http://www.treatail.com

Global Commerce Layer

Whitepaper

Summary

Treatail is a revolutionary commerce layer that sits on top of all the sites and marketplaces on the Internet. Our platform allows for buyers, both consumer and business, to make offers and receive personalized deals on goods and services listed for sale on any site doing commerce on the Internet. Our goal is to help buyers to get unpublished, personalized deals and help online retailers boost profits by optimizing inventory through precision discounts and reduced cart abandonment.

Problems in Online Retail for Buyers

Sale of Personal Data

Very few people take the time to read the terms of service of every website and store they visit. What they may not know is that their behaviors are all tracked, and that data is later sold in a multi-billion dollar industry. The collection of data about user behavior is at the core of the business for companies like Facebook and Google.[1] Tracking user data is a massive business and the users are not compensated for the data they generate.

Coupon codes

The consumer market is flush with product offerings around discounts, promotions, and coupon codes. In many cases, the buyer may not be in the market to buy at the moment a coupon or discount is available. Another common issue is simple misplacement of a physical or emailed coupon, leaving the buyer unable to take advantage of the discount at the time they need it.

Restrictive Communication

Online retail has historically been a seller putting a store online and listing their goods and services with the retailer's asking price. The buyers go to that site, choose the products, and either pay the asking price or abandon the cart. An increasing trend in online shopping, and marketplaces in particular, is the restriction, or perception of restriction, in communication between the buyer and the seller. The element of in-person interaction between buyer and seller has been lost in a situation where nobody wins,, leaving buyers assuming that "the price is the price". Statistically, when this happens, the total price is too high and the cart is abandoned by the buyer. Without communication, the buyer does not buy from the seller they intended and the seller misses out on making the sale.

Unmanaged Spend

When businesses purchase goods and services, 80% of their spend is purchased via pre-negotiated contracts to get discounts on their regularly purchased items. Unfortunately, that still leaves 20% of the goods and services that businesses buy that are simply purchased as-needed without pre-negotiated pricing that they end up paying retail pricing for.[2] Businesses lack visibility into this 20% to determine the need for pre-negotiated pricing contracts in place for buying those items in the future.

1 Fortune - January 4, 2017 - "How Google and Facebook Have Taken Over the Digital Ad Industry"

2 TCGI - Aug 16, 2017 - "Maverick Spend, Rogue Spending, and Tail Spend - A Brief Primer (different names, same procurement challenge)"

Problems in Online Retail for Sellers

Pricing

Almost three out of four online shopping carts are abandoned by buyers, and the top reason for this abandonment is higher than expected total price for the delivered basket of goods.[3] To date, sellers only have historical sales data and market research to try and guess the right selling price of a given product. Guesses based on historical data and market research can provide some guidance, but online cart rates of over seventy percent are proving this to be ineffective.

Inventory Management and Turn

When buying from vendors, retailers are often required to make minimum quantity buys to purchase a given product they want to sell to their customers. Often minimum order quantities are far greater than the quantity required to fill the demand. Another common situation is simply miscalculating the demand for a product. These situations both contribute to a surplus of product that ultimately needs to be clearanced or liquidated to make room for new inventory or help cash flow. The cost of excessive inventory has a huge impact on the business[4], leaving the retailer with no other choice but to take a loss.

Mininmum Advertised Price Policies

Minimum Advertised Price Policies (MAPP) are manufacturer or vendor imposed pricing agreements that restrict resellers from advertising a specific product for an amount less than the MAPP price. These policies restrict the advertised price, but they do not restrict the actual price at which an item may be sold.[5] Sellers are often able to provide deep discounts to customers, they simply may not be allowed to advertise those discounts due to MAPP or other contractual obligations.

Returns and Open Box

Every retailer that accepts returns ends up with roughly 10% of all sold items returned.[6] These items sit as open box items that are hard to turn and sell, and most online shopping carts don't offer an opportunity for sellers to sell open box items alongside their new items.

