

Silk Road Swag DAO Whitepaper

A Question to the Reader

The critical feature of cryptocurrencies is that they are decentralized. This means they are not controlled by a single institution like a government or central bank, but instead are divided among a variety of computers, networks, and nodes. Can this concept of decentralization apply to businesses as well? Can one build a business that not only takes advantage of the blockchain to facilitate transactions, but also uses it to control company ownership and operations in a completely democratic manner?

Silk Road Swag, hereafter called SRS, is a clothing brand built on top of the Polygon blockchain that accomplishes this DAO ideal. Internet users from anywhere in the world are able to join the community by acquiring SILK token, giving them fractional ownership of the brand. At any point in time, a token holder can burn their holdings in exchange for their share of the DAO's vault, which holds all the brand's profit. SILK tokens are also the voting metric used for design competitions and DAO operations: One SILK equals one vote.

A truncated explanation of the business model follows: first, any designer can submit a clothing design to the brand and receive a royalty of its sales. The designs are voted on by SILK token holders, and only the best designs become part of the brand. Profits from all the sales are then divided equally amongst SILK token holders. SILK tokens are distributed alongside an authenticator NFT with every sale, making the brand fully owned and controlled by its customers. All decisions are made by smart contracts on the blockchain with token holder input. Smart contracts pay for manufacturing, delivery, and the commission of the salesperson. Smart contracts will manipulate the tokenomics of SILK in a calculated manner to alter token supply, increase growth and drive more sales. Buying a clothing item from SRS is buying a portion of the business.

Business Structure

Marketing/Sales

Anyone in the world can sell SRS products by building a website that interacts with our smart contracts. And since they spent effort creating the sale, their wallet automatically receives a designated percentage of the profits generated through their gateway. All they have to do is send enough MATIC and call the public buyItem function:

```
function buyItem(uint256 item_id, address payable marketer, string memory delivery_instructions ) public payable{
    require (msg.value == cost);
    require (total_supply > 0);
    require(forSale == true);
    total_supply -= 1;
    manufacturer.transfer(manufacturer_amount);
    designer.transfer(designer_amount);
    marketer.transfer(marketer_amount);
    uint256 profit = cost - manufacturer_amount - designer_amount - marketer_amount;
    daoAddress.transfer(profit);
    emit Sale(item_id, delivery_instructions);
}
```

The salesperson has to provide the function with three parameters:

- Item_id: used to determine which variety of the item is being ordered (ie size and color).
- Marketer: address to send rewards to for creating the sale
- Delivery_instructions: encrypted delivery address for product (see explanation of public/private key pair encryption)

This function first ensures that the sale is valid:

- Ensures amount paid = cost of item
- Checks that the item is for sale and is in stock

Then, it automatically sends the manufacturer, designer and salesperson their share of the sale. Finally, it delivers the profits to the DAO and emits a sale message that includes the item_id and the encrypted delivery address. One important note is that customers can easily see and verify the contract addresses that they are interacting with, preventing scammers from stealing the funds.

This system is the only option available for keeping Silk Road Swag completely decentralized. But on top of the drop shipping websites, the original team will always be hosting silkroadswag.com that will function as a stable, secure website for sales, information and customer support.

The dropshipping industry is worth more than \$150 billion, yet, quite absurdly, no stores have been able to effectively incorporate the phenomenon into their business model. As of now, dropshipping is mainly used to resell cheap Chinese products. SRS will change that, and bring the drop shipping business to a larger, more mainstream scene.

Here is a table highlighting the advantages of this sales model from the point of view of the salesperson and the SRS token holder

Advantages for Salesperson	Advantages for SRS
<ul style="list-style-type: none">- No platform fees (Shopify has three tiers of monthly fees at \$29, \$79 and \$299.)- Much smaller transaction fees than standard credit, as Polygon transactions only cost less than 2 cents per transaction.- Dropshipping process is streamlined: they only need to focus on making the sale and not on finding products or picking price points.- Paid in crypto and not fiat.	<ul style="list-style-type: none">- Business is decentralized and will have a wide base of sales support.- DAO avoids the risks associated with investing in traditional markets.- Anyone is able to sell products and the best salespeople will rise to the top, providing the holder profit.- Smart contracts will never be disabled.

