

# Democratizing Today's Sharing Economy to Monetize Influence for Gender, Social & Cultural Empowerment

Acronym: SHARONOMICS



TOPIC ID: HORIZON-CL2-2022-TRANSFORMATIONS-01-05

#	Participant organization (acronym)	Type	Country	Expertise
P01	UEHR: Institute of Urban Environment & Human Resources	Uni	Greece	Project coordination, economic analysis
P02	BC5: Blockchain 5.0 Ltd	SME	Estonia	Cybersecurity, decentralization, Web3, IoT, DLT
P03	UTH: University of Thessaly	Uni	Greece	Pervasive computing, AI, software development
P04	HI: University of Iceland	Uni	Iceland	Sustainability, wellbeing economy, new economy, biophysical economy, system analysis
P05	AFL: Autonio Foundation Ltd	NGO	UK	DLT, decentralization, smart contract, algo-trading
P06	FTV: Fast Track Ventures	SME	Portugal	Investment, Business Development
P07	UD: University of Deusto	Uni	Spain	Financial economics, equity markets, investing decisions
P08	UNIFE: University of Ferrara	Uni	Italy	Sustainability, circular economy, eco-innovation
P09	F6S: Network Ireland Ltd (F6S)	SME	Ireland	Communication, exploitation & dissemination.
P10	UZ: University of Zaragoza	Uni	Spain	Behavioral Finance, Performance Evaluation.
P11	LGA: Logos Global Advisors	SME	France	Economics, governance, future of work

*This proposal creates serious rethinking of our current scarce resources based economic theories and designs a radically new technology-enabled economic ecosystem that not only harvests the abundance that 21st century economy offers but financializes the influence of that abundance to equitably share across the less privileged without taxing the privileged.*

## ABSTRACT

Economics has always been the epicenter of our gender-skewed sociocultural infrastructure. The advent of financialization of the economy in the previous century has brought unprecedented growth and prosperity, but at the expense of further skewing the gender gap and sociocultural inequalities. Financialization refers to the increasing importance of finance, financial markets, and financial institutions to the workings of the economy. Financialization has shaped patterns of inequality, culture, and social change in the broader society. Underlying these changes is a broad shift in how capital is intermediated, from financial institutions to financial markets, through mechanisms such as securitization (turning debts into marketable securities).

Securitization is a global multi-trillion Euro market that embodies financialization. Principally driven by profit-making ambitions, such financialized capitalism has created a dynamic system of economics that has produced material wealth but at the same time pose challenges to democracy; fundamental rights; social inclusion; reversing inequalities (including gender inequality); welfare, as well as the sustainability of our ecological system and climate change. Alternative business models to counter excessive financialization operating based on democratic and participatory principles that prioritize their societal mission over their profits, exist. However, economic inclusiveness, equalities, gender balance, economic, social, and environmental sustainability still elude the optimum as evidenced by the 2007-2008 financial disaster.<sup>1</sup> Excessive financialization has been blamed for the crisis, the aftermath of which produced a technology that is destined to change economics as we know. Digital Ledger Technology (DLT) or blockchain, which introduces autonomous decentralized governance, liberates securitization from the hazards of centralized control by few. It also establishes that financialization per se (minus centralized control) is not bad at all, as it has played a key role in turning our traditional “**scarce resources**” based economy to an “**economy of abundance.**” Furthermore, it can help us identify at least three major lacunae in our

<sup>1</sup> Cornand, Camille, and Céline Gimet. "The 2007–2008 financial crisis: Is there evidence of disaster myopia?." *Emerging Markets Review* 13.3 (2012): 301-315.

current economic systems that prevent us from harvesting the influence of abundance for gender, social and cultural empowerment, viz.:

- 1) inadequate democratic accountability/governance,
- 2) incumbent economic system is still based on dynamics of “**scarcity**” when in fact we are living in **abundance**,
- 3) lack of equitable, altruism-agnostic means to share “**abundance**” between those who **have** with those who **need (distributional mechanism)**.

The exponential rise in world GDP, and billions of daily shares on social media tell us that 21<sup>st</sup> century economics has transformed from the old economy of scarcity to an economy of abundance, from an economy of capitalized siloes to an economy of sharing. However, in contrast, our national economic practices still follow outdated economic norms. It is time we made economics compatible with the dynamics of today’s sharing economy. We introduce **Sharonomics**, the DLT-powered decentralized economic ecosystem that exploits the influence of abundance and breaks the institutional silos of capitalism,<sup>2</sup> and redistributes wealth equitably across diverse sectors, independent of socioeconomic / gender biases. Technology is the key driver of economic growth of countries, regions and cities, allowing for more efficient production of goods and services. Although incumbent economic systems do use technology as a tool for implementing policies and protocols, **Sharonomics** is exclusively a technology enabled ecosystem that exploits the power of economic abundance to create a new asset class - Influence Capital, that can be shared by those who **have**, with those who **need**, without risking anything of monetary value. Achieving sustainability is a colossal challenge. Funding it is even bigger. Current economic realities make it impossible to achieve the ambitious UN Sustainable Development Goals (SDGs) by 2030. Three SMEs, 6 universities including 5 economists and a non-profit provide a good mix of interdisciplinary expertise to test and validate the use case of **Sharonomics** that also support different SDGs.

## Contents

<b>1. EXCELLENCE</b> .....	<b>3</b>
1.1a) <i>Understanding of Socioeconomic Structures of Gendered Power Relation:</i> .....	3
1.1b) <i>Reversing Inequalities to Achieve SDG by 2030:</i> .....	4
1.2 THE ECONOMY OF ABUNDANCE & INEQUALITIES: .....	4
1.2.1 ECONOMIC VIOLENCE & ITS GENDER, SOCIAL & CULTURAL IMPACT ON SOCIETIES: .....	4
1.2.2 THE FINANCIALIZATION & ECONOMIC TRANSITION FROM SCARCITY TO ABUNDANCE .....	6
1.2.3 SCARCITY, NO MORE THE MOTHER OF ECONOMICS: .....	7
1.2.4 SHARONOMICS CONTRIBUTIONS TO THE CALL OBJECTIVES .....	8
1.2.5 INNOVATIVE RESEARCH ON SOCIAL AND ECONOMIC TRANSFORMATIONS: .....	8
1.2.6 SPECIFIC OBJECTIVES: .....	9
1.3 THE SHARONOMICS ECOSYSTEM – THE ENABLING TECH: .....	10
1.3.1 STATE-OF-THE-ART: THE ECONOMICS OF INDUSTRIAL REVOLUTIONS:.....	10
1.3.2. 21ST CENTURIES BIGGEST CHALLENGE TO MODERN DEMOCRACIES & ECONOMIC MODELS: .....	10
1.3.3 THE BIGGEST TRAVESTY OF JUSTICE: 21ST CENTURY APARTHEID: .....	11
1.3.4 LEGACY ECONOMIC SYSTEMS CAN NEVER BE FULLY DEMOCRATIC .....	11
1.3.5 THE POWER OF DECENTRALIZED FINANCE (DEFI), SMART CONTRACTS, TOKENOMICS & STAKING: .....	11
1.4 BEYOND STATE-OF-THE-ART: .....	12
1.4.1 SHARONOMICS - FINISHING THE UNFINISHED SCIENCE: .....	13
1.4.2 SHARONOMICS: BEATING THE CONVENTIONAL WISDOM WITH DEFI: .....	13
1.4.3 HOW DLT/DEFI CREATES MONETIZABLE VALUE FROM HUMAN INTERACTIONS?.....	14
1.4.4 SHARONOMICS CREATES A NEW ASSET CLASS - INFLUENCE CAPITAL.....	14
1.4.4a) <i>A World Awash in Money:</i> .....	15
1.4.4b) <i>Quantifying &amp; Monetizing Influence with DLT:</i> .....	15
1.4.4c) <i>Estimating The Total Potential Value Of Influence Capital:</i> .....	16
1.4.5 HARVESTING THE ABUNDANCE & REDISTRIBUTING IT TO THE MASSES .....	16
1.5 SHARONOMICS USE CASE: .....	17
1.5a) <i>Sharing winning trading algorithms with peers:</i> .....	17
1.5b) <i>Can Sharonomics fund Universal Basic Income (UBI):</i> .....	17
1.5c) <i>Gender Mainstreaming via Celebrity Influence (GMCI)</i> .....	18
1.6 SHARONOMICS NETWORK ARCHITECTURE: .....	18
1.6A) GENERIC DLT ARCHITECTURE FOR SHARONOMICS APPLICATIONS: .....	18
1.6B) REDEFINING DATA OWNERSHIP WITH PODS: .....	18
1.7 COMPARISON WITH THE STATE-OF-THE-ART: .....	19
1.8 METHODOLOGY .....	20
1.8.1 THE AGILE METHODOLOGY & THE INNOVATION CYCLE: .....	20
1.8.1a) <i>Sharonomics Use Case: Monetizing the influence &amp; sharing it for mitigating inequalities</i> .....	20
1.8.1b) <i>The Innovation Cycle:</i> .....	21
1.8.2 VARIANT OF SHARONOMICS TO CAPITALIZE INFLUENCE VIA COMPUTING FRAMEWORK: .....	21
1.8.3 INTERDISCIPLINARITY: .....	24
1.8.4 OPEN SCIENCE & RESEARCH DATA MANAGEMENT .....	25
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<sup>2</sup> Francesca, Froy, and Giguère Sylvain. *Local economic and employment development (LEED) breaking out of policy silos doing more with less: Doing more with less*. OECD publishing, 2010.

## 1. Excellence

Inhabitants of planet Earth directly or indirectly contribute to the global economy, but unfortunately, it is the policies of a few economic institutions and markets that determine the world's financial environment, neglecting the interests of billions of people. Capitalism and socialism as political ideologies do not fully address global economic activities as the former promotes economic inequality while the latter falsely affirms financial equality for all. Whether capitalistic or socialistic, healthy democracy does have robust, significant, and positive indirect effects through higher human capital, human rights, lower inflation, lower political instability, and higher levels of economic freedom.<sup>3</sup> However, political democracy does not guarantee economic democracy<sup>4</sup> which should be a system designed to respect the voices and economic activities of all citizens. This proposal addresses both the expected outcomes of this Cluster 2 Transformations-01-05 call as follows:

**1.1a) Understanding of Socioeconomic Structures of Gendered Power Relation:** The origin of the word 'gender', as opposed to the word 'sex', is controversial dating back to developments in psychosexuality<sup>5</sup> and psychoanalysis<sup>6</sup> and to social psychology and sociology (theories of 'doing gender',<sup>7</sup> gender socialization<sup>8</sup> and social constructionism<sup>9</sup>) and to feminism.<sup>10</sup> The reconstruction of the origin and use of the term 'gender' across different disciplines indicates the progressive removal of 'gender' from 'sex' against the theory of biological determinism that increasingly characterizes gender as the category of malleability and variability as opposed to the fixity and immobility of sex. Such progressive separation marks the irrelevance of sex and liberation from the female condition. A feminist poststructuralist framework can be used to analyze and critique the way in which gendered power relations are produced and enacted in community participation processes.<sup>11</sup> However, it can be argued that these discourses and ideologies work to limit women's participation and marginalize or delegitimize the contribution of feminist theories.<sup>12</sup>

For obvious reasons gender must remain a basic tool in any analytical framework essentially drawing on feminist methodologies, feminist poststructuralism and other feminisms, and emancipatory and action-oriented models of education, planning, and community development. A gendered political economy is more than a political economy of gender. While the latter defines gender (and gender inequality) as a subject worthy of study using the traditional tools of political economy, the former views gender as an analytical category – gender must be an essential basis for analysis in the mainstream political economy.<sup>13</sup> An integrative model of gender equality also needs to include the LGBTQI community.<sup>14</sup> In this way a gendered economy can help us understand the inherently gendered structures that characterize our society, and the gendered power relations across the social and economic spheres that cumulatively impact other social categories such as ethnicity.<sup>15</sup> Furthermore, it can also provide the foundation for a truly interdisciplinary social science. This proposal aims to inform strategies to address the complex and contradictory issue of gendered power relations in participatory planning processes for sustainable development.

A multidimensional approach addressing issues of gender, race, class and power should be used to explore the interconnections of media literacy, cultural studies and critical pedagogy in which educators need to move the discourse beyond the stage of debating whether or not critical media literacy should be taught, and instead focus energy and resources on exploring the best ways for implementing it.<sup>16</sup> There is overwhelming evidence that

<sup>3</sup> Doucouliagos, Hristos, and Mehmet Ali Ulubaşoğlu. "Democracy and Economic Growth: A Meta-Analysis." *American Journal of Political Science*, vol. 52, no. 1, 2008, pp. 61–83. <i>JSTOR</i>, www.jstor.org/stable/25193797. Accessed 7 Sept. 2021.

<sup>4</sup> Johansova, Nadia, and Stephan Wolf. "Economic democracy: A path for the future?" *Futures* 44.6 (2012): 562-570.

<sup>5</sup> J. MONEY, Gender: History, Theory and Usage of the Term in Sexology and its Relationship with Nature/Nurture, "Journal of Sexual and Marital Therapy", 1985, 11, pp. 71–79.

<sup>6</sup> Freud, Sigmund. *Three Essays on the Theory of Sexuality*. London: Imago Pub. Co, 1949.

<sup>7</sup> West, Candace, and Don H. Zimmerman. "Doing gender." *Gender & society* 1.2 (1987): 125-151.

<sup>8</sup> Stockard, Jean. "Gender socialization." *Handbook of the Sociology of Gender*. Springer, Boston, MA, 2006. 215-227.

<sup>9</sup> Burr, Vivien. *Social constructionism*. Routledge, 2015.

<sup>10</sup> Palazzani, Laura. "From 'Sex' to 'Gender': Origins and Paths of Theorisation." *Gender in Philosophy and Law*. Springer, Dordrecht, 2012. 1-33.

<sup>11</sup> Baxter, Judith A. *Feminist Post-structuralist discourse analysis: a new theoretical and methodological approach?*. Palgrave Macmillan, 2008.

<sup>12</sup> Lennie, June. "Deconstructing gendered power relations in participatory planning: Towards an empowering feminist framework of participation and action." *Women's Studies International Forum*. Vol. 22. No. 1. Pergamon, 1999.

<sup>13</sup> Cook, Joanne, and Jennifer Roberts. "Towards a gendered political economy." *Towards a gendered political economy*. Palgrave Macmillan, London, 2000. 3-13.

<sup>14</sup> Garcia Johnson, Carolina Pia and Kathleen Otto. "Better Together: A model for women and LGBTQ equality in the workplace." *Frontiers in Psychology* 2019. doi:10.3389/fpsyg.2019.00272

<sup>15</sup> Omansky, Beth, and Karen Rosenblum. "A Comparison of Disability With Race, Sex, and Sexual Orientation Statuses." *Beginning with Disability*. Routledge, 2017. 37-50.

<sup>16</sup> Kellner, Douglas, and Jeff Share. "Critical media literacy, democracy, and the reconstruction of education." *Media literacy: A reader* (2007): 3-23.

education and the media (including social media)<sup>17</sup> play a crucial role in perpetuating<sup>18</sup> or breaking these gendered socioeconomic and cultural stereotypes.<sup>19</sup>

**1.1b) Reversing Inequalities to Achieve SDG by 2030:** After World War-II the world's capacity to harvest the resources gradually increased, reaching exponential proportions towards the beginning of the second millennium. In the process we learned how to optimize the harvest of the resources, and also to a large extent how to introduce liquidity into those assets. The speed of transitioning from scarcity to abundance created a dissociation between the economic theories and the actual economy of the 21st century. Today, with over a quadrillion worth of assets, of which trillions in form of accumulated unused capital waiting to be invested indicate that we are indeed living in an economy of abundance. We present **Sharonomics**<sup>20</sup> - a radical new technology that redefines economics through democratically decentralized, incentivized and equitable sharing of assets between those who have to those who need, thereby mobilizing the abundance risk-free without imposing an additional burden on the taxpayers.

