

Vectoria

An incentives design that accelerates transition to a sustainable economic activity.

Gonzalo F. de-Córdoba* Julio Izquierdo†

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Abstract

Dealing with the questions regarding climate change and other socio-biologic threats, multiple stakeholders efforts have been mobilized. However, citizens play a secondary role, if any, in this race to a better world. The level of complexity of modern economic activity makes it very difficult to address these problems without taking into consideration the power of citizens as consumers and as primary source of Data in this Data Economy. Vectoria aggregates citizens and provides companies access to an open and decentralized data pool to implement, as a market equilibrium, the desire of a more sustainable future expressed by citizens. In this paper we explain how a new set of user data will fuel this global sustainability endeavor.

Keywords: User data, climate change, gender equality, wealth distribution, SDGs, ESG, NGOs, modes of production, blockchain, decentralization, Solid, DLT

*gfdc@vectoria.org

†julio.izquierdo@vectoria.org

1 Introduction

Large corporations around the world use inputs like raw material, capital, human labor and information to produce goods and services as outputs. While the aforementioned inputs are essential for production, the specific way in which these inputs are combined and used have direct effects on the environment and the people.

These corporations have gained an overwhelming power based on information: while they have the ability to create and manipulate vast amounts of information about consumers' characteristics and activity, consumers are unable to gather and process similar amounts of information about corporations and products. This informational asymmetry leads markets to a situation where consumers are efficiently informed, via corporations' advertising, of the benefits their products and services have in consumer's individual welfare, but are intentionally side-blinded on the negative effects that poorly manufactured goods have on climate, biodiversity and human rights. The final result is that consumers have lost their capacity to influence economic activity.

Whether it is through advertising or a consequence of a lack of legal instruments the reality is that citizens are rendered unable to opt out of those goods that do not meet their requirements in terms of social and environmental impact. Empowering citizens to define their desires, listing and classifying products and services by modes of production and designing the mechanism that incentivizes online offering considering the individual's prerequisites over ways of production is the key element that will drive a migration from an auto-destructive market equilibrium to a healthier, social and environmentally friendly one.

2 The problem

Human economic activity is not sustainable in its present form. However, this inherent unsustainability does not prevent markets to reach a supply-demand based equilibrium. The problem is that markets can reach undesirable equilibria because large corporations, based on their capacity to understand, influence and segregate demand, have acquired an enormous power over markets, exerting direct control not only over the goods and services produced, but also over prices and the means used to produce them. This concentrated control has placed large corporations in such a privileged position that they can produce any product with any means necessary, disregarding any negative social and environmental effects their activity might have. The problem can be better understood from 3 different

perspectives:

User Data: payback of investing large amounts of capital to harvest data and generate user information is huge, not only for direct incomes increase but the entry barriers are unsurmountable for competition. “Because of their dominance, these companies collect and analyze vast amounts of data. The more data they collect, the better they become at profiling individuals and offering these profiles to advertisers, political parties, and others, as well as using those profiles to improve the attractiveness of their own services. And the more people are drawn into these services, the less any individual user has the power to opt out of the corporate data exploitation model because no equivalent service exists.”

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Law: while corporations can disrupt any market and start from scratch at increasing speeds, law must be compliant with legacy local and international laws, what makes it way harder for law to move forward. “Relying only on government legislation and incentives to ensure the right outcomes is ill-advised. These are likely to be out-of-date or redundant by the time they are implemented.”²

Size: “Increased concentration is associated with greater market power”³. The unprecedented speed at what technology is being developed makes it close to impossible for SMEs to follow the pace. These smaller companies end up renting their services transforming them into gatekeepers. Those that make it to success are commonly acquired, what creates “a new form of concentration that control entire markets and incorporate talented teams that kill nascent competition”⁴.

3 The solution

We propose empowering citizens with a decentralized tool that enables them to set limits to economic activity. Rather than expressing these limits and requirements in the market place, where they have already been influenced, citizens manifest them at a pre-market level. Similar solutions of “a priori filtering” concept is Apple’s App Tracking Transparency⁵.

To implement this tool, Vectoria gathers information from Corporations regarding United Nations’ (UN) Sustainability Development Goals (SDGs) as well as other corporate

¹Privacy International, Competition and data

²WEF, Values and the 4th Industrial revolution

³OECD, Jason Furman, on Market Concentration

⁴Killer acquisitions”, Cunningham, Ederer and Ma

⁵<https://developer.apple.com/documentation/apptrackingtransparency>

data regarding Environmental, Sustainability and Governance (ESGs) compliance. Vectoria's platform habitates users to set personal sustainability rating parameters to opt-out of non-compliant products and services. User filtering information creates a unique and valuable user data base with both opt-in and opt-out data sets.

To inoculate these filters to market we promote "Dataless" online services, where citizens host their Personal Data and business connect. This "centralization" of Data facilitates citizens to gain back full control over it. User credentials, online activity and opt-out information are stored by citizens as encrypted ledgers with permissioned access. The access to this valuable data set is granted by premium subscription to Vectoria's platform and integration with Individual Requirements Vectors (IRVs). This commodity approach to user data allows an open access of a high quality data set to all firms regardless of their size. The convenience of this opt-in data set, specially now that third party cookies are being removed, is the incentive that incorporates opt-out information in online business.

