Volunteer Management Through Blockchain : A New Way For Human Resources Professionals To Enable the Stakeholder Economy and Promote Cooperative Efficacy

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Introduction

The first summer after the COVID-19 pandemic was in full effect, Dr. Schwab, founder of the World Economic Forum, published a book detailing the need for major changes in the way the global economy governs itself (Schwab & Malleret, 2020). In his book, he detailed the need for three major changes to take place. These changes included creating conditions to foster the stakeholder economy, developing novel Environmental and Social Governance (ESG) measures to measure the health of the economy, as well as taking advantage of the technologies brought forth by the 4th industrial revolution. While Schwab & Malleret surely made a case for why these three conditions are important to meet, there was never any guidance provided about how the world aught to proceed to make these three conditions a reality.

Thankfully, there are plenty of other organizations and researchers who are available to fill in the gaps. For the first issue brought up by Dr. Schwab, Human Resources professionals are required to work with a number of stakeholders and make sure the human capital involved with making a company successful is safe and productive. HR professionals can actually be the leaders in ensuring a company is staying true to its stakeholders and ensuring ethical practices are taking place for all people, places, and things affected by a company's decisions. Traditionally, HRM involved preserving the organizational hierarchy and looking after shareholder profits, but the stakeholder economy advocates that companies have a moral obligation to everyone and everything affected by a company's actions/decisions, not just the shareholders. The preservation of the stakeholder economy is a radical shift from the Friedman Doctrine, which states it is a company's moral obligation to simply generate profits. Profits at the cost of the environment and our fellow man has no place within the stakeholder economy (or

21st century) and much like HR professionals currently pledge allegiance to the Friedman Doctrine, HR professionals will need to lead the way for the stakeholder economy to be a reality.

For the second issue, the novel ESG measures are already quite well described by the United Nations as their 17 Sustainable Development Goals (SDGs) (United Nations, 2023). Much like GDP is measured for each nation, each nation aught to have these 17 additional measures tracked. GDP is supposed to act as a proxy by which the world can assess the growth and health of a nation, but measuring the totality of the socio-economic condition and how well a nation is improving the standard of living for all citizens will be much more useful from a global governance perspective.

Finally, the 4th industrial revolution brought along with it a significant number of innovations, but this paper argues blockchain technology is the best tool for making Dr. Schwab's paper a reality. Blockchain technology builds off of other concepts like cloud servers, the internet, big data, and artificial intelligence. While blockchain-based servers are certainly still in their infancy, this paper argues that an ideal blockchain system is the ultimate representation of what the 4th industrial revolution enables. This paper showcases the latest research that describes just how blockchain technology can change business practices as a whole and change the fundamental nature of the way companies do business. Blockchain is not just about automating jobs or making day-to-day operations easier, but rather fostering a new kind of economy.

This paper argues such a radical change in information management actually aught to reshape the world's fixation on generating profits, which may have been necessary in the 1970s, but has no place in a post-COVID world. This paper will assess how blockchain can enable

cooperative efficacy, better enable HR professionals to manage the volunteers needed to make ESG endeavors possible, and how blockchain-based applications for volunteer management can actually enable these new functions for HR departments.

BLCN and Business Practices

Nair & Sutter (2018) make the bold claim that blockchains have the ability to reduce the size of the government and embolden the voluntary provision of public goods. Dr. Paul Samuelson, a Nobel prize winner in economics, published a paper defining the public goods argument between 1954-55. This classical argument in public economics holds that government provision, usually through taxes or fiscal policy, is usually favorable to voluntary provision (volunteerism) due to the difficulties of people coming together to solve problems themselves. Essentially, despite being rather inefficient and having the potential for corruption, the government is deemed as more capable of maintaining the core functions of a society such as enforcing property rights, protecting against invaders, and adjudicating disputes. A consequentialist approach in taken by Dr. Samuelson, in the sense that the government need not be perfect - they just need to get the job done. Samuelson's argument against voluntary provision was that free riding, such as taking advantage of other people's work or efforts, is difficult to control in an economy, so having a large entity like the government can be more efficient than the chaos that can ensue from a feudal or ungoverned society. The internet, however, has mobilized people to realize the power of data for decision making as well as policy. Blockchains especially can make it so that communities around the world can communicate with one another truthfully. Both organizations and individuals can share pertinent information to mobilize and provide public goods through the internet of value. Nair & Sutter argue that the