**1.2 The Economy of Abundance & Inequalities:** Old economy differs from the new economy in that it relies on traditional methods of doing business rather than leveraging new cutting-edge technology. This traditional economic system dates back to the first Industrial Revolution and revolves around producing goods as opposed to the exchange of information. Common goods are valued by measurable factors such as operating expenses and scarcity of the product. A number of significant studies have been conducted on the relation between the economy and society, and both economical and sociological approaches seem to assume scarcity as an important premise.<sup>21</sup> An economy of scarcity leads to environmental destruction because the natural environment is treated as a "free" good to consume or pollute until it becomes scarce enough to commodify and monopolize. It also leads to social inequality because the major avenue to wealth for centralized institutions is to control key assets and then make them scarce for everyone else for extracting profits. In essence our current economic system that has transcended from scarcity to abundance, can exist only on the basis of manufactured scarcity created by 'scarcity-generating institutions.' These institutions can manipulate both demand and supply of commodities and services.<sup>22</sup> Therefore demand consistently exceeds supply, thus profits and economic growth can continue - at the cost of individual freedom, social equity, and ecological sustainability.<sup>23</sup> The fact that continual increases in demand are so vital to our current economic regimes leads to an impasse. Therefore, the concept of the creation of scarcity or abundance remains at the heart of any economic framework. Asserting that poverty and exclusion co-exist in a dynamic interaction driven by two foundational myths: the myth of scarcity and the myth of autonomy, Derek Cook recently proposed a new framework for social inclusion based on abundance, resilience and trust.<sup>24</sup>

Assuming that the economy has transformed to an economy of abundance, yet significant inequality prevails across the world. This is essentially because our economic systems are still based on scarce resource theories refined during the great recession<sup>25</sup> and was defined: '**The study of the allocation of scarce resources between competing uses.**' We still believe that scarcity (and resource allocation) is the mother of all economic problems.<sup>26</sup>

**1.2.1 Economic Violence & Its Gender, Social & Cultural Impact on Societies:** Economic violence is when the abuser has complete control over the victim's money and other economic resources or activities. Firmly ingrained in the social and cultural fabric of our economies, it is a legacy of the incumbent economy of scarce resources that predominantly targets women. Economic violence toward women occurs when a male abuser maintains control of the family finances, deciding without regard to women how the money is to be spent or saved, thereby reducing women to complete dependence for money to meet their personal needs. It may involve placing women on strict allowance or forcing them to beg for money. Economic violence experienced included

<sup>17</sup> Herrero-Diz, Paula, and Marina Ramos-Serrano. "Breaking stereotypes online: Young activists' use of the internet for social well-being." *Catalan Journal of Communication & Cultural Studies* 10.1 (2018): 99-114.

<sup>18</sup> Scharrer, Erica, and Srividya Ramasubramanian. "Intervening in the media's influence on stereotypes of race and ethnicity: The role of media literacy education." (2015).

<sup>19</sup> Chung, Sheng Kuan. "Media literacy art education: Deconstructing lesbian and gay stereotypes in the media." *International journal of art & design education* 26.1 (2007): 98-107.

<sup>20</sup> Sharonomics is a portmanteau word of "share" & "economics" that introduces a new branch of knowledge concerned with the production, distribution and consumption of wealth based on incentivized and equitable sharing of tangible or intangible assets between peers, from those who "have" to those who "need," in an autonomous decentralized ecosystem for achieving and maintaining sustainability.

<sup>21</sup> Daoud, Adel. Scarcity, abundance and sufficiency: Contributions to social and economic theory. Department of Sociology; Sociologiska institutionen, 2011.

<sup>22</sup> Hoeschele, Wolfgang. *The economics of abundance: A political economy of freedom, equity, and sustainability*. Routledge, 2016.

<sup>23</sup> Hoeschele, Wolfgang. "Research agenda for a green economics of abundance." *International Journal of Green Economics* 2.1 (2008): 29-44.

<sup>24</sup> Cook, Derek. "Abundance, Resilience and Trust: A New Framework for Social Inclusion." (2021).

<sup>25</sup> Teixeira, Pedro N. "Lionel Robbins on the principles of economic analysis—the 1930s lectures: edited by Susan Howson, Routledge, Abingdon, 2018, pp. 339, £ 120 (hardback), ISBN 978 1 138 5 65419-8." (2020): 335-337.

<sup>26</sup> Ahuja, H. L. *Modern Microeconomics*. S. Chand Publishing, 2017.



limited access to funds and credit; controlling access to health care, employment, education, including agricultural resources; excluding from financial decision making; and discriminatory traditional laws on inheritance, property rights, and use of communal land. At work women experience receiving unequal remuneration for work done equal in value to the men's, often overworked and underpaid. Some experience fraud and theft, illegal confiscation of goods for sale, and unlawful closing down of worksites. At home, women may often be barred from working by partners; while other men totally abandon family maintenance to the women. Economic violence results in deepening poverty and compromises educational attainment and developmental opportunities for women. It often leads to physical violence, promotes sexual exploitation and the increased risk of contracting HIV infection, maternal morbidity and mortality, and trafficking of women and girls. Economic abuse may continue even after the woman has left the abusive relationship. Although women may live comfortably and their children live in luxury, they have no control over money in the family or on decisions on how it should be spent. The women receive less money as the abuse continues. Men may use the fact that they have more money to dominate women. Economic violence may also include withholding or restricting funds needed for necessities such as food and clothing, taking women's money, denying independent access to money, excluding women from financial decision making, and damaging their property.<sup>27</sup> It also includes acts such as refusing to contribute financially, denial of food and basic needs, preventing women from commencing or finishing education or from obtaining informal or formal employment, and controlling access to health care and agricultural resources.<sup>28</sup> It may manifest as limiting access to cash and credit facilities; unequal remuneration for work that is equal in value to that of men; and discriminatory laws regarding inheritance, property rights, use of communal land, and maintenance after divorce or widowhood.<sup>29</sup> Poverty is both a cause and consequence of economic violence.<sup>30</sup> Unfortunately there is a higher incidence of poverty among women.<sup>31</sup> Of the world's 1.5 billion poor, the majority are women. Thus, economic violence is a form of discrimination against women. Ensuring that women and men have equal opportunities to generate and manage income is an important step toward realizing women's rights under the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).<sup>32</sup> This would also enhance their development, self-esteem, and influence both within the household and in society.<sup>33</sup> In essence the types of economic violence experienced by women have broad consequences on health, development and overall social and cultural progress of any society.

Moreover, gender discrimination against gender and sexual minorities continues to stigmatize these minorities and bear socioeconomic and cultural consequences.<sup>34</sup> Reductions in structural stigma, such as gaining access to legalized same-sex marriage, is associated with positive psychological and physical health outcomes among sexual minority adults. However, these positive outcomes may be less robust among sexual minority women (SMW); than sexual minority men.<sup>35</sup> Recent studies provide plenty of evidence of material disparities among sexual and gender minorities in domains such as income,<sup>36</sup> housing,<sup>37</sup> and employment.<sup>38</sup>

There is a need to revisit our incumbent economic systems, particularly when 21st century economics has transcended from scarcity to abundance,<sup>39</sup> but still governed by old principles of "scarce resources" that concentrate and centralize the power in a few hands, developed centuries ago. There is a need for a more

<sup>27</sup> Prince Edward Island Woman Abuse Protocols. (2000, November). Victim services. Prince Edward Island, Canada: Available online at <http://www.isn.net/cliapei/womanabuse/victimservices.htm>

<sup>28</sup> Camilla Ida Ravnbøl. Woman, Motherhood Early Childhood Development. 2011 | report SOURCE-WORK-ID: 7807422b-7385-4663-a947-2df1b634f89c [https://www.unicef.org/eca/sites/unicef.org/eca/files/2017-11/Women\\_Motherhood-07-21-2011-final-WEB.pdf](https://www.unicef.org/eca/sites/unicef.org/eca/files/2017-11/Women_Motherhood-07-21-2011-final-WEB.pdf)

<sup>29</sup> Heise, L., Ellsberg, M., & Goheemoeller, M. (1999). Ending violence against women. Population Report Series, 1, 11.

<sup>30</sup> Chen, C. (2005). Progress of the world's women 2005: Women, work and poverty. New York: United Nations Development Fund for Women.

<sup>31</sup> Sarah Bradshaw, Sylvia Chant & Brian Linneker (2017) Gender and poverty: what we know, don't know, and need to know for Agenda 2030, Gender, Place & Culture, 24:12, 1667-1688, DOI: 10.1080/0966369X.2017.1395821

<sup>32</sup> <https://www.unwomen.org/en/digital-library/publications/2016/12/cedaw-for-youth>

<sup>33</sup> UNICEF. (2007). The state of the world's children 2007. Women and children—The double dividend of gender equality. New York: Author.

<sup>34</sup> Mavhandu-Mudzusi AH, Sandy PT. Religion-related stigma and discrimination experienced by lesbian, gay, bisexual and transgender students at a South African rural-based university. Cult Health Sex. 2015;17(8):1049-56. doi: 10.1080/13691058.2015.1015614. Epub 2015 Mar 3. PMID: 25732232.

<sup>35</sup> Drabble LA, Mericle AA, Wootton AR, Munroe C, Li L, Trocki KF, Hughes T. Measuring the impact of legal recognition of same-sex marriage among sexual minority women. J GLBT Fam Stud. 2021;17(4):371-392. doi: 10.1080/1550428x.2021.1935382. Epub 2021 Jun 7. PMID: 34840535; PMCID: PMC8612071.

<sup>36</sup> Waite, S. (2015). Does it get better? A quasi-cohort analysis of sexual minority wage gaps. Social Science Research, 54, 113–130. <https://doi.org/10.1016/j.ssresearch.2015.06.024>

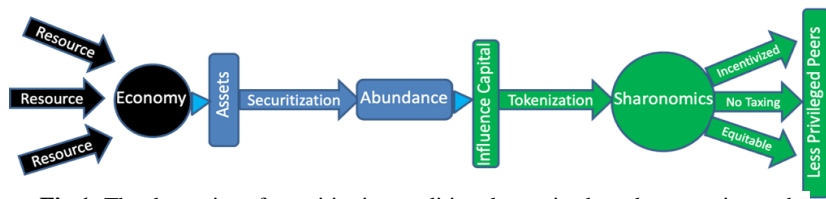
<sup>37</sup> Kidd, S. A., Gaetz, S., O'Grady, B. (2017). The 2015 National Canadian Homeless Youth Survey: Mental health and addiction findings. The Canadian Journal of Psychiatry, 62, 493–500. <https://doi.org/10.1177/0706743717702076>

<sup>38</sup> Ross, L. E., O'Gorman, L., MacLeod, M. A., Bauer, G. R., MacKay, J., Robinson, M. (2016). Bisexuality, poverty and mental health: A mixed methods analysis. Social Science and Medicine, 156, 64–72. <https://doi.org/10.1016/j.socscimed.2016.03.009>

<sup>39</sup> Hoeschele, Wolfgang. *The economics of abundance: A political economy of freedom, equity, and sustainability*. Routledge, 2016.

democratic economic system that decentralizes the power and redistributes the abundance to promote equality between women and men, open up economic opportunities for women, inform them of their rights, change societal beliefs and attitudes that permit exploitative behavior.

**1.2.2 The Financialization & Economic Transition from Scarcity to Abundance:** Although the history of economic financialization dates back to the 17<sup>th</sup> century Germany, the birth of modern financialization can be dated to 1975 in the United States with the introduction of money-market funds that invest in highly liquid money market instruments (e.g., Treasury bills, commercial paper etc) while offering their investors deposit-like shares that can be withdrawn on demand. This led to securities becoming the primary channel of credit, making securitization a global multi-trillion phenomenon that embodied financialization.<sup>40</sup> The European Commission adopted the Capital Markets Union (CMU), an economic policy initiative in 2012. The CMU is built around the idea of securitization.<sup>41</sup> Although lacking democratic governance that made it prone to centralization, securitization did indeed transform our neoclassical economy from one of “scarce resources” to one of “abundance” (Fig.1). However, deficient democratic governance resulted in financial concentration in a handful of entities, leading to centralization of finance that was largely governed by the dictate of shareholder value maximization. This eventually led to erosion of the democratic norms, declining social inclusion, increasing inequalities, and eventually challenging sustainability of our financial and ecological systems. Excessive financialization either in the form of Dutch disease,<sup>42</sup> or though growth retardation is one of the major reasons for the severe financial crisis of 2007-2008. This excessive financialization rendered the economy prone to risk of debt-deflation and prolonged recession.<sup>43</sup> However, securitization that played an important role in rewarding the global economy with abundance, cannot be the lone culprit to be blamed for the inequalities and other vices of the economy (see Fig. 1). It is the lack of democratic governance, concentration and centralization of finance that renders securitization vulnerable. Therefore, post-2008 recession, decentralizing finance became the need of the hour, leading to the birth of the digital ledger technology (DLT) or blockchain in 2009 that triggered a new financial revolution that within just over a decade became a multi-trillion behemoth. In fact, in blockchain, we have an almost perfect example of how a ‘problem’ becomes a ‘solution’ if only one is able to wait long enough to inject mandatory democratic governance by design into securitization. Although cryptocurrencies may merely be seen as decentralized money, and perhaps the future of money, in reality it represents the transparent democratic governance of securitization run by algorithms independent of human prejudices and risks of centralization and concentration of power. “It seems that not very far in the future, money will become virtual.”<sup>44</sup> In fact some experts raise the question: Hasn’t it already?<sup>45</sup> However, since currency is the medium of exchange for goods and services, the production, distribution and consumption of which constitutes economics, the questions remains whether the virtual currency will continue to replicate the centralized monetary system of today and maintain the status quo on growing inequalities, or transition to a decentralized, securitization-inspired algorithm-governed monetary regime that eradicates all type of inequalities. Our proposal supports a transition to a decentralized governance that liberates our current inequalities-prone centralized economy to a social and gender agnostic economic regime.



**Fig 1:** The dynamics of transitioning traditional scarcity-based economics to the abundance sharing Sharonomics

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<sup>40</sup> Bonnie G. Buchanan. The way we live now: Financialization and securitization, *Research in International Business and Finance*, Volume 39, Part B, 2017, Pages 663-677, ISSN 0275-5319, <https://doi.org/10.1016/j.ribaf.2015.11.019>.

<sup>41</sup> Engelen E, Glasmacher A. The waiting game: How securitization became the solution for the growth problem of the Eurozone. *Competition & Change*. 2018;22(2):165-183. doi:10.1177/1024529418758579.

<sup>42</sup> Brahmhatt, Milan, Otaviano Canuto, and Ekaterina Vostroknutova. "Dealing with Dutch disease." (2010).

<sup>43</sup> Moosa, Imad A. (2017). Does financialization retard growth? Time series and cross-sectional evidence. *Applied Economics*, (), 1–11. doi:10.1080/00036846.2017.1420899

<sup>44</sup> Sauer, Beate. "Virtual currencies, the money market, and monetary policy." *International Advances in Economic Research* 22.2 (2016): 117-130.