To stimulate sustainable commerce Vectoria has developed a self funded (via Premium Subscriptions) incentives design that offers real time incentives for users to purchase sustainable products as per their IRVs. With this incentives and data set information, Ad networks, Search engines and Ecommerce (ASEs) can prevent the mismatch that represent to offer a product or a listing to a consumer without previously checking her revealed requirements, improving their services with augmented accuracy. These incentives might eventually be presented "a la Prime" when ASE's show their results to visitors. Marketers and service designers might leverage incentives to optimize click through ratios. Whatever the use case, access to IRV's and incentives design information will allow Vectoria to generate sustainable products market niches reports, with incentives levels and number of potential users per market that will for sure stimulate entrepreneurs.

To back our incentives design, we promote IRVs to be enacted as a Self Exclusion List by policy makers so that consulting and respecting user desires will not only be incentivized, but it will be mandatory.

Finally, we will be working with developer communities to be ready to deploy technical filters, DNS level, after law enforcement is reached so that we add a final layer to filter those products or services that, by that time, will be breaking the law.

3.1 Tech approach

Vectoria targets to rest on open source software. We are iterating as more talent joins and contributes so platform architecture is being constantly optimized. Initially we rely on the following basic components:

- User data storage
 - **Data pods**, centralized user data storage system where citizens host and control their individual encrypted data. It is compatible with official digital ID standards, user navigation data, credentials and, of course, IRVs. The hash of IRV's is the digital encrypted expression of individual sustainability profile to serve as real time identifier when web browsing.
- DLTs
 - **The Vprod**, is the vector that contains the information about corporations (boards gender distribution, taxing procedures, HQs, etc), their products (where and how were manufactured and delivered) and their supply chains. It contains information regarding ecological impact like carbon footprints that an informed consumer would like to take into consideration before making a purchase. Certain data sets could be encrypted for competitive reasons.
 - **The token**, is the economical entity that absorbs all the created value. A dedicated ledger registers the transactions carried out by token holders. A monetary policy smart contract is designed to control token emission to follow business plan.
 - **Governance**, we implement a blockchain solution to form a Decentralized Autonomous Organization (DAO).
- Layers
 - **The API / Smart Contract layer** This layer allows firms, start-ups and developers to access the IRVs to create different applications that need the contents of these vectors to work.
 - **IRVs availability mechanism**, is a the layer that exposes real time citizens' IRVs while browsing the web and accessing sites, so that web pages and services can identify citizens and filter content accordingly.

3.2 CooperActivism

Any citizen can express commitment with Vectoria's goals by gathering and providing their data and sharing the value created by the platform in the form of sustainability incentives.

At the same time, those who contribute their time, work, talent and effort to promote adoption, platform design and tools or building databases are compensated with a proportional part of the value created. Companies, developers, corporations or startups are invited to join and empower the network. Anyone is welcome to provide value and share common sustainability goal.

Vectoria shares the value created among any person or organization cooperating for this change to a better world to happen. Founding team and early contributors are equally treated along with any other citizen/organization providing their effort.

The success of the project crucially depends on the number of citizens who engage with the platform, creating and sharing their data. To spread the word we count on community members, existing NGOs and activist organizations that already count with large numbers of affiliated citizens.

3.3 Legal approach

We envision our IRV's ledger to take the form of an advertising self-exclusion list. There are many existing references like Robinson List, GamStop or Canada's Healthy Eating Strategy to name a few.

We promote with legislators to create supporting legal frameworks, where not already in place, with initiatives like European Citizens Initiative.

Vectoria is a NFP organization that will be legally constituted in a jurisdiction capable of managing decentralized NFP organizations, such as Zug Canton in Switzerland. This NFP does not hold the value it generates in their own company equity, but in the tokens they create to distribute among their users and collaborators. The statutes of this NFP guarantees its governance's independence forever.

4 Business model

Vectoria charges corporations, startups and developers for accessing IRVs so they can match with their offering, activate incentives and deliver compatible services to citizens.

4.1 Revenue stream

Pricing is based on adoption (business growth) and company size. From an initial price of 0.025€ per user/year, there are discounts from 100% to 0% based on company size.

The initial price of the token is set at 0.01€ per token and is expected to gain value up to 1 euro per token by 2035, following our monetary policy described in the next section.

Our initial accumulated sales value plan for the years 2021-35 is 70.000 million euros. Estimations are based on the European Union Market, with a total target of 100 million citizens and 2 million companies by 2035. Even if Vectoria starts in Europe, this is a global endeavour and a community without boundaries.

4.2 The Token

Vectoria is a non for profit organization and as such wants to distribute its earnings among the users of the platform. Vectoria wants to create a token that stores the value that is created by the users of the platform, and Vectoria wants to share this value in a framework that gains decentralization over time as decentralized up to a point where it becomes a totally decentralized platform.