Amazon.com

Amazon patented and redefined e-commerce, and is single-handedly destroying the landscape of brick-and-mortar and online retail. As of December 30, 2016, Amazon's market value was $355.9bil

3 Baynard Institute - Januarly 9, 2017 - ""37 Cart Abandonment Rate Statistics"

4 Forbes - March 10, 2016 - "The Costs of Excess Inventory Can Be Huge"

5 The Balance - May 15, 2017 - "What Does Minimum Advertised Price Mean?"

6 US News Report, - Aug 27, 2015 - "Think Outside the Box by Buying 'Open Box'"

when most other retailers combined reached a total of $297bil.[7] That means Amazon was almost 20% larger than the combined value of most other retailers in 2016, and that number continues to grow rapidly. Their tremendous buying power, superior logistical capabilities, and control over their industry dominating marketplace empowers Amazon's anti-competitive behavior. This has even led to downsizing and closing for some of the most iconic retail chains in history, and it will only continue.[8]

Treatail Ecosystem

The Treatail Ecosystem is revolutionary in scope and in its approach to solving the challenges in online retail and establishing a "smarter online economy".

Interactive Communication Channel

Treatail allows buyers and sellers to communicate and negotiate a deal, allowing both to find a deal that suits their needs at that point in time. Communication lies at the core of the Treatail Ecosystem, looking to help buyers and sellers engage in open negotiation. Some marketplaces such as eBay have created "best offer" features, but those offers only exist within their marketplace where the seller pays substantial fees to list and participate. In 2017 $7bil of eBay's $9bil in revenue came from seller fees. [9] Since Treatail works with any website, buyers can engage any seller online for free, and the seller only pays a small transaction fee of 5% if a sale is made.

New Type of Retail Data

Treatail has patent pending technology that gives us data never before seen in retail. The most common types of data that are available for online retail pricing are based on current listing prices across competitors or historical sale data.[10] Treatail can tell retailers something entirely different: the price a buyer was willing to pay at a point in time on a basket of goods or services, regardless of whether or not the deal was agreed upon. The result is a new method of pricing for sellers using a never before available level of pricing insight that will disrupt current pricing models.

Technology That Works with Any Website

Treatail has created a proprietary cart content capture technology that is able to provide a snapshot of what the user was interested in buying at a point in time, down to the line item level. This technology is extensible and can be adapted to new cart frameworks in the future.

Community Shared Deals

If a buyer and a seller reach an agreement, there is likely sufficient margin or demand to move additional inventory for the seller. With that in mind, we offer the seller the ability to create deals that can shared by

7 Business Insider - January 3, 2017 - "Amazon is now bigger than most brick and mortar retailers put together"

8 Fox Business - January 4, 2018 - "Retail Apocalypse: 21 big retailers closing stores"

9 The Motley Fool - Dec 18, 2017 - "How eBay Makes Most of Its Money"

10 Distil Networks - Elias Terman - "Five Ways Your Competition is Using Price Scraping Bots on Your E-Commerce Site"

buyers on social media. This allows sellers to promote bundles of goods to a wide audience and help turn inventory while allowing buyers to get great deals and share with their friends.

Competitive Landscape Among Retailers

Treatail allows retailers to subscribe to their direct competitors. If a seller fails to make a deal with a buyer, other sellers in the Treatail Ecosystem can have a second chance to engage the customer and capture that deal from their competitor.

Engagement and Credibility

As offers are made and there is engagement between buyer and seller, it is important to have a rating system to know how engaged the user is within the community. Treatail has a point-based system that allows both buyers and sellers to gain points while using Treatail and participating in the community. This system helps identify their own and that of the other party's participation in the Treatail community.

Supported Client Platforms

With the number of devices available today, it is critical that Treatail provide the ability to make offers on any platform that people are engaging with online retailers. Treatail provides users with Google Extensions and Firefox Add-Ons for Windows/PC, Mac and Linux, as well as mobile apps for Android Phone, Android Tablet, iPhone, and iPad.

Payment Options

Treatail currently supports multiple international currencies and uses PayPal to process all financial transactions. Once a deal is made, the buyer can pay via paypal (with or without an account), via credit card, bank account, or PayPal payment.

Order Processing and Fulfillment

When a deal is made with Treatail, an order is created and sent to the e-commerce or fulfillment platform with a "Treatail Discount" applied for accounting purposes. Treatail currently supports order fulfillment integration with any Shopify site, and has plans to expand to other e-commerce and fulfillment platforms.