<sup>45</sup> Flint, David. "Computers and Internet: Are All Modern Currencies Not Virtual? The Bitcoin Phenomenon." *Bus. L. Rev.* 35 (2014): 60.

Notwithstanding the 2008 recession, our present economy has traversed a long way from the economy of scarcity to the economy of abundance (Fig.2).

However, our practice of economics remains one of an economy of scarcity – only scarce commodities have economic value. Our old school economic legacy makes scarcity as the mother of economics,<sup>46</sup> advocating - *“the needs far outweigh haves.”* That may well have been the foundational principle of conventional economics, but 21<sup>st</sup> century circumstances are completely different. The 21st century economics has to go beyond Adam Smith’s “laissez-faire,” Keynesian “welfare capitalism” and Robbins’ “scarce means.” Apparently, the “scarce resources” based definition of economics was justified by the scarcity thriving across the world during that era, basically because of the economy’s inability to harvest the resources, introduce liquidity into the harvested resources, and redistribute those resources. The architects of legacy economic systems made perfectly reasonable economic trade-offs for their world. But our world is very different. The scarcity-centered economic rules of their world have failed to stop gender, social, economic and cultural inequalities despite the abundance that we are living in today. This is essentially because the dynamics of the economic environment has changed making the legacy economic systems too outdated to catch up with the new reality.

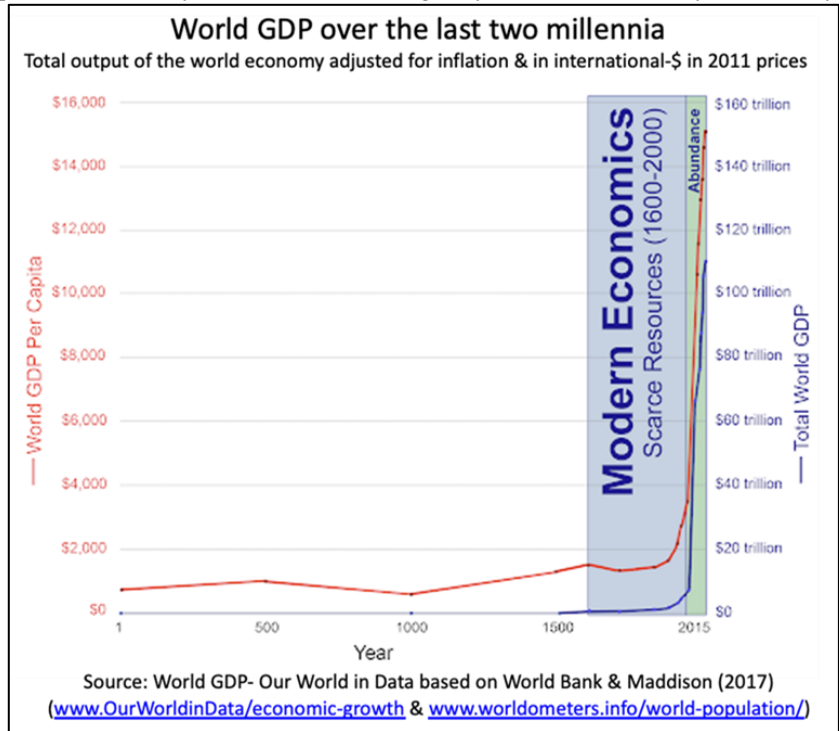


Fig 2: World GDP as a measure of abundance rapidly rising with advent of 21st century.

The scarcity-centered economic rules of their world have failed to stop gender, social, economic and cultural inequalities despite the abundance that we are living in today. This is essentially because the dynamics of the economic environment has changed making the legacy economic systems too outdated to catch up with the new reality.

**1.2.3 Scarcity, no more the mother of economics:** Today, no matter which analysis one looks at, the world actually has a lot more capital than it needs to become sustainable and prosperous. According to one estimate \$50 trillion<sup>47</sup> liquid assets are sitting on the sidelines as cash (Fig. 3) and, a lot more in other forms of tangible or intangible assets.<sup>48</sup> The Bank for International Settlements estimated the notional value of outstanding derivative contracts at \$700 Trillion in 2014 (Fig. 4).<sup>49</sup>

An economy of abundance should be able to organize people and resources in such a way that all people and a plethora of other species on this planet would be able to thrive, not only in the present, but in the future as well. It would have to be based on incentivized and equitable sharing of resources to balance “haves” with “needs.”

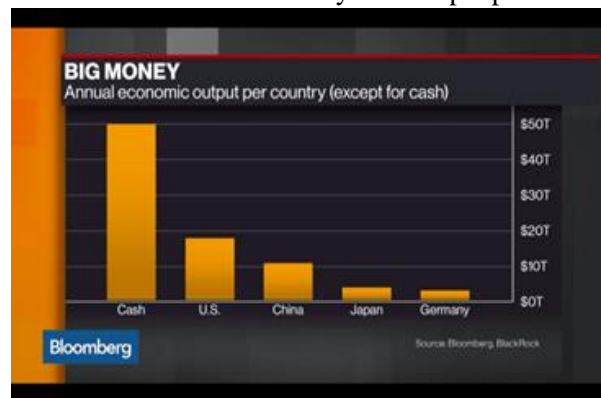


Fig 3: Source: Bloomberg via Business Insider

<sup>46</sup> Zaman, Asad. "The normative foundations of scarcity." *Real-World Economics Review*, issue 61 (2012): 22-39, p23.

<sup>47</sup> Olivier Garret. \$50 trillion of cash on the sidelines could be good news for stocks and gold. Garret/Galland Research

<https://www.businessinsider.com/50-trillion-of-cash-on-the-sidelines-good-news-for-stocks-and-gold-2016-11> Accessed Feb 12, 2022

<sup>48</sup> Fazal Raheman. Influence Capital: The Quadrillion Super Asset of 21st Century. April 9, 2019. <https://drfazal.medium.com/influence-capital-the-quadrillion-super-asset-of-21st-century-845871c113da>. Accessed 12 Feb 2022.

<sup>49</sup> John Carney and David Reily. Bank Regulators Roar at \$700-Trillion Market. Wall Street Journal, Aug. 6, 2014. <https://www.wsj.com/articles/heard-on-the-street-bank-regulators-roar-at-700-trillion-market-1407361223>. Accessed Feb 12 2022.



If scarcity is not the cornerstone of the present economic system, *why does extreme poverty still exist? Why do people still die of hunger? Why does gender and social inequality still exist?* We believe the problem is one of distribution, or rather redistribution. Kate Raworth's Doughnut Economics indeed focuses on the economy

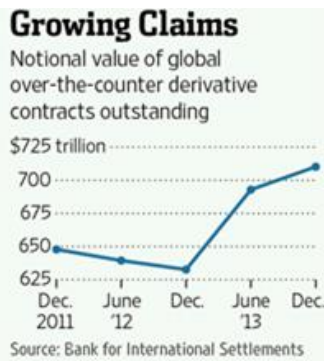


Fig 4: Value of derivative contracts

needing to be designed for redistribution.<sup>50</sup> A problem of missed opportunities, or one of inability to connect “needs” with “haves.” In other words, the economy of abundance is still being governed by the old school economic principles of scarcity that has failed to reverse socio-economic and cultural inequalities or promote gender equality, thus defeating the realization of the global 2030 Agenda on the Fifth Sustainable Development Goal of achieving gender equality and empowering all women and girls.

**1.2.4 Sharonomics Contributions to the Call Objectives:** The vision, mission and goals of the SHAROMICS proposal are in perfect sync with the objectives of the Call: HORIZON-CL2-2022-TRANSFORMATIONS-01-05 (Gender and social, economic and cultural empowerment): significantly contributing and adding value in multiple ways to the Horizon Europe Strategic Plan 2021-2024 in general making Europe the first digitally enabled circular, climate-neutral and

sustainable economy, and in particular setting out a credible pathway to contributing to the following targeted expected impacts of the Horizon Europe Strategic Plan:

- Social and economic resilience and sustainability strengthened through a better understanding of the social, ethical, political and economic impacts of drivers of change (such as technology, globalization, demographics, mobility and migration) and their interplay.
- Inclusive growth is boosted and vulnerabilities are reduced effectively through evidence-based policies for protecting and enhancing employment, education, social fairness and tackling inequalities, including in response to the socio-economic challenges due to the COVID-19 pandemic.
- An increase in inequality, poverty and social exclusion, and a slowdown in convergence in income and employment in most European countries.
- Inequalities threaten social and territorial cohesion, economic growth and wellbeing.

SHARONOMICS proposal will achieve a better understanding of the socioeconomic circumstances that lead to gender and other forms of discrimination that perpetuate and nurture gender, social and cultural inequality skewing the economic and power balance across the gender, ethnicity, social and cultural lines. To seize the opportunities emerging from socio-economic transformations in a strongly connected and integrated world, these challenges need to be better understood and tackled. Understanding why the incumbent economic systems are incapable of arresting the growing inequalities, placing women and other minorities at a disadvantage, will go a long way in stakeholder education and media dissemination. Sharonomics proposal designs and builds proof-of-concept framework for reversing socio-economic and cultural inequalities and promoting gender equality, thus supporting the realization of the global 2030 Agenda's SDG 5 on achieving gender equality and empowering all women and girls.

**1.2.5 Innovative research on social and economic transformations:** Europe is being transformed by changes that impact the livelihoods and wellbeing of its citizens and the world in total.<sup>51</sup> Such changes present important opportunities for the EU to innovate and shape forward looking inclusive societies and economies, while avoiding the mistakes of the past and promoting an inclusive recovery that strengthens economic and social resilience. However, demographic changes, digitalization, automation, environmental degradation, the transition to a low carbon economy and globalization all pose multidimensional, interconnected and complex social and economic challenges. Moreover, the COVID-19 pandemic has magnified the pervasive inequalities across European societies, with significant differences in the way losses and costs of the COVID-19 pandemic and the crisis that followed are distributed in society. More recently the need for stable democracies has been demonstrated by the autocratic invasion into Ukraine in early 2022, and the flood of millions of refugees across Europe.

Population aging increases social protection spending on pensions, health and long-term care and restricts the capacity of the redistributive system to reduce inequality. Societies also need to adapt to a new role elderly people may have, with their experience and capacity to remain productive. Policies need to support a transition towards more environmentally-friendly ways of producing and providing private and public services, while ensuring all

<sup>50</sup> Raworth, Kate. *Doughnut Economics. Seven Ways to Think Like a 21st Century Economist.* Random House.

<sup>51</sup> European Commission. Reinforcing Europe's resilience: halting biodiversity loss and building a healthy and sustainable food system. May 20, 2020. Available at [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_884](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_884)



regions and individuals equally benefit from these transitions and that no one is left behind, in particular when it comes to access to essential services. Access to social protection for those in need should be ensured, while making sure that everyone can participate in economic, social, political and cultural developments. Social protection supports individuals in emergencies that they can no longer cope with on their own and, in addition, protects them by means of long-term measures – whether in the event of illness, accident, need for care, unemployment or old age. Moreover, mitigation and adaptation strategies are essential to make sure population movements shaped by these transitions are positive for all areas, and do not contribute to deepening the divide between regions or countries.

Education and training are key long-term factors in preventing and reversing inequalities and promoting equal opportunities, inclusion and social mobility. However, the educational outcomes of younger generations are still determined to a large extent by the socio-economic background of their parents rather than by their own potential. Promoting and ensuring inclusion and equity in education and training is thus fundamental in breaking these patterns. In this context, it is important to reflect on the nature of economic growth and development, making the need to better capture the different dimensions of social progress essential. It is increasingly important to distinguish between the different purposes of measurement: economic activity, social and cultural wellbeing and sustainability, and to develop relevant indicators. This is indeed what members of the Wellbeing Economy Government (WEGo) Partnership, including Scotland, New Zealand, Iceland, Wales and Finland, have engaged in.<sup>52</sup> This is particularly the case as the pervasive effects of the COVID-19 pandemic has altered the economic performance and socio-economic fabric of many countries in the EU. Here women leadership has been shown to be better than that of men.<sup>53</sup>

**1.2.6 Specific Objectives:** The main goal of this proposal is to unequivocally prove the plausibility and efficacy of a new technology enabled ecosystem that adapts to the 21st century economic realities for reducing the gender, socio-economic and cultural inequalities. We lay down following clear objectives for accomplishing the project goals reaching TRL6:

Specific objectives	Key deliverables	WPs
<b>Technology:</b> To define requirements/specifications & architecture of <b>Sharonomics</b> ecosystem and its use case. Design an optimal DTT/blockchain consensus and smart contract protocol that best suits decentralized democratic governance of the <b>Sharonomics</b> ecosystem.	D2.2-4 Specs & Architecture of <b>Sharonomics</b> D2.5 Innovation report	WP2 M1-7
<b>Proof-of-Concept (POC):</b> To build a decentralized DLT-powered framework of autonomously governed scalable smart contracts with optimized consensus algorithm to create maximal surplus value in terms of rewards to beneficiary per transaction. Build a <b>Sharonomics</b> POC to demonstrate monetization & sharing of influence to generate earned minimum income (EMI) for and gender mainstreaming (GM)	<b>Sharonomics</b> Proof-of-Concept, Repository deposit of code for <b>Sharonomics</b> use cases, EMI and GMCI	WP3 M7-29
<b>Validation:</b> To test & validate <b>Sharonomics</b> in following use cases: i) Earned Minimum Income (EMI) for women. ii) Gender Mainstreaming via Celebrity Influence (GMCI) Gender, cultural and socioeconomic dimensions of EMI and GMCI	Test & validate <b>Sharonomics</b> use case: EMI - IP Review - File patents $\geq 2$	WP4 M12-33
<b>Communication, Dissemination, Exploitation:</b> To involve <b>Sharonomics</b> stakeholder groups (see Sec 2.2), economists, social activists, financial institutions and regulators via a wide range of activities and build a business plan, which will help us to exploit the project results and pave the way for their future market uptake.	- D5.2 CDE Plan - D5.4 E-learning materials EU Cluster Days	WP5 M1-36

**Sharonomics** is a radical concept, and as such, it may face significant uncertainties in terms of cultural & socio-technical acceptability and the inherent technology risk. To address these uncertainties, our research approach will follow a risk alleviating strategy, while our research methodology will be based on a systematic and modular

<sup>52</sup> <https://weall.org/wego>

<sup>53</sup> Coscieme, Luca, Lorenzo Fioramonti, Lars F. Mortensen, Kate E. Pickett, Ida Kubiszewski, Hunter Lovins, Jacqueline McGlade, Kristin Vala Ragnarsdóttir, Debra Roberts, Robert Costanza, Roberto de vogli, Richard Wilsinson. "Women in power: Female leadership and public health outcomes during the COVID-19 pandemic. PlosOne doi: 10.1101/2020.07.13.20152397v2

research approach and critical review of the intermediate results in a continuous, two-step *research-testing validation* process. Cross-functional collaboration between the consortium members will be the key to implementing the development methodology. Active participation of partners, particularly with expertise in economics and humanities, is crucial at every stage for achieving all the project objectives. Our methodology observes high standards of research practices, maintainability, performance, and robustness, focusing on the following development tracks:

**1.3 The Sharonomics Ecosystem – The Enabling Tech:** In WP2, the state of the relevant research work and existing technologies will be thoroughly reviewed and properly extended. The results produced in WP2 will lead to the detailed architecture of the core components of the Sharonomics ecosystem using blockchain and Web 3.0 components such as open-source SOLID (Social linked data)<sup>54</sup> based on Personal Online Data Storage (PODs) technology.<sup>55</sup> In WP3, we build the components to be deployed in the Sharonomics use case to test and validate the Sharonomics concept in WP4 and exploited and disseminated in WP5.