PELA (Personal Exclusion List Access) is a utility token that facilitates access to user data. Companies gain access to Vectoria's data by buying the token that is supplied according to the business plan (download at vectoria.org). It is being minted continuously as per community sign ups, commitment and contributions. As the companion yellow paper shows (download at vectoria.org), it is in the interest of token holders the minting policy of tokens following Vectoria's business plan.

By the year 2035, max token supply will match 1:1 the Net Present Value of the cash flow generated by subscriber's quotas in euros. There is no presale that might favor any participant, however, only those tokens that are necessary to pay salaries of the initial team are preminted and vested for 12 months. Max Token Supply allocation is summarized as follows: 12.2% percent is for building business, Legal entities, platform and Data service. 87.8% is to fund the incentives mechanism.

The total number of tokens that is released over time is calculated following a set of rules:

- The number of tokens released has a constant decay rate, so that the number of tokens issued to incentivize adoption at any date t is a constant fraction of the previous number of token $\tau_t = \delta\tau_{t-1}$, and $\delta \in (0, 1)$

- The total number of tokens has to be such that at the equilibrium date T , the Net Present Value of the total amount of fees of the period, $VNA_T = \#\tau$. This implies that the total number of tokens ever released has to equate the value of the business in euros at equilibrium date.
- As a consequence, the conversion rate is expected to be $q_T = 1$.

To compute the initial amount of tokens we use the following expression

$$\tau_1 = \frac{VNA_T}{3 \sum_{t=1}^T (1 - \delta)^{t-1} - 2 \sum_{t=1}^{T-1} (1 - \delta)^t} \cdot \frac{1}{N_t(\tau_t)} \quad (1)$$

Where VNA_T is the total value of the business at equilibrium date T . The decay rate of the token issuance is δ and $N_t(\tau_t)$ is the number of users that Vectoria expects to join the platform when users are incentivized with the amount of tokens τ_t

Once we have computed τ_1 , we know then that $\tau_2 = \delta\tau_1$, so we can reconstruct all the sequence of tokens issued over time as $\tau_t = \delta^{t-1}\tau_1$. If τ_1 is computed following the above expression, then $\#\tau = \sum_{t=1}^T \tau_t = VNA_T$, that is, we will have as many tokens as value of the business in euros at equilibrium date T , and therefore the expected exchange rate is $q_T = 1$ as intended.

4.3 Road-map

The road-map contain the following list of landmarks:

- **MILESTONE 1** - 2021. The project is designed. Documentation is created. Initial team is built. Token is ready to launch. Website is available for early users to sign-in. MVP.
- **MILESTONE 2** - 2023. Full Beta tested. 10.000 Users. Data processing systems available. User analytic data feeds. Third party integrations. ESG data imported and test filters created. Migration to Blockchain starts.
- **MILESTONE 3** - 2025. Scalable blockchain based service. User count 100.000 users. Tokens migration 1:1 from starting token launching platform to Vectoria's designed new infrastructure. Vectoria's Association is now fully operative in a Blockchain friendly jurisdiction.

- **MILESTONE 4 - 2027.** Break Even. User count 1.000.000. Token minting pace equals 1:1 euros received in fees for data access. DAO takes control over filters availability and rating requirements for white listing. Law creation request (ECI in EU jurisdictions) from citizens has been formally presented to Legislators.
- **MILESTONE 5 - 2029.** DAO assumes full Vectoria's control. This includes Data gathering and management unit head. User count 15.000.000.
- **MILESTONE 6 - 2031.** User count 82.000.000. Law enforcement is reached and it is now mandatory for ASEs to comply with citizens' Opt-out list.
- **MILESTONE 7 - 2035.** Mission accomplished. User count 100.000.000. Quantity of minted tokens equals the value of the VNA of the business in 2035. Next mission, designed entirely and independently by DAO starts.

5 Governance and founding team

Vectoria is to be governed by a DAO. Until we become a DAO, the founding team will drive the business. Holding tokens does not give access to voting rights. You only get these rights by commitment, by sharing your data.

1. Initially founders lead the community until blockchain platform is built and running smoothly.
2. By the time blockchain is fully deployed, governance is handed over to a CEO specialized experienced on global growth.
3. Both Business Unit CEO and Community work towards DAO to be in full control of the community, platform and business units.

6 Conclusion

If you want to stop climate change, want to find better and fairer wealth distribution and want to save biodiversity. If you agree that economic activity is a common cause for these fundamental humanity problems. If you believe empowering demand is the key to accelerate transition to a sustainable world, then you might see Vectoria as the community to join and promote. Our platform evolves from the start to a fully decentralized platform

as a proof that things can be done differently, all together, unifying capacities and working towards the same direction. It will be open source, since we all are the source. We want and need to unify citizens, onboard the brightest minds purpose can buy, add their knowledge and work together. We all have a task and a mission. Join Vectoria.org.
Gonzalo. & Julio.