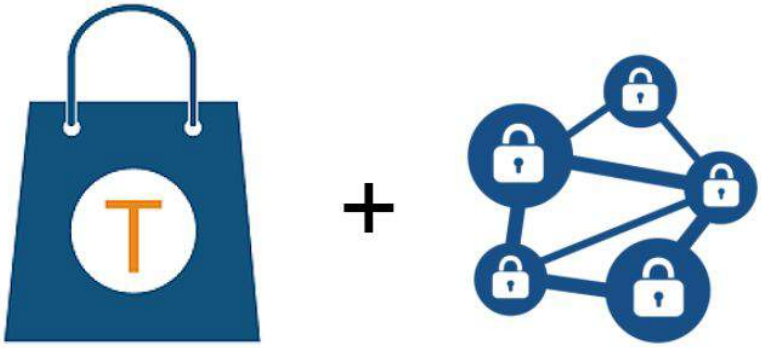
Third Party Data Integration

Treatail has an Application Programming Interface (API) that can be use by third party applications to interact with the Treatail Ecosystem. We fully encourage third party developers to integrate with the Treatail Ecosystem to help solve challenges in online retail today.

Where Does Treatail Fit In?

Treatail is a unique offering in the retail space. We sit alongside and integrate with other players in the space.

Evolving the Treatail Ecosystem with Blockchain



The cornerstone of the next evolution to the Treatail Ecosystem will be the creation of Treatail Token (TTL), Treatail Assets (digital assets to represent physical assets), and smart contracts to facilitate automated transactions and fulfillment workflows on the blockchain. To date, blockchain has primarily been available to technical users. Treatail aims to change this by bringing the power of the NEO blockchain to the average user using intuitive interfaces and seamless integration into the Treatail platform.

Treatail Token, Treatail Assets, and Product Features

Treatail Token (TTL for short) is necessary to evolve the Treatail Ecosystem and will be created as an asset on the NEO blockchain. TTL is a utility token that will be launched fully supported by Treatail and Treatail Assets (TTA) are assets on the blockchain that can be recorded by using Treatail to make a deal. Treatail give users the ability to take advantage of blockchain technology as a “guaranteed source of truth” while making it simple and easy to use. TTL will also eventually be listed on cryptocurrency exchanges to allow the market to determine the “fair market value” of TTL, offering opportunities for users that have earned to sell their TTL.

User Wallets

Users will have a hosted wallet created by default as the user registers with Treatail, with an option to move the TTL to “cold storage” in any NEP5 compatible offline wallet that they manage if they choose.

Supplemental Deal Leverage

TTL has substantial utility value within the Treatail Ecosystem, enabling both buyers and sellers to take advantage of blockchain functionality. Given the underlying utility, demand for TTL will eventually be driven to a point where the seller may be incented to accept TTL. Buyers will be able to use TTL along with fiat currency to make offers to sellers.

Buyer Data Marketplace

The Treatail Ecosystem Reporting and Analytics tier will provide retailers with valuable data about the price that buyers want to pay. Sellers will pay a fee in TTL to execute a report, and any user whose data was included in that report, will receive a proportional share of the TTL that the buyer paid. This will enable buyers to be compensated for the data they are generating and providing.

Use of Digital Assets

Buyers and Sellers may transfer high ticket items or items prone to counterfeiting, theft, or even damage. Blockchain can record the registration of the asset, transfer of the asset, and provide a single source of verification. The blockchain can track creation, transfer, theft, or destruction of an asset. Buyers will pay in TTL to create a Treatail Asset (TTA) asset on the blockchain.

Treatail Assets open a second hand marketplace opportunity for Treatail as well as offer a B2B opportunity to sell Treatail Asset records to manufacturers. For example, a manufacturer of high end handbags could generate blockchain proof of authenticity as they come off the assembly line and that digital asset record will transfer to the buyer when that purse is sold.

Escrow Transactions and Fulfillment Workflows

Treatail escrow transactions offer new payment options for buyers and sellers. When combining escrow transactions and the existing Treatail Token and Treatail Asset technologies, Treatail will be able to

provide robust workflows, asset tracking, and auto-disbursement options for logistics and fulfillment on the back-end of a deal for sellers and suppliers.