**1.3.1 State-of-the-art: The Economics of Industrial Revolutions:** During the 3<sup>rd</sup> and 4<sup>th</sup> Industrial revolutions, the growth of the Internet brought citizens closer in a social fabric that introduced a new socializing paradigm – the social media (Fig.5). While financialization was transforming our scarcity-defined economic system to an economy of abundance at the expense of equality, sustainability and democratic governance, the Internet was adding another dimension to the economy – social sharing. Nevertheless, our economic practice still remains scarcity-driven, centralized, siloed and non-inclusive. Economists often blame excessive financialization for the 2008 depression. However, we believe securitization, per se, was not the poisoned chalice. It was the lack of democratic governance that poisoned it. Securitization is financialization of the economy without democratic governance in a centralized financial system, while DLT (blockchain) driven tokenization is financialization with decentralized democratic governance.

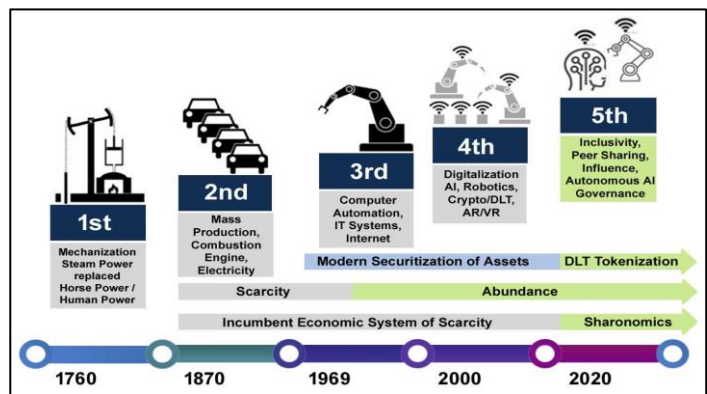


Fig 5: Sharonomics: The next industrial revolution

**1.3.2. 21st Centuries Biggest Challenge to Modern Democracies & Economic Models:** “Sustainability” is one word that encompasses all the 21st century problems from extreme poverty, hunger to climate change and gender inequality, included in United Nations’ Agenda 2030 Sustainable Development Goals (SDGs). Funding the 17 SDGs is the mother of all the 21st century socio-economic problems. The annual funding deficit that was estimated at \$2.5 trillion at the inception of SDGs (Fig. 6) is now \$4.2 trillion in the aftermath of COVID-19.<sup>56</sup> With the funding gap cumulatively increasing SDGs are looking almost impossible to be achieved by 2030. This is an egregious travesty of justice particularly when:

- i) according to UNDP estimates, sustainability is a \$12 trillion global impact investment opportunity;<sup>57</sup>
- ii) our world is awash in money<sup>58</sup> with at least \$50 trillion worth of liquid capital sitting idle on the sidelines globally awaiting investment opportunities (Garret Galland Research), and;

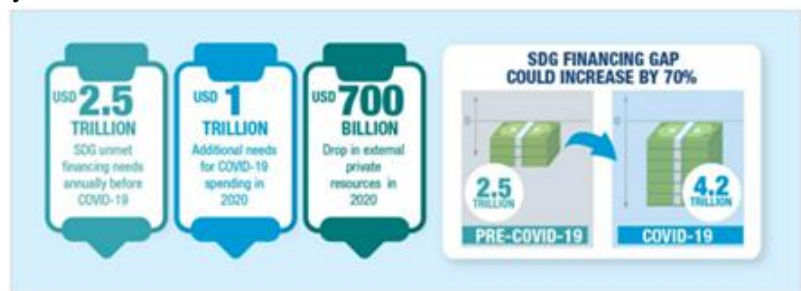


Fig 6: Financing for Sustainable Development 2021. Source: OECD

<sup>54</sup> Mansour, E., Sambra, A. V., Hawke, S., Zereba, M., Capadisli, S., Ghanem, A., ... & Berners-Lee, T. (2016, April). A demonstration of the solid platform for social web applications. Proc. 25th Int. Conf. on the World Wide Web (pp. 223-226).

<sup>55</sup> <https://solidproject.org/users/get-a-pod>

<sup>56</sup> OECD Covid-19 Crisis Threatens Sustainable Development Goals Financing. <https://www.oecd.org/newsroom/covid-19-crisis-threatens-sustainable-development-goals-financing.htm> Accessed Feb 12, 2022.

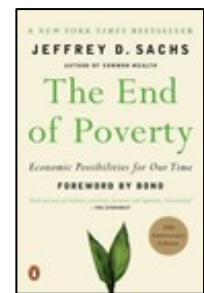
<sup>57</sup> United Nations Development Programme. <https://www.undp.org/press-releases/undp-launches-sdg-impact-help-unlock-investment-global-goals> Accessed Feb 12, 2022.

<sup>58</sup> Karen Harris, Andrew Schwedel and Austin Kim. A world awash in money. Nov 14, 2022. <https://www.bain.com/insights/a-world-awash-in-money/> Accessed Feb 12, 2022.

iii) it takes only \$175 billion per annum for eradicating extreme poverty.<sup>59</sup>

**1.3.3 The Biggest Travesty of Justice: 21st Century Apartheid:**<sup>60</sup> On one hand there are trillions sitting on the sideline waiting for projects, and on the other, there are UN's SDGs offering impact investment opportunities worth trillions facing an unassailable funding gap that has risen to \$4.2 trillion annually.<sup>61</sup> Our inability to connect the two is making it almost impossible to achieve the SDGs by 2030. Wealth inequality continues to grow.<sup>62</sup> If the trend continues, median Black & Latino household wealth in the United States is heading towards "Zero Wealth"<sup>63</sup> and the United Nations goal to "end poverty" by 2030 will be a far cry. Can we do anything to stop the growth of this 21st Century Apartheid?<sup>64</sup>

In his book, *The End of Poverty*, Jeffrey Sachs estimated the cost of ending extreme poverty would be about \$175 billion per year (**Fig. 7**).<sup>65</sup> Looking at the big picture and the dynamics of unutilized global assets, there's no reason why extreme poverty should not be wiped out. But the tragedy is, extreme poverty not only thrives with impunity, but poses a big challenge to the UN's Agenda 2030 goal to eradicate poverty by 2030.



**Fig 7:** Jeffrey Sachs Book

**1.3.4 Legacy Economic Systems Can Never Be Fully Democratic:** The principal reason why gender, social and all kinds of inequality persists is because legacy economic systems are not democratic or at least quasi-democratic. Any principle or rule left to be interpreted or implemented by humans will always be tainted with human prejudices, preferences, or conveniences. The solution therefore lies in letting economics be governed by the algorithms. That's precisely what the digital ledger technologies, particularly blockchain, does.

**1.3.5 The power of Decentralized Finance (DeFi), Smart Contracts, Tokenomics & Staking:** With trillions worth of global assets, \$50 trillion of them being liquidable, there is plenty of influence to be monetized and tokenized. Just imagine using that much influence to generate new wealth, and that too by not putting the monetized asset at risk? How's that possible? Let's take a deep dive into DeFi and tokenomics.

Decentralized finance (DeFi) is an emerging financial technology based on secure distributed ledgers similar to those used by cryptocurrencies.<sup>66</sup> It is at the core of the crypto revolution. The system removes the control that banks and institutions have on money, financial products, and financial services. As a result, the consumers avail unprecedented advantages:

- elimination of the fees that banks and other financial intermediaries charge for using their services;
- assets are held as tokens in a secure digital wallet instead of keeping it in a bank;
- anyone with an Internet connection can use it or enter a smart contract without needing any 3rd party approval;
- funds can be transferred in seconds and minutes;
- most importantly, the funds can still yield returns under a smart contract while remaining in an owner-controlled wallet.

Smart contracts and tokens are the building blocks of DeFi. A token is a digital unit of a cryptocurrency that is used as a specific asset or to represent a particular use on the blockchain. Tokens have multiple use cases, but the most common are security, utility and governance tokens. Cryptocurrencies and tokens built on blockchain have pre-set, algorithmically created, issuance schedules. This means that we can predict with quite some accuracy how many coins will have been created by a certain date in time. Though it is possible for most crypto assets to have this issuance schedule altered, it will normally require the agreement of many people and is very difficult to implement. This provides some comfort and security for token owners, because they know the tokenomics and to what degree their asset will be created in a way that is much more predictable than governments creating fiat money.

<sup>59</sup> Jeffrey D Sachs. *End of Poverty: Economic Possibilities for our Times*. Penguin Random House, Feb 28, 2006 | ISBN 9780143036586. <https://www.penguinrandomhouse.com/books/293755/the-end-of-poverty-by-jeffrey-d-sachs/> Accessed Feb 12, 2022.

<sup>60</sup> Collins, Chuck, and Felice Yeskel. *Economic apartheid in America: A primer on economic inequality & insecurity*. The New Press, 2011.

<sup>61</sup> OECD Library. <https://www.oecd-ilibrary.org/sites/6ea613f4-en/index.html?itemId=/content/component/6ea613f4-en> Accessed Feb 12, 2022.

<sup>62</sup> UNDESA World Social Report 2020. <https://www.un.org/development/desa/dspd/world-social-report/2020-2.html> Accessed Feb 12, 2022.

<sup>63</sup> Dedrick Asante-Muhammad and Chuck Collins. *Inequality Crises: Blacks and Latinos on the road to Zero Wealth*. USA Today. Sept 17, 2022. <https://www.usatoday.com/story/opinion/2017/09/13/inequality-crisis-blacks-and-latinos-on-road-zero-wealth-asante-muhammad-collins-column/659766001/> Accessed Feb 12, 2022.

<sup>64</sup> Kelly, Diann. "Civic-Political Development in the Context of Economic Apartheid in Distressed Communities: A Theoretical Model." *Advances in Applied Sociology* 7.12 (2017): 378-390.

<sup>65</sup> See footnote 54

<sup>66</sup> Chohan, Usman W. "Decentralized finance (DeFi): an emergent alternative financial architecture." *Critical Blockchain Research Initiative (CBRI) Working Papers* (2021).

Smart contracts are agreements written on blockchains that run without any outside approval or human input when conditions are met. They are “self-executing” contracts. Once they have been written and agreed to, they are immutable — the terms cannot be changed or the agreement canceled. Any payment stipulated in the contract is locked into the contract at its creation, so there is no going back. This removes the need for a trusted intermediary to ensure that the terms of an agreement are enforced.

Staking is when you invest your tokens into the network under a smart contract, and get a reward for doing it. Essentially you mine or multiply your assets by storing your tokens in the network to earn passive income on your crypto holdings. Since mining for crypto currencies has been shown to use more and more energy - more than whole countries<sup>67</sup> - **Sharonomics** will be mindful of energy needs for DeFi and eventually design its own energy efficient DLT specially designed for Sharonomics.

#### 1.4 Beyond State-of-the-art:

**Sharing & redistributing abundance for gender, social & cultural empowerment:** DeFi is a new kid on the block that’s revolutionizing financialization to a completely new level that was impossible to imagine just a few years ago. Contrary to the traditional centralized finance (CeFi), DeFi is endowed with following distinctive features:

1. **Transparency:** DeFi transactions are public records on the blockchain, and the terms of Smart Contracts are immutable.
2. **Control:** DeFi allows the user to remain the custodian of its assets, i.e., no risk of misappropriation of funds or modification of terms without the users’ consent. There’s no third-party intermediary (e.g., bank / financial institution) and the yield from assets stake is automatic and guaranteed.
3. **Accessibility:** Anyone with a moderate computer, internet connection and know-how can create and deploy DeFi products, while the blockchain and its distributed network of miners then proceed to effectively operate the DeFi application.
4. **Staking:** Staking is when you invest your tokens into the network under a smart contract and get a reward for doing it. Essentially you mine or multiply your assets by pledging your tokens in the network to earn passive income on your crypto holdings without losing any control over your assets.
5. **Higher Yield:** The financial gain in DeFi also presents a significant contrast to CeFi. In the years 2020 and 2021, DeFi offered higher annual percentage yields (APY) than CeFi: the typical yield of USD in a CeFi bank is about 0.01%,<sup>68</sup> while DeFi offers consistent rates beyond 8%.<sup>69</sup>
6. **Influence Capital:** The DeFi features of transparency, control, accessibility, staking and high yield without actually having to give away the control over or surrendering the possession of your assets, means just the influence of your staked asset works as a profit generating capital. This opens up the possibility of harvesting, tokenizing and sharing the influence of not only the \$50 trillion that Bloomberg reports to be sitting idle, but financializing the influence of Quadrillion worth of human capital<sup>70</sup> to fund sustainability.<sup>71</sup>

<sup>67</sup> Cambridge Bitcoin Electricity Index. <https://ccaf.io/cbeci/index> ; <https://www.theguardian.com/technology/2021/feb/27/bitcoin-mining-electricity-use-environmental-impact>

<sup>68</sup> Bank savings account rates | bankrate. <https://www.bankrate.com/banking/savings/us-bank-savings-rates/>. Retrieved September 6, 2021.

<sup>69</sup> Qin, Kaihua, Liying Zhftou, Yaroslav Afonin, Ludovico Lazzaretti and Arthur Gervais. “CeFi vs. DeFi - Comparing Centralized to Decentralized Finance.” *ArXiv* abs/2106.08157 (2021): n. pag.

<sup>70</sup> Costanza, Robert, et al. "Pluralistic discounting recognizing different capital contributions: An example estimating the net present value of global ecosystem services." *Ecological Economics* 183 (2021): 106961.

<sup>71</sup> Sharonomics. Influence Capital: The quadrillion super asset of 21st century. <https://steemit.com/sustainability/@sharonomics/influence-capital-the-quadrillion-super-asset-of-21st-century-lxxvi>. Accessed Feb 12, 2022.



**1.4.1 Sharonomics - Finishing the Unfinished Science:** Economics is often considered as “unfinished science”<sup>72</sup>

because the economy is something which is continuously changing and hence its study has to be revised continuously. This is the conventional view. Here we proclaim that the economic model is man-made and therefore can be changed.

« *To Share Is Human, To Expect Nothing In Return Is Divine* »

If that wasn't the case, 2.9 billion<sup>73</sup> of us wouldn't be sharing 4.75 billion items on Facebook, and over 4 million of the shared stuff wouldn't be rewarded with “likes” every minute.<sup>74</sup> Who wouldn't want their sharing to be reciprocated? We

call the new economy Sharonomics,<sup>75</sup> the art and science of mobilizing global resources for democratically connecting “**haves**” with “**needs**” for achieving sustainability (Fig. 8).