blockchain can actually enhance cooperative efficacy, which is defined as the private sector's collective willingness to contribute to public goods. The blockchain's publicly verifiable distributed ledger, open entry, and open source nature all make it superior to centralized databases when it comes to mobilizing or involving people around the world. As the world has seen with the internet itself, social cooperation can be enhanced by technology through the means of social media and messaging applications. The blockchain just makes the immense costs of reconciling data between centralized ledgers irrelevant and allows the public to view pertinent and valuable data in real-time.

It's important to note that this paper is expanding on the definition of what entails a public good. While public goods typically have the characteristics of non-rivalry and non-excludability, this paper argues that all of the 17 SDGs from the United Nations constitute a public good. Looking at goal number 2 from the UN's website, Zero Hunger, food itself is both a rivalrous and excludable good. One can hide a potato and eat it themselves, excluding others from consuming the good. Timmermann (2018) argues that concepts such as the eradication of hunger, though, constitute a public good. While individual luxury food items can be considered private goods, the normative definition of a public good states that concepts such as food security are properties of human rights, so providing a nation with access to nutritious meals aught to constitute a public good. After all, starvation or food insecurity are real problems around the world, since every person needs food (or water) to survive. Humans simply can't choose to not eat, much like they can't choose to stop breathing air. Also, problems like food security require a jointness of production, meaning they require either voluntary or government provision in order to solve. Timmermann's expanded definition of a public good makes it such that all 17 SDG's

from the UN are relevant, especially since all 17 of these goals provide moral benefits, public health gains, market opportunities, and enhanced stability of markets, much like other traditional public goods.

Now, how might the blockchain better enable cooperative efficacy and promote the 17 SDGs? Tapscott & Tapscott (2017) argue that the blockchain will radically change corporate boundaries. While the internet was able to both reduce search and coordination costs while also enabling companies to outsource computing overhead, the blockchain is expected to reduce these costs even further. Unfortunately with the current client-server or browser-server models, the cost of reconciling data between two disjoint servers is rather high. An ideal blockchain system makes it trivial to reconcile such data. Both the internet and blockchain disrupt Dr. Ronald Coase's definition of corporate boundaries, which stated that firms would continue to grow internally until the cost of transacting within the organization equaled the cost of transacting within an open market. The blockchain makes it such that companies can use resources outside the firm just as easily as resources within the firm. As Tapscott & Tapscott state, such porous corporate boundaries actually enable companies to provide value for all stakeholders, which just wasn't possible before. From a HR perspective, HR professionals can get much better information about prospective candidates and volunteers. HR professionals will be able to much more easily obtain volunteers outside the firm just as easily as within the firm for various SDG initiatives, thus promoting cooperative efficacy.

The blockchains doesn't just radically transforms the way businesses operate. It also brings into question the nature of governments and their very necessity. If all individuals are

empowered and contribute to the betterment of society to the best of their capacity, there's no telling how much the world could change.

Will BLCN Change HR Practices?