Designer Submissions

Anyone in the world with an internet connection can design clothes for SRS by submitting their proposal into the weekly competition. Once they create a design with instructions that meet the manufacturing requirements, they can publish their work on IPFS for free using Piñata. After the design is published, they can enter the competition through the public createSale function in the DAO's smart contract. On top of including their designs CID (provided by Piñata), the following is also included in the submission:

- How many items will be sold (limited collection?)
- Sales prices
- Designer royalty + crypto address to send funds
- Manufacturer
- Cost of manufacturing + crypto address to send funds
- Marketing incentive

```
function createSale(
    uint256 _total_supply,
    uint256 _cost,
    address _designer,
    uint256 _designer_amount,
    address _manufacturer,
    uint256 _manufacturer_amount,
    uint256 _marketer_amount,
    string memory _design_url
) public {
    new SwagSale(tokenContract, this, _total_supply, _cost, _designer, _designer_amount, _manufacturer, _manufacturer_amount, _marketer_
```

All of these variables are taken into account by voters, who choose the most compelling product for the business. If their design is appreciated and receives enough votes it will move to production and the artist will receive their share of the profits. Before the item moves to production, the contract must be signed by the manufacturer's wallet. If this validation fails, the runner up becomes the winner. These competitions occur on a weekly basis.

Manufacturing and Delivery:

As mentioned above, the manufacturer is included in each vote, so it can change from product to product. This ensures that SRS remains a decentralized organization and isn't reliant on a single party. The manufacturer needs to be selected from a pre-existing list of approved manufacturers. Any new manufacturer can get their wallet address "approved" by getting at least 10% of token holders to stake their tokens for them. Token holders will also have the ability to vote against a manufacturer; if there are more negative votes than positive, the proposal is denied. This approval system is important to ensure all manufacturers are reliable and credible to a certain extent.

As each order comes in, the manufacturer amount (also included in the vote) is automatically sent as a form of payment to the manufacturer. They then need to monitor Polygonscan for Sale events that are emitted after each sale. Once a sale is made and announced by the blockchain, the manufacturer decrypts the delivery address using their private key and delivers the product. Anyone can become a supplier for SRS but they will need to offer a competitive, reliable service in order to amass enough votes.

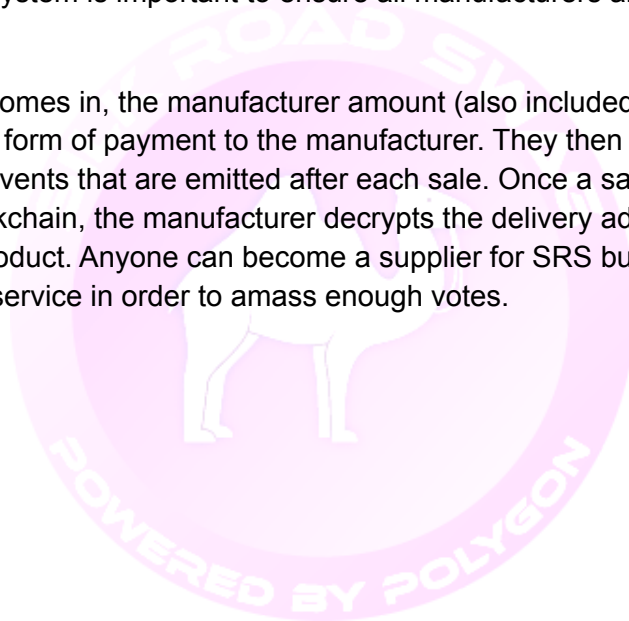


Illustration of Cost Breakdown

Here is the worst case scenario for the price breakdown of each product:

Sales Price	\$30
Manufacturing and Delivery	\$13.90
Gas Fees	\$0.10
Marketing Incentive (15%)	\$3.75
Artist Royalty (15%)	\$3.75
Profit	\$8.5

This is a pretty inefficient business model because items are ordered one at a time from another party. Depending on finding better options or developing enough interest to validate a bulk order (current goal), this is what a much better scenario could look like:

Sales Price	\$30
Manufacturing and Delivery	\$7
Gas Fees	\$0.10
Marketing Incentive (15%)	\$3.75
Artist Royalty (15%)	\$3.75
Profit	\$8.5 + \$6.9 = \$15.4

Profit margins will increase over time as more manufacturers and artists compete.

Tokenomics

Order Token Payback

SRS will operate in two phases: an ICO phase lasting three weeks and then normal sales that continue after that. During the ICO phase, each item ordered comes with 1 SILK token. The goal of the ICO is simply to grow brand interest, popularity and most importantly token adoption. The first week of the ICO will have a maximum supply of 100 items, the second week will have 300 and the final week will have 500 items. This means that 900 SILK will be minted during the ICO.