Although sharing is a phenomenon as old as humankind, collaborative consumption and the “sharing economy” are phenomena born of the Internet age.<sup>76</sup> Citing the business models of Airbnb, Uber, etc. Belk et al. (2019) stressed on the need for the traditional models of sales and ownership to wake up to new reality and concluded that “*The old wisdom that we are what we own, may need modifying to consider forms of possession and uses that do not involve ownership.*”<sup>77</sup>

**1.4.2 Sharonomics: Beating the conventional wisdom with DeFi:** “You Can't Give To Anyone Without Taking From Someone” is the conventional wisdom that guides every humane act of charity, philanthropy or even welfare state, in any socioeconomic polity. Sacrificing is an essential element in any kind of giving, is the conventional wisdom. The Gift Economy as set forth by Robin Wall Kimmerer contradicts that notion.<sup>78</sup>

Our experiments over the past few years further establish that “incentivized & equitable sharing may not need sacrifice.”<sup>79</sup> A Smart Contract that immutably guaranteed rewards against staked tokens made this possible. The funds at all times remained user controlled and yet yielded rewards for staking them. Our experiments on incentivized sharing began sometime in January 2018<sup>80</sup> designed to extend help to the needy across the globe using influence alone, we did establish that just the influence of tokenized assets can generate funds without anyone actually parting with their assets. Yes, no monetary contribution, just pledging the influence of assets! We used an existing social media blogging platform – Steemit.com for the experiments, because the platform deployed blockchain to reward users with tokens for posting content. Such rewards were directly proportional to the assets locked (staked) on the platform. The experiments that sought to seek the feasibility of deploying blockchain to



Fig 8: Defining Sharonomics

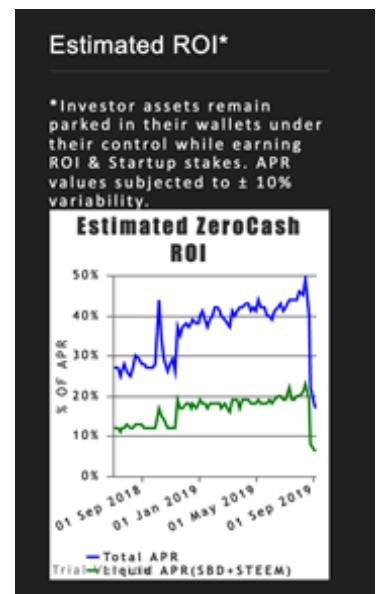


Fig 9: 1st Sharonomics experiment

<sup>72</sup> Metu, Amaka Gertrude, Nature and Scope of Economics (November 9, 2017). Available at SSRN: <https://ssrn.com/abstract=3068214> or <http://dx.doi.org/10.2139/ssrn.3068214>

<sup>73</sup> Datareportal. Facebook Facts and Trends. Datareportal.com, Nov 5, 2021. <https://datareportal.com/essential-facebook-stats>

<sup>74</sup> Kevin Ho. 41 Up-to-Date Facebook Facts and Stats. Wishpond.com <https://blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats>. Accessed Feb 12, 2022.

<sup>75</sup> Sharonomics is a portmanteau word of “share” & “economics” that introduces a new branch of knowledge concerned with the production, distribution and consumption of wealth based on incentivized and equitable sharing of tangible or intangible assets with peers in an automated decentralized ecosystem.

<sup>76</sup> Belk, Russell. "You are what you can access: Sharing and collaborative consumption online." *Journal of business research* 67.8 (2014): 1595-1600.

<sup>77</sup> Belk, R. W., Eckhardt, G. M., & Bardhi, F. (2019). "Introduction to the Handbook of the Sharing Economy: the paradox of the sharing economy". In *Handbook of the Sharing Economy*. Cheltenham, UK: Edward Elgar Publishing. doi: <https://doi.org/10.4337/9781788110549.00005>

<sup>78</sup> <https://emergencemagazine.org/essay/the-serviceberry/>

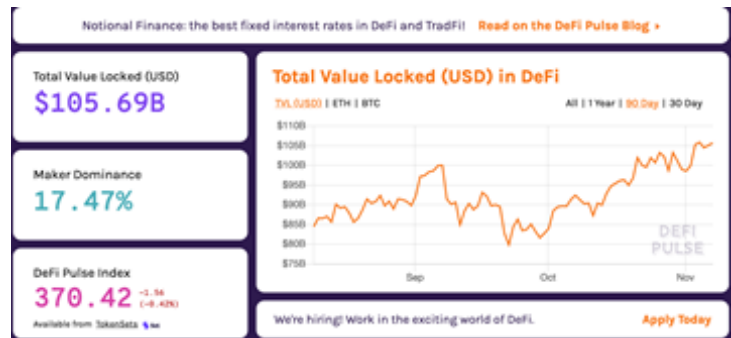
<sup>79</sup> Sharonomics. Charity Mmay Require Sacrifice, Prosperity Needs No Sacrifice. Steemit.com <https://steemit.com/life/@sharonomics/charity-may-require-sacrifice-prosperism-needs-no-sacrifice>. Accessed Feb 12, 2022.

<sup>80</sup> Sharonomics. Steemit.com. Jan 2018. <https://steemit.com/life/@sharonomics/incentivized-giving-experiment-a-report>. Accessed Feb 12, 2022.

eradicate poverty became an instant hit.<sup>81</sup> Everyone who participated benefited monetarily and raised funds for the poor and underprivileged without their own direct monetary contribution. The capital remained safe and secure throughout the duration of the experiment. In other words, we are able to generate new funds for sharing with the impoverished without actually taking it from anyone or spending any crypto asset. The total average estimated ROI on parked assets ranged between 30-40% (see **Fig. 9**) adopted from [www.ZeroCash.net](http://www.ZeroCash.net)). The trial unequivocally established that merely sharing the influence of the tokenized asset can empower the impoverished.<sup>82</sup>

Such means of financing by staking the influence of the tokenized assets (yield from staked tokens), without spending any of your own money, was radically in conflict with the principles of economics at the time.<sup>83</sup> However, it is now an exponentially growing phenomenon called the DeFi. In just over a year the DeFi industry grew from almost non-existent, to over \$100 billion in staked assets in November 2021 (**Fig.10**).<sup>84</sup> Although we focussed on deploying the concepts of DeFi in taking crowdfunding to the next generation in financing sustainability and funding the SDGs entirely by staking tokenized influence and no cash (ZeroCash),<sup>85</sup> the space has expanded into diverse activities such as liquidity mining, yield farming, crypto loans, etc.<sup>86</sup>

The bottom-line is that these experiments provide evidence that **Sharonomics** indeed beats the conventional wisdom, and [“You Indeed Can Give To Someone Without Taking Anything From Anyone.”](#)



**Fig 10:** Total Value Locked in DeFi. Source: [www.Defipulse.com](http://www.Defipulse.com)

**1.4.3 How DLT/DeFi creates monetizable value from human interactions?** Every transaction between peers that requires a third-party mediator to facilitate has cost consequences, and therefore the transaction has to have a value that supports that cost. That value of the transaction is the accepted norm in our society and that transaction cost is the accepted cost of doing business or just living a normal life. When DLT eliminates the third-party facilitator without compromising the quality and efficiency of the transaction, it essentially eliminates the fee that the third party charges the transacting parties and thus saves on the total cost of transaction. Such saving creates a surplus value that is monetizable and can be shared as incentive with the stakeholders who support the operation of the DLT framework. The lower the cost of operating the DLT network the higher the surplus value and the greater the monetizable rewards. Such reward tokens are tradable in exchanges and creates a market that builds on the reputation of the stakeholders, the technological advantages of the enabling DLT, and speculation of the market makers, all fueling the Sharonomics ecosystem.

**1.4.4 Sharonomics Creates A New Asset Class - Influence Capital:** Almost anything one owns and uses for personal or investment purposes is a **capital asset**.<sup>87</sup> Besides the financial capital, a business, organization or country may claim the benefit of human capital. The term human capital refers to **the economic value of a worker's experience and skills**. Human capital includes assets like education, training, intelligence, skills, health, and other attributes employers value such as loyalty and punctuality. Human capital is perceived to increase productivity and thus profitability. Reviewing the work of Gary Becker<sup>88</sup> and Theodore Schultz<sup>89</sup> on **“human capital,”** it becomes clear that the concept of “tokenized influence” that **Sharonomics** creates is actually

<sup>81</sup> Sharonomics. Blockchaining the world out of poverty. Steemit.com. (2018) <https://steemit.com/blockchain/@sharonomics/blockchaining-the-world-out-of-poverty-ly>. Accessed Feb 12, 2022.

<sup>82</sup> Sharonomics. Merely sharing influence can empower the impoverished. Steemit.com <https://steemit.com/blockchain/@sharonomics/merely-sharing-influence-can-empower-the-impoverished>. Accessed Feb 12, 2022.

<sup>83</sup> Sharonomics. ZeroCash: A radical challenge to the principles of economics. (2018) <https://steemit.com/blockchain/@sharonomics/zerocash-a-radical-challenge-to-the-principles-of-economics-ly>. Accessed Feb 12, 2020.

<sup>84</sup> Werner, Sam M., et al. "Sok: Decentralized finance (defi)." *arXiv preprint arXiv:2101.08778* (2021). <https://arxiv.org/pdf/2101.08778.pdf>.

<sup>85</sup> Fazal Raheman. Crowdfunding 4.0: a novel influence-based global fundraising platform and system. PCT/IB2019/052047 <https://patents.google.com/patent/WO2020141360A1/en> Accessed Feb 12, 2022.

<sup>86</sup> Kiong, Liew Voon. How to Maximize Return in DeFi: A Beginner's Guide to Yield Farming and Liquidity Mining. Liew Voon Kiong, 2021.

<sup>87</sup> Alicia Touvila. Capital Asset. Investopedia. Nov 12, 2020. <https://www.investopedia.com/terms/c/capitalasset.asp>. Accessed Feb 12, 2022.

<sup>88</sup> Becker, Gary Stanley. "The age of human capital." (2002): 3-8.

<sup>89</sup> King, Elizabeth M., Claudio E. Montenegro, and Peter F. Orazem. "Economic freedom, human rights, and the returns to human capital: An evaluation of the Schultz hypothesis." *Economic Development and Cultural Change* 61.1 (2012): 39-72.

a lot more tangible and quantifiable than all those intangible assets that constitute “human capital.” It was then we set out to investigate “**Influence Capital**” as an asset class in its own right.<sup>90</sup>

**INFLUENCE** within a decentralized **Sharonomics** ecosystem implies the authority of a participating peer quantified and tokenized by means of the quantum of stake the peer holds in his or her account on the **Sharonomics** platform. If one uses quantifiable tokenized influence to acquire or make new asset investments, then influence indeed should qualify as a capital asset. Having formulated and supported the hypothesis that Influence Capital indeed qualifies as a new asset class, it became incumbent upon us to further investigate and define its place in the global wealth landscape.

**1.4.4a) A World Awash in Money:** In our quest to quantify the global worth of Influence Capital vis-a-vis the total global worth of all assets, we discovered that the world is indeed awash in money. Bain & Company estimated world assets at \$900 trillion in 2020 from \$600 trillion in 2010.<sup>91</sup> A research report from Bain and Company looked at the capital trends through 2020 estimating the total worth of world assets to reach \$900 trillion in 2020. There are several other reports, but no matter which analysis one looks at, the estimates range between \$544 trillion at low end<sup>92</sup> and \$1.2 quadrillion at the higher end.<sup>93</sup> The truth is the task for exact quantification of global wealth may be too Herculean for anyone to take up. However, of all the reports, the most relevant is the one from Korn Ferry, which also includes the valuation of Human Capital. Actually it is the only one that focuses on estimating the total potential worth of global Human Capital, placing it at nearly 2.5 times more valuable to the economy than physical assets. In the Korn Ferry report,<sup>94</sup> Centre for Economics and Business Research (CEBR), was commissioned to create a macroeconomic model to quantify the value of human capital in relation to physical capital. These were calculated based on a lifetime earnings approach, estimating the value of assets in use. Korn Ferry interviewed 800 business leaders across the UK, China, United States, Brazil, France, Australia, India, and South Africa to conclude that human capital represents a potential value of \$1,215 trillion to the global economy (see Figure 11). It is 2.33 times that of physical capital, which includes tangible assets like technology, real estate, and inventory. According to the Korn Ferry analysis, the total physical capital should be valued at \$521 trillion, and adding up \$1.2 quadrillion human capital takes the total worth to over \$1.7 quadrillion. Considering the current global debt of \$226 trillion,<sup>95</sup> the total net worth of humanity would reach about \$1.5 quadrillion.

**1.4.4b) Quantifying & Monetizing Influence with DLT:** As we know any tangible or intangible asset can be tokenized,<sup>96</sup> and such tokenized assets create value.<sup>97</sup> This value bestows upon the owner of such assets, influence. Such influence, if rendered quantifiable by empirical means, can function as a new asset class. DLT / blockchain is the technology that can harvest, quantify, monetize and disseminate equitably amongst the peers with transparency, immutability and without an intermediary.<sup>98</sup> On a **Sharonomics** platform a peer’s tokenized influence can be measured in terms of one or more of the following intrinsic or extrinsic assets on the platform:

- i) cryptocurrency tokens staked,
- ii) hashing power deployed,
- iii) reputation scores achieved,
- iv) intellectual property owned, and,
- iv) quantum of activities conducted within the ecosystem.

<sup>90</sup> Sharonomics. Influence Capital: A new asset class. Steemit.com. <https://steemit.com/blockchain/@sharonomics/influence-capital-a-new-asset-class-lvx>. Accessed 12, 2022.

<sup>91</sup> Bain and Company's Macro Trends Group (32 page pdf). Brian Wang. Bain estimates world assets will be \$900 trillion in 2020 from \$600 trillion in 2010 and Bain expects Disruption from Nanotech, AI, Biotech, Robotics and Ubiquitous Connectivity. Next Big Future. July 30, 2013.

<https://www.nextbigfuture.com/2013/07/bain-estimates-world-assets-will-be-900.html>. Accessed Feb 12, 2022.

<sup>92</sup> Jeff Desjardins. All of World’s Money and Markets in One Visualization. Visual Capitalist. May 27, 2022. <https://www.visualcapitalist.com/all-of-the-worlds-money-and-markets-in-one-visualization-2020/>. Accessed 12, 2022.

<sup>93</sup> Adele Peters. All the money in the world in a single chart. Fast Company. <https://www.fastcompany.com/3055070/all-the-money-in-the-world-in-a-single-chart>. Accessed Feb 12, 2022.

<sup>94</sup> Korn Ferry Institute. The trillion-dollar difference. <https://www.kornferry.com/content/dam/kornferry/docs/article-migration/Korn-Ferry-Institute-The-trillion-dollar-difference.pdf>. Accessed Feb 12, 2022.

<sup>95</sup> Vitor Gaspar, Paulo Medas, and Roberto Perrelli. Global Debt Reaches a Record \$226 Trillion. International Monetary Fund, Dec 15, 2021. <https://blogs.imf.org/2021/12/15/global-debt-reaches-a-record-226-trillion/>. Accessed Feb 12, 2022.

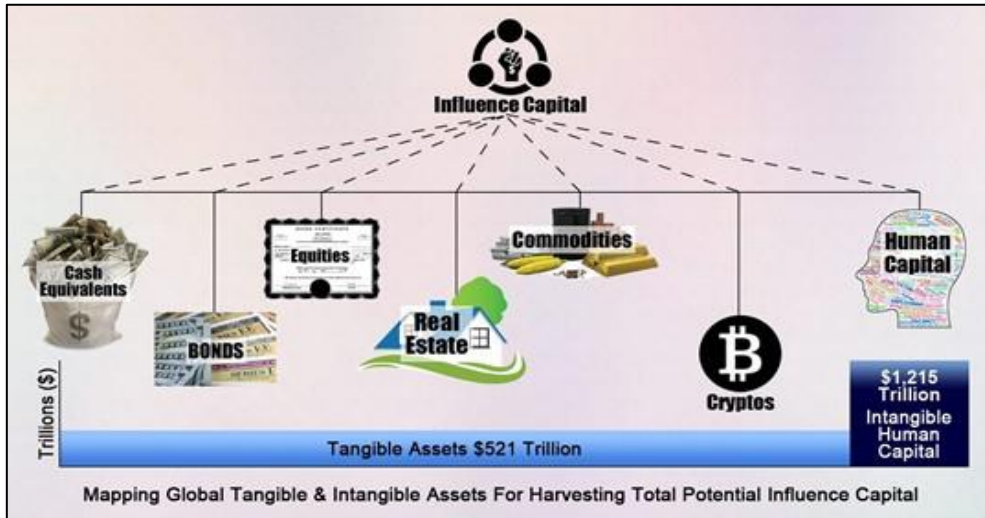
<sup>96</sup> Sazandrishvili, George. "Asset tokenization in plain English." *Journal of Corporate Accounting & Finance* 31.2 (2020): 68-73.