Earning Opportunities for Users

Given the utility value of Treatail Token (TTL) within the ecosystem, it can be used to incentivize the community to participate and grow the ecosystem. Buyers, sellers and influencers will have opportunities to be rewarded with TTL for their use and contribution to the community.

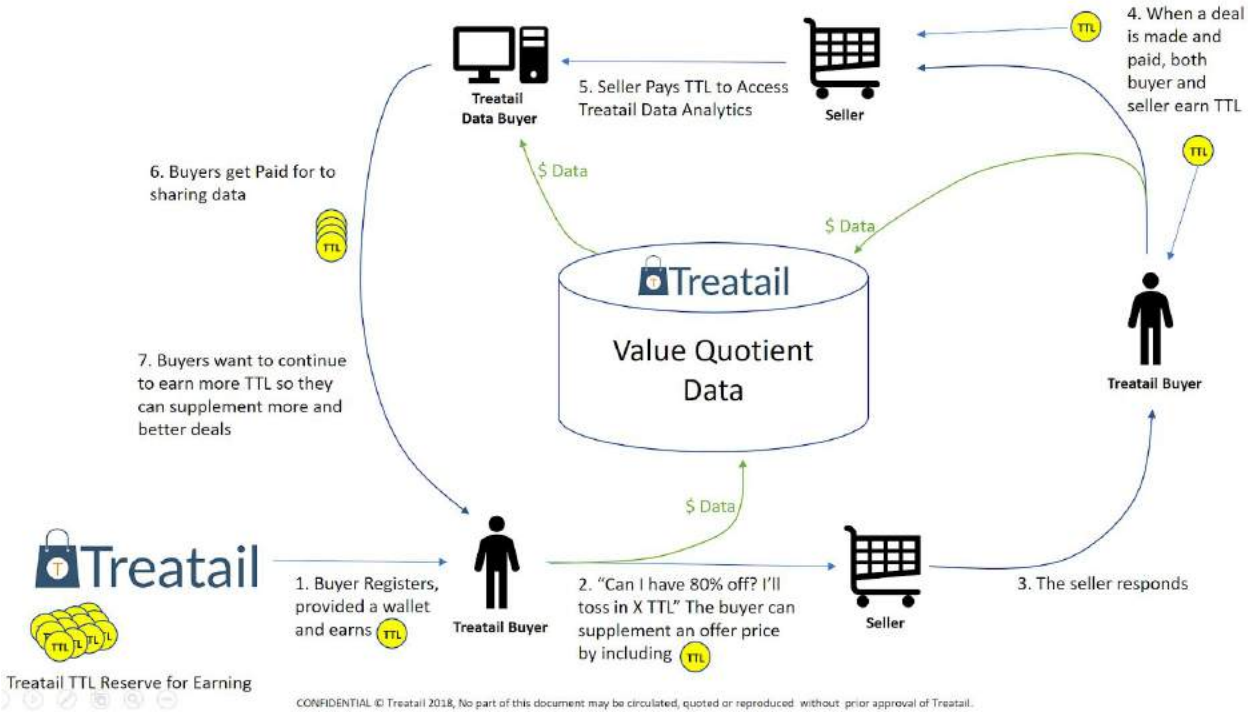


Image 1 - Overview of TTL earning and use flow

User Sign Up Referrals

Treatail users all have unique referral codes that they can share on social media that will earn them TTL when a user signs up and registers a valid email address with Treatail.

Shared Deal Referrals

When sellers enable deals to be shared, buyers have the opportunity to share that deal on social media and allow their followers to redeem that deal. When that deal is purchased using their referral code in the link, the user who shared that deal will earn TTL.

Accepting and Paying for Deals

In the course of simply using Treatail, users of the system can earn TTL. Any time sellers accept or respond to offers, or every time a buyer pays for a deal they agreed to, they will earn TTL.

Acknowledging a Second Chance Deal

To be able to contact a buyer as a seller of a second chance deal, that seller will need to pay the buyer if they choose to accept an offer in the second chance deal.