While there is still not overwhelming evidence detailing how effective HRM practices are in managing volunteers, Bartram et al. (2017) still urge more third sector organizations (TSOs) like NGOs and non-profits to try and employ some HRM practices with volunteers. Make no mistake, managing employees is not exactly like managing volunteers. HR professionals traditionally assume a formalized employment relationship where there is a contractual relationship between employer and employee. Volunteers typically don't sign any employment contracts for a paycheck and usually provide their time and energy to a TSO because they genuinely believe in the cause the TSO is trying to fulfill. HR professionals can actually create some tension with volunteers if they make the volunteering endeavor too formal and bureaucratic, since the volunteer is only usually there for the cause or to socialize. HR professionals should understand that managing volunteers doesn't require imposing corporate hierarchies. Instead, HR departments should prioritize enabling volunteers to make a meaningful social or environmental impact. Alfes et al. (2017) elaborates on this notion by offering examples that distinguish what motivates volunteers from what motivates employees. One such example illustrates that volunteer firefighters exhibit higher commitment to the organization, whereas paid firefighters show greater commitment to their supervisors. This contrast emphasizes that while personal communication might be more effective with paid employees, volunteers are driven by an organization's mission and values, sparking their passion.

Still, regardless of whether volunteer management is not the exact same as managing employees, both Alfes et al. and Bartram et al. highlight how similar volunteer management is to traditional HRM. TSOs still execute the basic functions of recruitment, training, and performance management. TSOs also are concerned with the training volunteers receive as well as their wellbeing, social inclusion, and commitment to continue providing their services for the organization. While these are all traditional HR functions, there is a major concern that needs to be addressed before volunteerism alone is capable of providing public goods. Alfes et al. describe that TSOs simply lack the formal reward and power structures to truly influence volunteer behavior. This is where blockchain technology comes into the picture.

Ferguson (2018) asks three fundamental questions business innovators will need to understand in preparation for the paradigm shift blockchain-based information management will bring. All three of the questions actually bring the concept of profiteering versus empowering users into question, which makes it easy for organizations engaging in voluntary provision to thrive in the blockchain economy. The first question asks the kind of value an organization will offer. Earlier companies that thrived on the internet, like Airbnb or Uber, acted as central repositories of information. Since these firms had exclusive access to vendors and clients on their own servers, they were able to generate massive profits. TSOs, however, innately are aiming to help a community or the world. While organizations like Uber might lose profits with a decentralized server model, TSOs will directly be able to use their operational data to influence public policy and forever change the lives of the people they serve. The blockchain, when used by a number of TSOs, will easily be able to empower users with their data and leave a lasting impact on the their nations. The repositories of operational data can help paint a picture of how

vulnerable clients are doing and this very data can be used for public policy initiatives. Empowerment is at the very heart of most TSOs, and the blockchain can help better empower all users with said data. The second question Ferguson asks addresses concerns over privacy and protection of user data. While companies that operated with centralized data repositories would warehouse their data into siloes for the sake of privacy and security, blockchains, through the use of cryptography, could actually have an auditable ledger that only allows certain entities to view the private data. A fully open-source solution may not make sense for TSOs, since sometimes their Customer Relationship Management (CRM) databases might include client data with personally identifiable information (PII). While this data may not be safe for the public to view, security measures can be in place such that only certain entities may view the more granular data. Aggregations or analytics can still be shared with the public to showcase the efficacy of a particular TSO, but the integrity of the raw data (i.e. the distribution) can be preserved. The blockchain can allow for both privacy of PII as well as analytics of the same data all in one system through the use of federated encryption schemes. The final question from Ferguson asks what incentives the a firm might offer to enable participation. As Alfes et al. stated, while nonprofits usually lack the ability to provide rewards to volunteers for the help they may provide, blockchains memorialize all hours the volunteers spends at a TSO, while also providing monetary or non-monetary benefits to volunteers. Reputation scores, certificates, or tokens can be awarded to volunteers directly through the blockchain, which enables TSOs to entice volunteers in ways other than just hoping for their goodwill. Ferguson ends the article by stating that businesses will see their entire business models go obsolete if they don't embrace this new

technology. This paper tends to agree, and the benefits blockchains provide to TSOs just can't be ignored.