Once the ICO is over, customers receive 40 to 90 percent of their order's proceeds in the form of SILK token. The amount of SILK that each customer receives follow this equation:

$$SILKreceived = ((.9 - (avg\ sale\ \% \ on\ last\ three\ sales / 2)) * ProfitMade) / SILKvalue$$

There are two key relationships from this formula:

- 1) *SILKreceived* and *avg sale % on last three sales* are negatively correlated: If the previous three clothing sales collectively performed poorly, the *SILKreceived* increases in order to increase interest in the business. On the other hand, if the three sales performed well, the *SILKreceived* decreases in order to capture more profit for the DAO. This accomplishes way more than simple economic motivation by offering a cheaper product. **This function is designed to expand the number of people involved with the brand by creating new token holders that are voting and popularizing our products.** The sole biggest variable in a clothing brand's success is the number of people interested in the brand; SRS has an automatic ability to increase interest, if needed, through the power of tokenomics.
- 2) *SILKreceived* and *ProfitMade* are positively correlated: More profitable clothes will result in higher *SILKreceived*. This will incentivize customers to purchase clothing with higher profit margins.

Burning

Burning is what gives SILK its value by ensuring that the tokens can be converted instantaneously to MATIC: a valuable, VERY LIQUID, currency. The reward for burning is positively correlated with the recent profits of the DAO so more tokens are bought back when sales are high. This financial engineering is designed to boost the growth in the token's value and offset the impact of the otherwise inflationary economics of SILK. Burning x% of SILK's total supply will always at least return x% of the DAO's MATIC holdings, this is referred to as the basepercent. Burn rewards follow this equation: $BURNrewards = basepercent + modifier$. The modifier is provided by an external smart contract that can be changed and voted on by SILK holders, but will start at 3 percent of the base percent. This is a revolutionary upgrade to the current corporate buyback systems through blockchain's democratization abilities. Unlike buybacks, the burn function is not a deceptive tool to hide executive equity payments or shadily manipulate price, instead it ensures a win-win for both burning and holders. Those that are burning the tokens are receiving an additional modifier to their original base percent, and the holders who are interested long-term are seeing the token supply decrease. These, along with other motivational forces will compete to find the most ideal equilibrium for the collective.

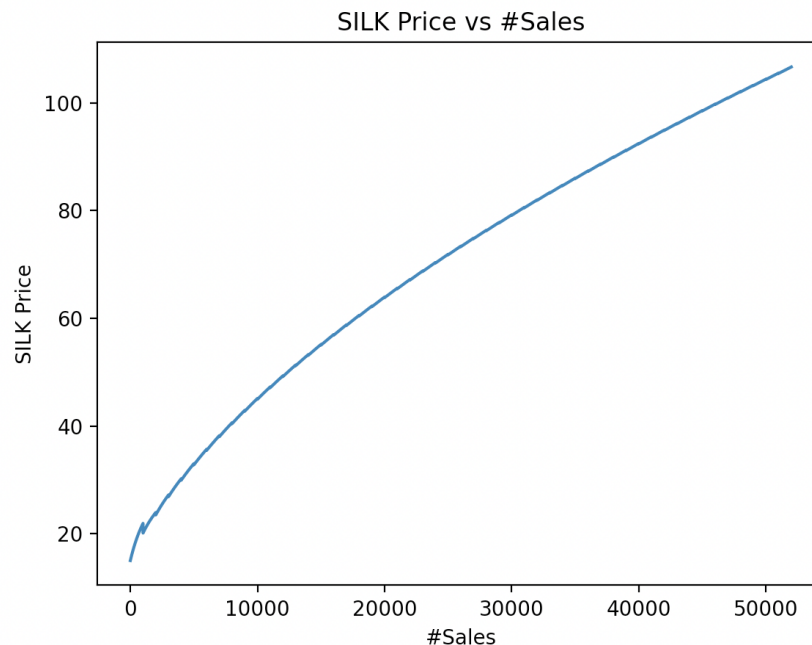
Creator's Profit

For every 10 SILK minted, a wallet address collectively owned by SRS founders and pre-ICO investors will receive an additional 1 SILK. This means that this group of people only own 9% of the brand, while the rest is completely customer owned.