<sup>97</sup> Hargrave, John, Navroop Sahdev, and Olga Feldmeier. "How value is created in tokenized assets." *Blockchain Economics: Implications of Distributed Ledgers-Markets, Communications Networks, and Algorithmic Reality* 1 (2019).

<sup>98</sup> Hofmann, Frank, et al. "The immutability concept of blockchains and benefits of early standardization." *2017 ITU Kaleidoscope: Challenges for a Data-Driven Society (ITU K)*. IEEE, 2017.



**1.4.4c) Estimating The Total Potential Value Of Influence Capital:** Since the entire value of influence capital disclosed in our ZeroCash crowdfunding 4.0 patent disclosure<sup>99</sup> came from the actions of individuals or legal entities, our initial thinking gravitated towards seeing it as an offshoot of human capital. But realizing that different types of physical assets may also create influence that can apparently be tokenized by their owners, we had to revisit our initial perception, and conclude that all kinds of assets whether tangible or intangible are inherently bestowed with some value that can manifest into influence, which can be harvested and capitalized. A decentralized ledger technology system, such as the one we develop, test and validate as the first **Sharonomics** use-case in this proposal can harvest such influence by tokenizing the value of such assets.

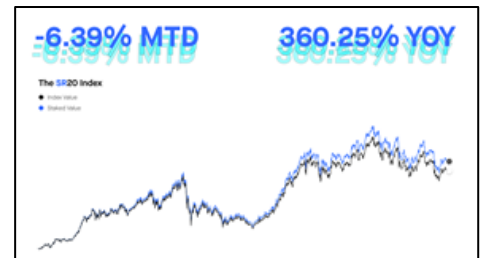


**Fig 11:** Data Source: [Korn Ferry. The trillion dollar difference.](#)

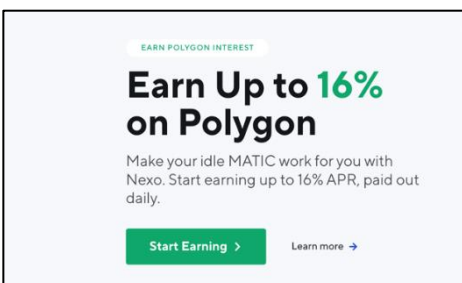
Now, considering the estimation of the total value of **Influence Capital (Fig.11)**, an extensive analysis of the value of each category of physical as well as intangible assets and their liquidability will be required. While that should be a subject of another extensive research, for now, we can attempt a quick and dirty fair estimate by adding up all the reported tangible and intangible assets globally (\$521 trillion + \$1,215 trillion = \$1.736 quadrillion), and discounting the total figure by an average of 40% (although such discounting would vary depending on the liquidability of the asset, e.g., cash in hand will be least discounted, while intangibles like human capital most discounted). **That brings the total potential value of Influence Capital to \$1.03 quadrillion.**

**1.4.5 Harvesting the Abundance & Redistributing it to the Masses:**

Using blockchain algorithms, the influence of abundance of wealth can be tokenized, and such tokenized influence can be incentivized and democratically shared amongst the peers equitably without the intervention of human prejudices. Having discussed in detail (Section 1.3.5) how the DeFi economy delivers yield on tokenized assets without putting the assets at risk, we can get a taste of how leading blockchain staking protocols deliver returns on staked tokens by reviewing the index of top 20 cryptocurrency tokens at [Link](#).



**Fig 12:** Staked assets yield 360%



**Fig 13:** Source: Nexo.io (April 15, 2022)

Although the average value of the top 20 assets declined by 6.39% in the previous month, the year-on-year yield on the staked assets was a whopping 360% (**Fig.12**). Even though there isn't a blockchain that is specifically designed to serve the objectives of **Sharonomics**, a proof of concept can be built deploying Polygon blockchain. Polygon is a layer 2 solution with very low transaction cost and high transaction speed, which are two important characteristics for generating surplus value that can be shared as rewards with the peers participating in **Sharonomics** economics. Currently the annualized reward APR for staked Polygon tokens

<sup>99</sup> Fazal Raheman. Crowdfunding 4.0: a novel influence-based global fundraising platform and system. PCT/IB2019/052047 <https://patents.google.com/patent/WO2020141360A1/en> Accessed Feb 12, 2022.



is over 16% (**Fig.13**) and decent enough to validate the concept in the use case that we selected to test and validate **Sharonomics** on a very small scale. See the next section for more details.

**1.5 Sharonomics Use Cases: Unleashing the Magical Power of Sharing the Influence of Abundance:** In this age of social media, sharing content, likes, and upvotes is perceived as a very benign and benevolent part of our daily lives that gives us a pleasant sense of social belonging without any cost to us. Having seen and experienced the power of sharing in our experiments that delivered financial help to the impoverished across the globe without any cash contributions from anyone, we are convinced that just sharing goodwill without any cost is something that citizens will be more than willing to do. Sharonomics can unfold the magic of influence capital in many ways, one of which is disclosed here:

**1.5a) Sharing winning trading algorithms with peers:** The currency trading market is the largest financial market in the world<sup>100</sup> – larger even than the stock market, with a daily volume of over €6 trillion.<sup>101</sup> Adding stocks, bonds, commodities & the new asset class: cryptocurrency, the daily trading volume reached well in excess of 6 trillion.<sup>102</sup> About 75% of all trading is reported to be automated algorithm based.<sup>103</sup> In other words, algo-trading handles roughly over €4 trillion worth of trades every day. No other industry even comes close to the gargantuan size of the assets that change hands on a daily basis. Colossal in size, almost all of the annual profits from the €1.4 quadrillion algo-trading are appropriated by big institutional investors with vast sums invested in deploying powerful trading robots. Not to speak of the poor, advanced algo-trading is too complex & beyond average user's reach. What if the just a minuscule scraping of the profits from those algo-traded trillions were spread across the world's most impoverished? Will extreme poverty eradication of which costs only \$175 billion (see Section 1.3.3 and footnote 65) exist? It's easier said than done. But at least there could be a potential path towards that super ambitious goal. **Sharonomics** could be that potential avenue to pursue and that's what this proposal explores by building a framework that can scrape a tiny profit per trade and spread it across the underprivileged.

**1.5b) Can Sharonomics fund Universal Basic Income (UBI):** UBI has generated quite a buzz in recent years around the world amongst the advanced countries,<sup>104</sup> as well as the developing world.<sup>105</sup> Universal basic income (UBI) is a radical policy proposal of a monthly cash grant given to all members of a community without means test, regardless of personal desert, with no strings attached, and, under most proposals, at a sufficiently high level to enable a life free from economic insecurity<sup>106</sup> Funding UBI will cost in trillions,<sup>107</sup> much of it coming from additional taxation compelling a European report to conclude that UBI is an illusion.<sup>108</sup> In fact, in the opinion of a think tank, UBI will actually increase poverty instead of reducing it.<sup>109</sup> Sharonomics holds the potential to make UBI self-funding without creating any additional tax burden. We call it Earned Minimum Income (EMI) and test and validate EMI as a Sharonomics use case can potentially achieve via a patent pending AlgoShare technology.

To profit in electronic marketplaces, especially those hosting volatile financial instruments (such as cryptocurrencies), a user must be able to deploy profitable algorithms swiftly. An autonomous and dynamic approach to instantly share the most profitable algorithm (AlgoShare)<sup>110</sup> between peers at mutually beneficial terms via smart contract can potentially harvest daily trading profits to be distributed to the impoverished as Earned Minimum Income (EMI) via Internet connected devices. More details in section 1.8.2d).

<sup>100</sup> King, Michael R., and Dagfinn Rime. "The \$4 trillion question: what explains FX growth since the 2007 survey?." *BIS Quarterly Review*, December (2010).

<sup>101</sup> Greg Ritchie. Currency Traders Reneging on Deals Frustrate \$7 Trillion Market. Bloomberg, Aug 26, 2021. <https://www.bloomberg.com/news/articles/2021-08-25/tensions-flare-over-7-trillion-currency-market-s-trade-dropouts>. Accessed Feb 12, 2022.

<sup>102</sup> Jain, Archana, Chinmay Jain, and Christine X. Jiang. "Active Trading in ETFs: The Role of High-Frequency Algorithmic Trading." *Financial Analysts Journal* 77.2 (2021): 66-82.

<sup>103</sup> Kim, Kendall. *Electronic and algorithmic trading technology: the complete guide*. Academic Press, 2010.

<sup>104</sup> Hoynes, Hilary, and Jesse Rothstein. "Universal basic income in the United States and advanced countries." *Annual Review of Economics* 11 (2019): 929-958.

<sup>105</sup> Banerjee, Abhijit, Paul Niehaus, and Tavneet Suri. "Universal basic income in the developing world." *Annual Review of Economics* 11 (2019): 959-983.

<sup>106</sup> Bidadanure, Juliana Uhuru. "The political theory of universal basic income." *Annual Review of Political Science* 22 (2019): 481-501.

<sup>107</sup> Ortiz, Isabel, et al. "Universal Basic Income proposals in light of ILO standards: Key issues and global costing." *Available at SSRN 3208737* (2018).

<sup>108</sup> Mencinger, Jože E. "The revenue side of a universal basic income in the EU and Euro Area." *DANUBE: Law, Economics and Social Issues Review* 6.3 (2015): 159-174.

<sup>109</sup> Greenstein, Robert. "Commentary: Universal basic income may sound attractive but, if it occurred, would likelier increase poverty than reduce it." *Center on Budget and Policy Priorities (CBPP)* 18 (2017).

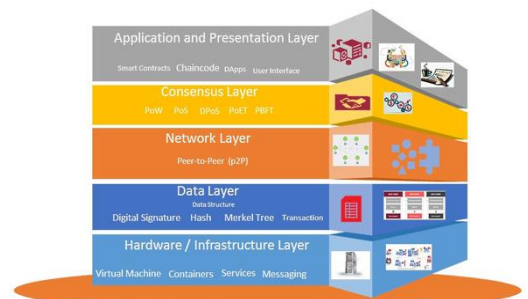
<sup>110</sup> Raheman Fazal, Raheman Ali. Decentralized Algo-sharing Infrastructure For Zero-Loss Algorithmic Trading. PCT/IB2019/050949. [WO2019155377A1](https://www.wipo.int/patent/records/WO2019155377A1)

**1.5c) Gender Mainstreaming via Celebrity Influence (GMCI):** Gender mainstreaming is one of the major strategies adopted by the European Union and member states for achieving gender equality.<sup>111</sup> Despite the European Union's (EU) official commitment to include gender mainstreaming (GM) in all EU policies since the 1990s, the actual implementation of gender equality has not been executed.<sup>112</sup> Governments' policy making for decades hasn't taken GM far enough to achieve its goals convincing us that policy making along would not work. Europe and the world need more than just rule making. GM needs to be mainstreamed into our social fabric. Sharonomics can achieve that by harvesting celebrity influence that remains largely unexploited<sup>113</sup>. A recent incident at a European Championship press conference involving Portuguese superstar Cristiano Ronaldo, whose snub of the Coca Cola soft drink cost the beverage giant \$4 billion drop in the value in a single day.<sup>114</sup> The power of celebrity influence is enormous<sup>115</sup> that can substantially add to the global value of Influence Capital that we estimated. Gender mainstreaming via Celebrity Influence (GMCI) is another use case that this proposal will test in field trials to validate Sharonomics. More details in section 1.8.2e).

**1.6 Sharonomics Network Architecture:** As Sharonomics is essentially a technology enabled economic ecosystem, that cannot be deployed without implementing DLT / blockchain, it cannot be as ambiguous and non-structured as the field of economics is. The real-world implementation of Sharonomics is as boundless as the field of economics itself. As there cannot be one-size-fits-all policy in economics, there cannot be a single Sharonomics framework that applies to all possible use cases. While the specific framework that Sharonomics deploys to test and validate the concept is discussed in Sec 1.8.2, it is pertinent to present the general features of the overall framework here.

#### 1.6a) Generic DLT Architecture for Sharonomics Applications:

In the conventional ICT infrastructure, a client-server network is deployed, in which the server keeps all the required information in one place so that it is easy to update, due to the server being a centralized database controlled by a single entity. However, in the case of the distributed network of DLT, each participant within the network maintains, approves, and updates new entries. The system is controlled not only by a single entity, but by everyone within the DLT network. Each member ensures that all records and procedures are in order, which results in data validity and security. Thus, parties that do not necessarily trust each other are able to reach a common consensus. Essentially DLT is a decentralized, distributed ledger of different kinds of transactions arranged into a P2P network. This network consists of many computers (nodes), but in a way that the data cannot be altered without the consensus of the whole network (each individual node). The structure of DLT is represented by a list of blocks with transactions in a particular order therefore the term 'blockchain.' These lists can be stored as a flat file (txt. format) or in the form of a simple database. A high-level architecture of a typical DLT framework can be visualized as layers of components that constitute the complete decentralized infrastructure (**Fig.14**). For a specific DLT most layers may remain constant except the application layer, which varies widely depending on a user interface that a specific use case demand. In designing the Sharonomics generic architecture we introduce one more variation in the classical DLT framework at the **Data Layer**. This is essentially because DLT's data layer can hold only very limited data. Since some of the Sharonomics applications may have higher data requirements, we integrate a more cost effective and network efficient privacy preserving and GDPR compliant approach discussed in the next section.



**Fig 14:** DLT architecture adapted from paktpub.com

**1.6b) Redefining Data Ownership with PODs:** Sharonomics will deploy a decentralized user-controlled linkable personal online data storage (PODs), the software architecture of which is designed to provide data privacy, security and liquidity by default.<sup>116</sup> PODs are a radical new way to reclaim the user's privacy and security

<sup>111</sup> Woodward, Alison E. "Too late for gender mainstreaming? Taking stock in Brussels." *Journal of European Social Policy* 18.3 (2008): 289-302.

<sup>112</sup> VIDA, Bianka. "Policy framing and resistance: Gender mainstreaming in Horizon 2020." *European Journal of Women's Studies* 28.1 (2021): 26-41.

<sup>113</sup> [How Much Do Celebrities Make on Instagram Posts? | GOBankingRates](#)

<sup>114</sup> Alton, Roger. "A lot of bottle." *Spectator* 346.10061 (2021): 61-62.

<sup>115</sup> [Cristiano Ronaldo Named Twitter's Most Valuable Athlete; Posts Worth \\$869K | Bleacher Report | Latest News, Videos and Highlights](#)

<sup>116</sup> Mansour, Essam, et al. "A demonstration of the solid platform for social web applications." *Proceedings of the 25th international conference companion on world wide web*. 2016.

that has been under siege from technology for eons. PODs are based on the vision of Sir Tim Berners-Lee, the inventor of the World Wide Web. Sharonomics is advancing his original approach to ensuring privacy of personal data on the Web, to data protection against security breaches, and the much-ignored interoperability of the traditional silos of databases via a versatile cloud computing service. Like all other privacy laws, the EU's recent GDPR assumes that private data of a "data subject" will always be controlled by a "data controller" and processed by a "data processor." However, its mandate puts data subjects in control of their personal data.