BLCN and HR Functions

While much of what volunteering management entails is certainly similar to traditional HRM practices, the managing of rewards given out to volunteers is a new function that the blockchain enables for volunteer management. Ahmed et al. (2023) prototype a volunteer management system on Ethereum to showcase the feasibility of such a system. This system is likely the first volunteer management system to be designed on the blockchain, so it is actually fairly simplistic, but helps showcase some points. Many times, volunteers provide their time to make social impact without receiving much more than maybe some hours logged in a traditional client-server volunteer system that hardly anyone but the TSO will view or utilize for KPIs. Ahmed et al.'s system enables a blockchain-based donation traceability (BBDT) framework that can both automate the overall charitable donation process as well as reward volunteers for their efforts. A cryptocurrency wallet connected to Ethereum generates a public/private key for each entity involved in a transaction. Such a system is authoritative, accountable, and unchangeable. As is typical in most blockchain applications, both on-chain and off-chain component exist. Ultimately, the goal of such a system is to encourage individuals to engage in volunteerism and devote their time to activities that provide public goods. What this system enables is that individuals who contribute to public goods can be paid via tokens for their efforts, which can be redeemed for a number of monetary or non-monetary incentives. Ahmed et al.'s prototype system enables HR professionals to manage the incentives given to a volunteer, which is a functionality that just wouldn't be possible without blockchain technology. Unfortunately, due to

the gas fees and limitations of Ethereum's transaction throughput, it is expensive to store significant amounts of data on the Ethereum blockchain. For example, a TSO's operational data can actually be quite useful for public policy purposes. Through a federated encryption scheme, it would actually be possible to both anonymize data and make it usable for public policy purposes. Ahmed et al.'s prototype only looks at incentives management and does not assess the greater abilities of leveraging the totality of a company's data for public policy, promoting cooperative efficacy, and emboldening the stakeholder economy, though this can be attributed to the limitations of Ethereum. Since this is the first prototype of its kind and blockchain is still in its infancy, there is surely more to come from incentive management on the blockchain.

An important note is that blockchain technology is a network effect technology (Allayannis & Jones, 2017). This means that blockchains only gain in value when there are a significant number of people using said blockchain. For a BBDT to work well, there need to be a significant amount of donors, recipients, and trustees using the system in order for the rewards network to thrive. Volunteers need a lot of options to choose from, and TSOs need to be on the network in order for volunteers to be able to see them and help out. In particular, blockchains are heterogeneous networks that enable the formation of a large number of self-forming groups. Such a network's valuation is calculated via Reed's Law, which means the valuation is at 2^N, where N is the number of users. While it would certainly be somewhat useful for such a system to have a few users, the value of the system increases exponentially the more people use it.

Conclusion

Automating work is probably the least interesting thing about blockchains. The blockchain has the ability to supplement or replace the Friedman Doctrine. While the stock

market has long been understood as one of the best ways to combat inflation, improving market efficiencies and eradicating inequality are also other way to combat inflation. The issue before blockchain databases is that it was prohibitively expensive and time-consuming to collect the data necessary for effective decision making and mobilization for public policy endeavors. Through decentralized, value-driven data management, blockchains can enable the stakeholder economy and fundamentally transforms the world's current forms of governance. The blockchain does more than just promote cooperative efficacy (i.e joint, voluntary action), it also brings into question the necessity of governments and whether voluntary provision may be better able to provide public goods. Through effective HR practices enabled via blockchain-based volunteer management systems, HR professionals within TSOs have new tools to reward volunteers and incentivize collective action within local communities and the world. The operational data stored on the blockchain can be leveraged for public policy initiatives, which promotes entrepreneurial politics and the inclusion of all people in the process of drafting policy. The stakeholder economy is not so far away. The HR professional could potentially have their roles radically change if such an economy were to take shape, as they could be champions of enforcing the stakeholder economy. It might just make such a job all the more fulfilling and desirable to have.

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