flag discrepancies
- Individuals won't pay for this service
- Competition: might be Legal Zoom
- It could be offered as a service to businesses instead of individuals.
- Can it be beneficial for consumers and businesses?