Macro-tokenomics

This is what the value of SILK will look like over the first 50,000 sales assuming the following:

- \$15 profit per item
- Average SILK received is \$6
- 900 initial holders



As one can observe, the value of silk will naturally increase as sales increase. While the rate of growth lessens in this simulation, that is only because this simulation is not sophisticated enough to include the burning of tokens, which will increase the value, as the total amount of SILK held decreases. Naturally, as the growth rate of SILK decreases due to the fact that token supply is too large, people will increasingly burn their SILK in order to chase superior returns. This will have a positive effect on SILK's growth and ensure that it doesn't stop. Also, reiterating the concept of the burn reward modifier, the community will be able to increase burn rewards to improve the growth rate. This growth rate can also be increased by wider profit margins.

Highlighting the growth potential, members of the ICO (who still have 1 SILK) have \$104 worth of SILK when they only spent \$30 dollars on a shirt. This is a great return on investment.

Without factoring in burning, members of the ICO will have around 15% of the total SILK supply after a year.

NFT Authenticator

Resale

Alongside every item, each customer receives an NFT that functions as a receipt and certificate of authentication. SRS predicts, much like autographed memorabilia, our items are much more valuable if they are accompanied by a certificate of authenticity. This, we firmly believe, is actually a positive because it opens up a new revenue stream for SRS that no other clothing brand has been able to crack: secondary sales. Everytime this NFT is to be transferred (besides the original mint/sale), the DAO needs to receive 10% of the item's original price. SRS aims to be popular enough to sell out during almost every clothing drop, meaning resellers will undoubtedly attempt to mark up our clothes.

Second hand retail is estimated to be a \$100 billion industry and there are many startups competing for power in the space. SRS offers the most compelling narrative for a solution.

Counterfeit

On top of allowing the brand to profit from resale, NFT authenticators ensure that no one is duped by counterfeit Silk Road Swag clothing. If it doesn't come with an NFT, it's fake. Encouraging this paradigm will enforce the transfer of the NFT upon resale, helping the brand profit from secondary sales.

Metaverse

The NFTs distributed with the clothes can be fashioned into metaverse clothing that can be worn in simulation games like Decentraaland or Sandbox. We are selling clothes in the real world and metaverse at the same time. Fun note: we would love to have a "physical store" in one of the aforementioned simulations where people could walk in and shop.

Future Vision

While building Silk Road Swag, we will work hard to keep the DAO flexible and open to future proposals. We realize that we may not have the best answers for the complex tokenomics right now and we genuinely want the community to have the ability to steer the DAO. For example, we want people to be able to submit proposals for improved burn reward function because it is difficult to predict the value of SILK before launch.

Additionally, token holders will be able to vote on outgoing transfers from the DAO's vault. This keeps the door open for using vault funds for investment. These funds can be used to invest in NFTs, other DAOs or even operational investments such as a new marketing campaign.

We predict that SRS smart contracts will be copied and a whole ecosystem of clothing brand DAOs will appear. Someone can make a Cowboy themed DAO that sells cowboy clothes and sports fans can make brands centered around their favorite team. No doubt a DogeSwag DAO will appear as well. All these brands will be able to modify their tokenomics and distribute tokens in a variety of creative ways. In this space, SRS will benefit from being the originator.

Finally, we envision a world operated by smart contracts where businesses are **hard coded** to interact with each other. For example someone could create a *Connoisseur* smart contract with the following abilities:

- Token holders can delegate their votes to the Connoisseur.
 - Helps reduce overall gas prices for voting (less overall transactions)
 - Token holders with less fashion knowledge/interest can delegate their votes to a more experienced Connoisseur
 - The Connoisseur should be business minded and trusted to make a smart financial decision for the DAO
- The right to burn a small percent -0.01% of their delegated tokens as compensation

This is just a trivial example of an otherwise extremely fascinating concept. What about a manufacturing smart contract that supplies SRS and other brands automatically? What if that contract interacts with a Cotton farmer's smart? An ink supplier contract? A delivery smart contract? Valued members of the community could be delegated to make important tokenomics decisions. Their executive power is earned democratically by the shareholders.

We could see that protocols, much like ERC-20 could evolve for DAOs instead of just currencies. It would make sense that every clothing brand followed the same protocol so that a manufacturer's smart contract could easily work with multiple brands at the same time.

SRS has opened up the opportunity for whole new jobs and has started its own smart contract economy. In this digital economy, SRS strikes out the middle-men and hierarchical organizations and finds the most direct route through code: the ultimate in economic efficiency.