Targeted Store Bounties

To capture larger retailers, the quantity and value of offers will need to be higher to get the proper attention. To that end, the Treatail community will be able to identify bounties on community requested or highly desired retailers to get on board. Once a bounty is placed, the user that reaches the first paid deal with that seller will earn TTL, and in addition, any user that made an offer to that seller prior to the closing of the first deal will also be rewarded in some share of TTL. By offering bounties, Treatail will engage more retailers and grow the Ecosystem, while letting the users benefit from their actions.

Bug Bounties

We want Treatail to work well for our users and be highly secure. To that end, Treatail will reward users for unique reported bugs that are verified.

Current TTL Reward Levels for System Activity

These are the current reward levels for TTL within the demo Treatail Ecosystem (these will adjust as we move to production)

All	User signs up and verifies their e-mail address	1 TTL
All	Another user signs up using a user's referral code	1 TTL
All	A shared deal is bought using the user's referral code	5 TTL
Buyer	Sending an offer to a seller	1 TTL
Buyer	Making payment on a closed deal	1 TTL
Seller	Responding to a buyer's offer	5 TTL
Seller	Accepting a deal from a buyer	10 TTL
Buyer	Data is bought by the seller and the buyer is compensated based on their pro-rata share of data provided in the payload. This rate will be dependent on the type and volume of data provided	TBD

Appendix A - Blockchain Definitions

Blockchain - was invented as need for a reliable and secure system to record financial transactions, and at its core is simply a shared ledger that can be used to record any transaction. Shared ledgers have been used in double-entry bookkeeping for centuries, but blockchain is a huge leap forward to this

concept. A blockchain exists on a peer-to-peer network, each with a copy of the shared ledger, working together to provide a robust system of checks and balances, leading to an uncompromised source of truth.

The core tenets of a blockchain network are:

- **Consensus** - all network participants must agree that it is valid
- **Provenance** - the origin of the asset and its ownership history over time must be known
- **Immutability** - Once it has been recorded to the ledger it cannot be modified
- **Finality** - One “source of truth” to find the ownership of an asset or completion of a transaction

Blockchain by virtue provides increased security, visibility, and trust to transactions and assets on the blockchain. As it is “self-policing”, this mitigates the need for centralized safeguards and oversight that are required with other technologies in place today.

Coin vs Token - Coins and tokens are of the same form, assets on the blockchain, but they differ in function. Coins have a direct fiat currency value correlation while tokens are only used to unlock functionality within a program or platform, and have no fiat currency value. A good comparison of the difference between a coin and a token would be the same as a video game arcade that operated on quarters versus their own proprietary token. In arcades operating on quarters, that quarter will allow you to play a game (the utility) as well as allow you to walk down the street and purchase a soda (fiat value) with that same quarter. In an arcade with a proprietary token, you can play a game with that token (the utility), but you could not go purchase the soda (fiat value) with that token. Even though they both might cost twenty-five cents to obtain, only one can be used as currency.

Cryptocurrency - is a digital asset on the blockchain designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets. The most popular to date is Bitcoin.

Crypto - is derived from the word cryptography, which by definition, is the art of writing or solving codes. When we are talking about cryptography in a computing context, there is a concept called hashing that takes a piece of known data, applies an algorithm to that data, and renders that data unreadable by Human or computer. We all use cryptography on a daily basis whether or not we realize it - whether it’s visiting a website that you see “https://” in the browser, or when you enter or store a password on your phone. Cryptography is the basis for all security in computing and online transactions.

Distributed Application - an application written to read and write from the blockchain via smart contracts. It can work autonomously, executing smart contracts for asset storage and transfer. The definitions around distributed applications are still ambiguous, but any application that interacts with the blockchain could be considered a distributed application.

NEO - Neo is a “non-profit community-based blockchain project that utilizes blockchain technology and digital identity to digitize assets, to automate the management of digital assets using smart contracts, and to realize a “smart economy” with a distributed network.”

Smart Contract - Small, autonomous programs that are used to store data and interact with the blockchain that can facilitate transfer of digital currencies or assets between parties on the blockchain when the specified criteria is met. Once deployed to the blockchain, smart contracts cannot be modified,

they can only be destroyed by the owner. Think of a smart contract as a vending machine - cryptocurrency is put into the contract, and either immediately (or at any point in the future), when the criteria are met for the contract to execute, the funds or assets are dispensed.