So basically, it's a personal data storage system that's decentralized and made linkable to any other piece of data, at the behest of the user who owns the data. PODs can be further homomorphically encrypted (HEPODs) to further boost its security. In the context of cloud computing PODs (**Fig.15**) comprise of following elements:

**i) Personal Data Storage:** Data storage can either be centralized, decentralized, semi-decentralized, or hybrid. The centralized cloud storage gained widespread popularity moving much of the Internet onto "cloud storage". Most of the apps we use on a daily basis have our data stored in server farms owned by Amazon, Google, or Microsoft and are centralized. Decentralized storage is where data is stored on a decentralized network, across multiple locations by users who are incentivized to join, store, and keep data accessible. Decentralized storage imposes no restrictions and data is stored on random nodes; semi-decentralized storage selects a subset of nodes responsible for storage and management of data of all the users of the system; the hybrid approach relies on third-party storage such as public cloud providers.

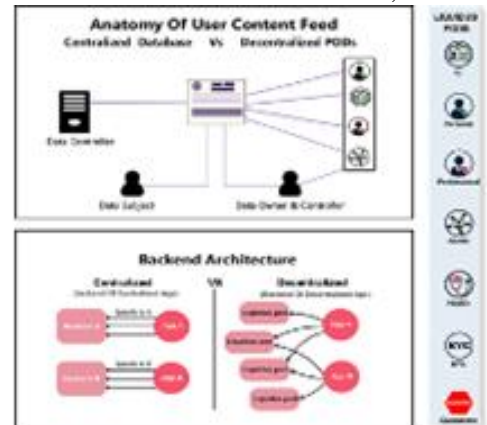
**ii) Decentralized:** The trend began with the release of blockchain software by Satoshi Nakamoto in 2009. Since then, developers have increasingly turned to decentralizing their apps including the cloud storage as a way to avoid censorship, server outages, and hacks. Decentralized storage first caught global attention when Filecoin raised \$257 million<sup>117</sup> in a record breaking ICO in 2017 for commercializing IPFS (Inter Planetary File System), the decentralized storage protocol first released in 2015. Some of the decentralized storage providers that followed are Sia, Storj, Swarm, etc. In a 2017 paper, Pham et al suggest that a decentralized architecture<sup>118</sup> may be a promising solution for preserving privacy in social networks. However, most decentralization protocols still face major usability and scalability challenges. PODs overcome those shortcomings of the current decentralized networks.

**iii) Linkable:** Almost a decade ago at MIT's Computer Science & Artificial Intelligence Lab (CSAIL), the inventor of the World Wide Web, Sir Tim Berners-Lee conceived the idea of personal data storage space in the cloud that could be linked to any application. The academic idea took the shape of SOLID (socially linked data)<sup>119</sup>, which was released in 2016 as an open-source platform. It differed from other decentralized storage in that it could be linked to any application through API ensuring data subject's data ownership and privacy. Linked Data is nothing but a set of best practices prescribed for how data is structured, published and linked to an application, and made discoverable. In any case, not all data is created at the same place, but Web standards can help build a Web of Data or the Semantic Web.

**iv) Who Owns the Data?** One, who collects, stores and processes it, or who is the subject of that data? The data controllers often think that they own the data. Even **GDPR** (General Data Protection Regulation) is ambiguous on data ownership. But what does follow from the GDPR however is that data subjects should be in control of their personal data. This project categorically places the ownership of personal data in the hands of the subject of the data.

Thus, integrating PODs backend architecture into Sharonomics platform not only ensures compliance with privacy and security, but also provides a universally compatible fabric that enables all third-party web applications to be seamlessly plugged in and operated interactively with rest of the subsystems of the Sharonomics ecosystem for enhancing user experience.

**1.7 Comparison with the State-of-the-art:** The following novel features of **Sharonomics** stand out in contrast to any state-of-the-art economic regimes empowering the socioeconomically underprivileged:



**Fig 15:** PODs Architecture

<sup>117</sup> <https://www.coindesk.com/257-million-filecoin-breaks-time-record-ico-funding>

<sup>118</sup> <https://digital-library.theiet.org/content/journals/10.1049/iet-net.2017.0137>

<sup>119</sup> Samba, Andrei Vlad, et al. "Solid: a platform for decentralized social applications based on linked data." *MIT CSAIL & Qatar Computing Research Institute, Tech. Rep.* (2016).

State-of-the-art Cybersecurity	Sharonomics
Legacy systems use technology only as a tool for implementing economics protocols	<b>Sharonomics</b> is technology enabled, meaning it cannot function without technology
Legacy economic theories are built around scarcity of resources.	<b>Sharonomics</b> is built to exploit the abundance and redistribute the exploits amongst the impoverished
All SOTA approaches are policy/rule-based & complex, need a specialist team to monitor	<b>Sharonomics</b> deploys smart contract to make the ecosystem autonomous needing little or no human intervention
Mostly server-based cloud implemented centralized approach places user data at risk	Decentralized <b>Sharonomics</b> framework ensures privacy, security and interoperability by default
Manual 3rd party handling of user data implicates compliance and GDPR issues	<b>Sharonomics</b> framework places the control of the user data in the hands of the users, and is GDPR compliant by design
Maintains status quo in deteriorating gender, socioeconomic & cultural vulnerabilities	<b>Sharonomics</b> revolutionizes the gender, socio-economic and cultural empowerment of the impoverished
Personal data stored in centralized servers is always at risk	All personal data is decentralized in <b>Sharonomics</b> PODs (Personal Online Data stores) and therefore remains private and secure
Giving in charity requires altruism or some kind of sacrifice	The impoverished receive rewards without any kind of altruism or sacrifice on the part of the giver in <b>Sharonomics</b>
Compromises self-respect and dignity of the recipient of charity	Upholds human dignity of the underprivileged peers participating in the <b>Sharonomics</b> ecosystem
Legacy systems need 3-party intermediary and vulnerable to corrupt practices	<b>Sharonomics</b> requires no intermediary and resistant to corruption because of algorithmic governance
Cybersecurity of SOTA approaches remains a serious concern.	As <b>Sharonomics</b> cannot be enabled without DLT, it is inherently cybersecure.

## 1.8 Methodology

We will use an agile product development strategy. Cross-functional collaboration between the consortium members will be the key to implementing the development methodology. Active participation of consortium partners will be crucial at every stage for achieving all the project objectives. Participation of the members of previously funded Horizon projects will add momentum to the **Sharonomics** development plan as their feedback will align with development strategies implemented in similar projects. The deployment of existing open-source modules and components for development, testing and validation of the **Sharonomics** ecosystem will follow an **Agile Development Methodology** as described in detail in the next section. The methodology will be able to *demonstrate the technology in a relevant environment*, bringing our result to an overall level of TRL-5.

**1.8.1 The Agile Methodology & the Innovation Cycle:** Open-Source designs are frequently used in blockchain/DLT and Web 3.0 space becoming more reliable and efficient with the number of developers that deploy them. The quality of open source is improving. A conceptual framing of the project methodology is depicted in Figure 15. The starting point (01) aims for a fundamental understanding of the “Improved security in open-source and open-specification hardware for connected devices” call, its objectives, goals and associated policies and legislation in general and specifically pertaining to the scope to address the call challenge. And more particularly the fundamentals pertaining to the use case we selected for validating the concept of harvesting and tokenizing the Influence Capital in the testing and validation of Sharonomics as a platform for empowering the underprivileged without taxing or the interests of the privileged.

**1.8.1a) Sharonomics Use Case: Monetizing the influence & sharing it for mitigating inequalities:** The motivation behind the selection of the particular use case is to reveal the performance of the proposed architecture in an ecosystem that can monetize influence of privileged peers to generate new opportunities for the underprivileged for addressing gender, economic, social and cultural inequalities in our communities. Our aim is to set up a framework of computing nodes where we can integrate components of the **Sharonomics** ecosystem to perform a set of piloting activities with the involvement of end users. Another motivation for the selection of a representative use case that tested, validated and perhaps improvised on the following five elements of our current definition of Sharonomics:

- i) Production, distribution and consumption of wealth



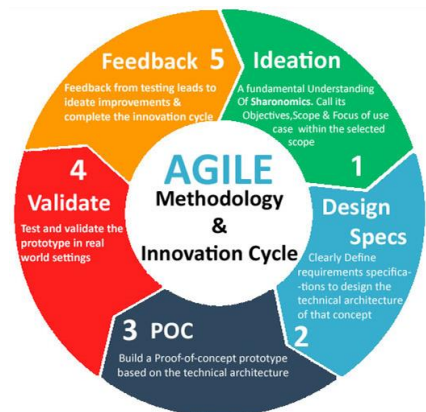
- ii) Incentivized and equitable sharing of assets between peers
- iii) Between those who have and those who need,
- iv) Decentralized and autonomous
- v) Achieve and maintain sustainability

Most importantly our criteria for selection of an appropriate use case for testing and validating the Sharonomics ecosystem was to stay in alignment of the scope of the call objectives (see Sec. 1.2.4).

**Scenario:** The consortium will create a testbed with a number of computing nodes in order to host the envisioned functionalities and test the proposed components. A list of PCs and smartphones will be selected based on the most appropriate ‘representatives’ in the market in order to meet the technical requirements derived by everyday activities of end users. A blockchain that optimizes the performance by minimizing the transaction cost and speed and maximizes the surplus value. The consortium will review and select a number of devices and define the means for their connectivity. Afterwards, we are going to involve end users (approx. 100-200 volunteers) that will adopt our platform during the field trial period. Users will be able to generate their data that will be secured by the edge nodes while the consortium records the outcomes related to significant KPIs. Data will be related to users’ personally identifiable information (PII) and will be owned and processed by users themselves. For the experimentation, we will define a plan for applying simulated attacks on the infrastructure and record the outcomes related to the envisioned KPIs.

**1.8.1b) The Innovation Cycle:** It is envisaged that technical and regulatory implications will apply in the case that we selected to test and validate the **Sharonomics** ecosystem, owing to the unique procedural protocols in the nature of the use case, offering and context. The fundamental objective in **Step (01)** is to both understand the technical and regulatory constraints as it applies the use case within the focused scope of the call, as well as understand the variability and parameters for **Sharonomics** implementation that would apply the use case. **Step (02)** deals with translating the fundamental understanding achieved in (01) to clearly define the requirements and technical specifications for designing the technical architecture of the **Sharonomics** ecosystem (**Fig.16**).

Once again, it is envisaged that technical, procedural and regulatory implications will imply multiple approaches in implementing Sharonomics in real world, owing to the tremendous heterogeneity in the concept itself, its capabilities and its functionalities. The goal is to translate these into different modules that engage a user through a simple UI (and associated helper screens), to enable the user to methodologically set their preferences and navigate through the system. **Step (03)** then builds on these design decisions and produces a proof of concept (POC) that is field-tested and validated in the use case scenario in the Next **Step (04)**. The fifth and **Final Step (05)** provides crucial feedback from the users of the **Sharonomics** ecosystem leading to further ideating the improvements to complete or repeat the innovation cycle. The combined assistance from the cybersecurity, ICT, DLT, AI, legal, ethical, social, cultural and economics expertise in the consortium will help navigate the project through the innovation cycle and deliver a robust solution.



**Fig 16:** Agile Methodology & Innovation Cycle

**1.8.2a) Variants of Sharonomics to capitalize Influence via Computing Framework:** As much as it may be impossible to conceive funding anything in any economic system without spending money, we have demonstrated the potential of deploying influence capital by decentralized tokenization of any asset using blockchain’s incentivized ledger system that generates tradable token rewards for all the peers that participate in the ecosystem (see Section 1.4.2 and 1.4.3). Although there are countless ways the principles of **Sharonomics** can be deployed in real life scenarios, our proof-of-concept builds a prototype around the topics emphasized in this call (gender, social and cultural). While our use cases meet that criterion, it should also be addressing a substantial sustainability need that is unmet and is of sufficient urgency. With those considerations in mind, we will design and build the following envisioned use case to test and validate the Sharonomics ecosystem and affirm the elements of its definition:

- **Sharonomics**-powered EMI (Earned Minimum Income) self-funding UBI platform for women.
- **Sharonomics**-powered GMCI (Gender Mainstreaming via Celebrity Influence) platform for women.

**1.8.2b) Field Testing - The Sharonomics Use Cases:** In engineering terms a use case is a software system that describes how a user uses a system to accomplish a particular goal. It is basically a list of actions or event steps typically defining the interactions between an actor and a system to achieve a goal. A use case acts as a software modeling technique that defines the features to be implemented and the resolution of any errors that may be encountered. In software/hardware modeling literature there are basically two types of use cases depending on the user expectation and system performance:

i) Business Use Cases, and, ii) System Use Cases. Business Use Cases are more about what a user expects from a system while System Use Cases are more about what the system does.

**1.8.2c) Sharonomics Pilots to Field Test First Market Replication of Sharonomics:** Conducting pilot testing of software is a good practice to validate functionality of the system before going into production. In the pilot testing, a group of users tries the software and hardware in totality, prior to its final launch or deployment. The consortium will take the responsibility for piloting the **Sharonomics** ecosystem, at the end of which, the users will give feedback about the function, feel and response of the software. Based on the feedback received after the completion of the pilot, the software will be tweaked, and bugs removed, if any, to meet the end user expectations. Thus, we will ensure that from the end user viewpoint also **Sharonomics** meets all the expectations. We will take care of the user experience: how easy it is for them to use the product. The consortium includes partners who have one or other type of software testing experience. Partners AFL and LGA will conduct the field trials required to validate the use case to demonstrate first market replication of the Sharonomics infrastructure. The demonstrators will field test the use case in the following field trials:

**1.8.2d) Sharonomics-powered EMI (Earned Minimum Income) for women empowerment: (Lead: AFL)** To counter the threat of automation apocalypse<sup>120</sup> Universal Basic Income (UBI) is gaining popularity across the world, but the costs on the economy are considered prohibitive.<sup>121</sup> UBI has been tested across the world with universally positive outcomes.<sup>122</sup> Western countries are heavily committed to UBI,<sup>123</sup> and the EU recently published a report on Unconditional Basic Income Europe (UBIE).<sup>124</sup> UBI or UBIE is a taxpayer-funded multi-trillion Euros<sup>125</sup> behemoth explored as a solution. We propose an alternate zero-cost solution: EMI (earned minimum income)<sup>126</sup> that incurs no additional tax, aid, philanthropy or even diminishes existing earning capabilities of the beneficiaries (see sec 1.5b).

**Why EMI For Women?** Women's Economic Empowerment Reduces Poverty for Everyone: *When a woman is unlimited, she will use her potential to help end poverty not just for herself, but for everyone else.* – OXFAM (Fig.17).<sup>127</sup>

Gender equality is the first and the most effective step to fight poverty. Already about 160 million microcredit beneficiaries all over the world are mostly women.<sup>128</sup> So they are already a step closer to EMI. Although this proposal is just testing the feasibility of the EMI as a concept, realizing its full potential is a massive undertaking that involves engaging influencers at all levels. We will solicit support from industry influencers by inviting them to future EMI Consortium, if this technical feasibility checks out.



Fig17: Source OXFAM

<sup>120</sup> Willcocks, Leslie. "Robo-Apocalypse cancelled? Reframing the automation and future of work debate." *Journal of Information Technology* 35.4 (2020): 286-302.

<sup>121</sup> Widerquist, Karl. "The cost of basic income: Back-of-the-envelope calculations." *Basic Income Studies* 12.2 (2017).

<sup>122</sup> Ragnarsdottir, K. Vala and Jenneth Perker. *Regenerative Wellbeing Economy*. In J. Blewitt (ed). *New Economy, New Systems*. Schumacher Institute Publishing, forthcoming 2022.

<sup>123</sup> Blaschke, Ronald. "Basic Income: Unconditional Social Security for All." *in Movement (s)* (2020): 73.

<sup>124</sup> <https://gef.eu/publication/european-green-perspectives-on-basic-income/>

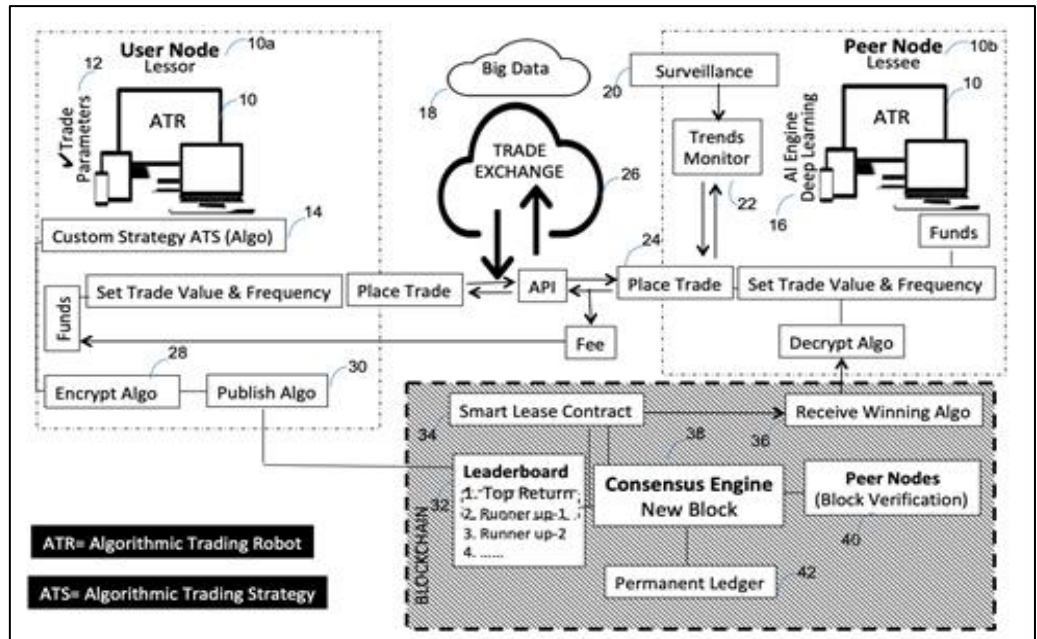
<sup>125</sup> Colander, David. "How Much will a Universal Basic Income Plan Cost?." *Eastern Economic Journal* 45.2 (2019): 321-326.

<sup>126</sup> DrFazal. *Earned Minimum Income (EMI): The Holy Grail Of Poverty Alleviation?* Medium, Sept 23, 2019. Available at <https://drfazal.medium.com/earned-minimum-income-emi-the-holy-grail-of-poverty-alleviation-37b17bf95c69>

<sup>127</sup> Oxfam. *When women are unlimited, poverty is undone.* Twitter, Mar 8, 2016. Available at <https://twitter.com/oxfamgb/status/707099841088897024>

<sup>128</sup> Miriam Cosic. *'We are all entrepreneurs': Muhammad Yunus on changing the world, one microloan at a time.* *The Guardian*. Mar 29, 2017. Available at <https://www.theguardian.com/sustainable-business/2017/mar/29/we-are-all-entrepreneurs-muhammad-yunus-on-changing-the-world-one-microloan-at-a-time>

**Technology Deployed:** In this configuration, the **Sharonomics** framework deploys AlgoShare technology<sup>129</sup> implemented within a cryptocurrency exchange (**Fig.18 & 19**). AlgoShare solves a long-standing problem of deploying Artificial Intelligence in algorithmic trading because of Level Two chaos, which makes accurate prediction very difficult.<sup>130</sup> By dynamically generating a leaderboard of top performing algorithms, AlgoShare solves profitability prediction problem, wherein the top performing trading algorithms listed on the leaderboard are shared autonomously in a smart contract until they remain profitable and replaced by another profitable algorithm



**Fig18:** AlgoShare Network Architecture adapted from Patent App: WO2019155377A1

on the leaderboard. The AI predicts the profitability half-life of the winning algorithms and kills it before it loses its profitability. Hence, both the peers who own the algorithm and who lease the algorithm profit from the algorithmic trading. More details on the AlgoShare technology are available [here](#).

**Actors & Stakeholders:** The main actors & stakeholders include ace traders, crypto exchanges, average netizens, social networks, gender neutrality stakeholders, influencers, investors, NGOs. etc. in addition to women beneficiaries. 100 women volunteers will be recruited between 18-70 years of age along with 5 expert crypto traders. The women volunteers will be delivered Sharonomics-powered smartphones in a workshop, where they will be trained for using the EMI app. 500 Euros worth of crypto will be transferred to their EMI wallets as seed capital for the algosharing activities. The app will dynamically publish a leaderboard of top performing algorithms from the participating expert traders. Each participating peer can pick the winning algo and deploy it for trading.

**Primary Objective:** Primary objective is to test and validate the EMI generating capabilities of sharing trading algorithms using blockchain smart contracts and trading bots.

**Anticipated Improvements - KPIs:** Anticipated KPI goals include:

- Verify, validate and establish a precise definition of Sharonomics based on the proposed 5 elements
- Establishing an in-situ testbed for the AlgoShare framework with server infrastructure simulating 100% connectivity and data transmission between the peers, blockchain and the web server.
- 95% success rate in recording AlgoShare smart contracts on the blockchain for automatic sharing/leasing/rending of winning algorithms and distributing profits amongst peers.

<sup>129</sup> Raheman Fazal, Raheman Ali. Decentralized Algo-sharing Infrastructure For Zero-Loss Algorithmic Trading. PCT/IB2019/050949. WO2019155377A1 Accessed on Feb 22, 2022 <https://patents.google.com/patent/US20210027369A1/en>

<sup>130</sup> AlgoShare. AI: Making Sense Of The Equity Market Chaos. Medium, Oct. 29, 2019. Available at <https://medium.com/@AlgoShare/ai-making-sense-of-the-equity-market-chaos-408b293d4091>



- Achieving blockchain reward value / transaction cost ratio of >5.
- Estimating and achieving profitability half-life of winning algorithm >8 hours
- 90% women beneficiaries succeed in leasing and deploying winning algorithms irrespective of their computer literacy.
- The EMI app stops the trading algorithm before it loses profitability in 90% of participating peers.
- 90% women beneficiaries earn an APR exceeding 20%
- Not more than 5% of women earn negative APR
- EMI comparison with UBI in economic, social and cultural upliftment of women

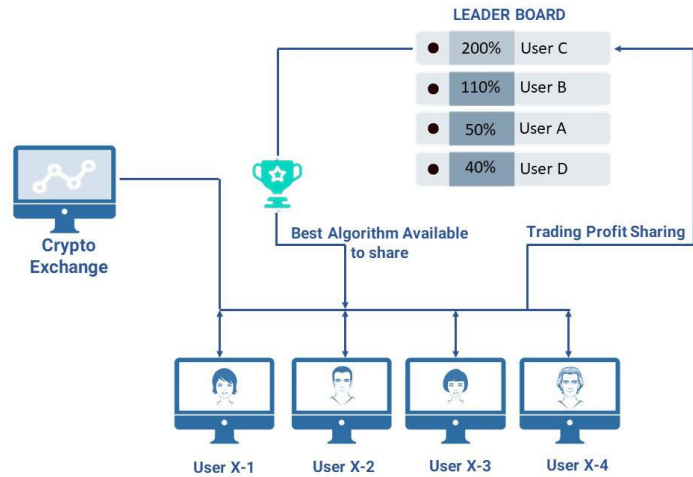


Fig19: Top performing trading algo shared between peers for profit sharing

**1.8.2e) Sharonomics-powered GMCI (Gender Mainstreaming via Celebrity Influence) (Lead LGA):** EU’s concentrated policy making efforts for gender mainstreaming hasn’t achieved its goals in decades. GMCI is a Sharonomics use case that has the potential to engage citizens to a level that transforms GM from a mere State rhetoric to a people’s movement. Throughout history civilizations have always adored heroes, but celebrities haven’t had so much power and influence as the 21<sup>st</sup> century bestowed upon them. If that influence can be harvested monetized for GM, there will be no need for forcing policies that don’t work.

**Technology Deployed:** In this configuration, the **Sharonomics** framework deploys a similar generic architecture as detailed in Sec. 1.6a) & 1.6b), but with 3 additional peer nodes: i) beneficiary node (woman), ii) celebrity node, and iii) brand owner node. The women present their case on the Sharonomics platform, a celebrity picks a woman’s cause to patronize, and the brand owner bids a price for celebrity endorsement of their product. On acceptance of the bid the smart contract is executed splitting the funds between the woman beneficiary and the celebrity at a predefined proportion. The dynamics of these transaction fuels the Sharonomics engine.

**Actors & Stakeholders:** The main actors & stakeholders include celebrities, brand owners, average netizens, social networks, gender neutrality stakeholders, influencers, investors, NGOs. etc. in addition to women beneficiaries. 100 women volunteers will be recruited between 18-70 years of age along with 10 or more leading global celebrities from sports and entertainment industries. Each of those stakeholders is rewarded with Sharonomics tokens for their participation.

**Primary Objective:** Primary objective is to test and validate the GM capabilities of Sharonomics using blockchain smart contracts between women beneficiaries, celebrity patrons and brand owners.

**Anticipated Improvements - KPIs:** Anticipated KPI goals include:

- Verify, validate and establish a precise definition of Sharonomics based on the proposed 5 elements
- Establishing an in-situ testbed for the GMCI framework with server infrastructure simulating 100% connectivity and data transmission between the peers, blockchain and the web server.
- 95% success rate in recording GMCI smart contracts on the blockchain for automatic sharing of celebrity influence with beneficiary for funding her cause via brand endorsement.
- Achieving blockchain reward value / transaction cost ratio of >100.
- 90% women beneficiaries succeed in winning celebrity endorsement irrespective of their computer literacy.
- GMCI comparison with EMI in economic, social and cultural upliftment of women

**1.8.3 Interdisciplinarity:** The domination of technological paradigms relies both on technical and socio-political forces. This calls for a stronger focus on the socio-economic and behavioral aspects of the innovation process, particularly if the tech is a radical departure from the status quo. As no paradigm shift can ever happen without multi-disciplinary engagement, **Sharonomics** will take advantage of the diverse expertise of its consortium, including software design, DLT, cybersecurity, advanced cryptology, algorithmic trading, economics, humanities, AI, data science and social engineering. Onboarding effective contribution of SSH disciplines by involving relevant SSH experts, institutions, to produce meaningful and significant effects enhancing the societal impact of the research activities.



The **Sharonomics** consortium has the necessary expertise to achieve the project’s objectives. Interdisciplinarity can also be demonstrated in the application scenarios that could potentially benefit from the approach. These include human rights infrastructures, remote working and collaboration, social networks and smart cities, e-government and the new economy powered by decentralization technologies.

**Table 1.8.3: Overview of partners' expertise**

Expertise Partners	Software Design	Cyber Security	Economics	AI/Data Science	SSH	Algo-trading	Network Engineer	Business / IPR	CDE
1-UEHR			**		**				*
2-BC5	**	**		*		*	**	**	
3-UTH	**	*		**			**		
4-UI			**		**				*
5- AFL		*		**		**	*		*
6-FTV								**	*
7- UF			**		**				
8-UD			**		**			*	
9-F6S									**
10-UZ			**		**				
11-LGA			**					**	**

\*: Sound Knowledge -- \*\*: Expert Knowledge

**1.8.4 Open Science & Research data management:** The aim of the data management in Sharonomics is to foster knowledge discovery and innovation and promote subsequent data and knowledge integration and reuse. Our consortium agrees at making our research data “as open as possible, as closed as necessary” and follows the guidelines of FAIR Data Principles. Therefore, the data will be findable, accessible, interoperable, and reusable (FAIR). We will also set up a Data Management Plan (DMP, D1.2) prior to the project start that will be updated while implementing the project proceeds. We will follow the structure of the template provided by the European Commission, which entails the following components:

- 1) Data summary,
- 2) FAIR Data that’s
  - a) **Findable:** generated data will be uploaded to different repositories where they can be easily findable, including in the project Platform with internal and external networks and open access repositories;
  - b) **Accessible:** depending on the repository, data might either be available freely (public/external deliverables on the project website) or upon user authentication (website internal network, open access repositories);
  - c) **Interoperable:** data will be processed and stored in interoperable formats, including word (.doc), spreadsheet (.xlsx/.csv), PowerPoint (.ppt) or portable (.pdf);
  - d) **Reusable:** data uploaded to the open access repositories will be accessible to everyone for further reuse.
- 3) Allocation of resources,
- 4) Data security, 5) Ethical aspects, and
- 6) Other procedures for data management.

The DMP will be a living document that will be updated as the project evolves. Table 1.8.4 provides a draft that specifies the type of data collected/generated, relevant standards, accessibility, and preservation.

**Table 1.8.4; Draft Data Management Plan**

<b>What type of data will the project generate/collect?</b>
<b>Sharonomics</b> per se does not collect or process any personally identifiable information (PII), which remains secure in PODs and under full control of the user. All measures will be taken to ensure proper and sound management of the research data that will be collected, processed and generated (including any metadata).
<b>What standards will be applied?</b>

The <b>Sharonomics</b> framework deploys blockchain and hence has Compliance-by-Design architecture therefore will be GDPR compliant. Considering that some transmitted data may be regarded as sensitive, the highest security standards would be used.
<b>How will data be exploited and/or shared/made accessible for verification and reuse?</b>
Whether codes or project reports, all project outcomes will be made publicly available via GitHub repository, project website maintaining an access log to assure the proper use of open access Research articles that will be published in peer-reviewed journals.
<b>How will data be curated and preserved?</b>
<b>Sharonomics</b> will use state-of-the-art technologies for secure storage, delivery, and access of information, as well as managing the rights of the users. Some examples include public-key encryption and symmetric encryption with session keys negotiation over HTTPS.

**1.8.5 Gender Dimension:** The consortium acknowledges the “gender issue” as stated in the Horizon Europe framework programme on:

- a) Gender balance in research teams,
- b) Gender balance in decision-making, and,
- c) Integrating gender/sex analysis in R&I content.

The consortium will use a number of tools to address sex, gender and equality issues and align with a gendered and inclusive approach to innovation.

**Firstly**, it will responsibly calibrate the numbers of women by ensuring that an adequate number are participating in the project both as project partners and as members of the project management team.

**Secondly**, entities involved in the project are committed to encouraging equal opportunities of career among women and men in their staff according to national and European laws and corporate ethical code. It will also ensure adequate numbers of women are participating in research activities, including requirements gathering, event planning and development and project evaluation.

**Thirdly**, ensure gender balance by organizing special “Young Women in Economics/Computers” workshops as part of Sharonomics dissemination plan.

**Fourthly**, all actions will be evaluated by the project’s General Assembly, which is in charge of monitoring the progress of the overall project. The General Assembly, will also have the task of: (i) Adopting the appropriate measures encouraging women participation in the management of the project, in order to achieve a balanced representation; (ii) Solving any gender-related issue within the research process; (iii) Supporting the implementation of relevant recommendations produced by the European Technology Assessment Network (ETAN) as well as by the “Helsinki Group” on the development and production of statistics and indicators, about the situation of women in scientific research.