EGOV-CeDEM-ePart

Towards Human-Centered Society: Self-service Structures for Distributed Equality Diversity and Inclusion EDI Governance

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Abstract: as society sets out to depart fundamentally from the familiar 'permission-oriented' pyramidal organizational network interconnection shapes, alternative social network topologies and the implications for EDI are compared and explored. Actor Network Theory ANT narrative and creativity complement systems approaches to tackle weak Equality Diversity and Inclusion EDI policy delivery and uptake, facilitated by electorate co-construction and mutual organizational deconstruction, decentralization, creative networking, gaming, blockchain and Self Sovreign Identity SSI technology, throughout the electoral term. To promote greater voter engagement, a raft of further benefits become available including socially inclusive banking, credit and access to governmental resources to enable individuals to co-construct their governance, including online policing by gatekeeper ANTs to prevent cyber bullying stultifying the expression of individual diversity. Contractural obligations eg. economic and social contracts may comprise demand-led flexibly configurable organizational structures (ad hoc network topologies) of consensual and permissionless resource allocation and sharing using dApps technology including smart contracts (Society 5.0) enabled by SSIs.

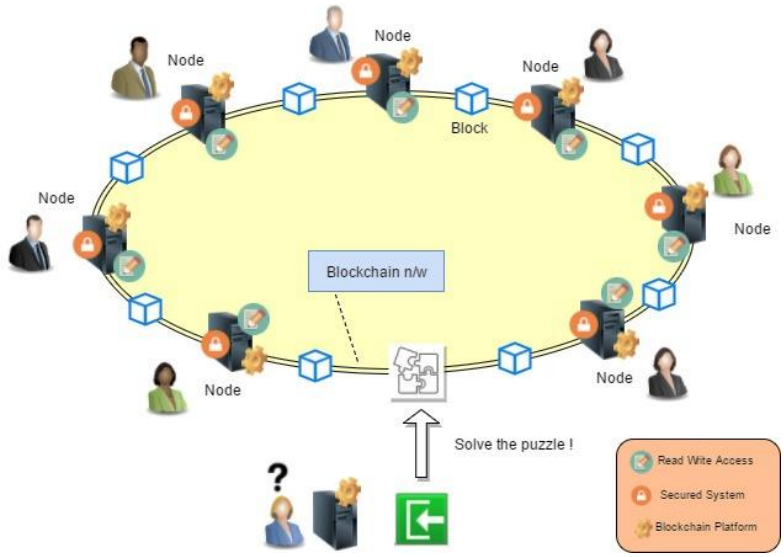
Keywords: ANT, SSI, EDI, Blockchain, Decentralization, society, structure, narrative

1. Introduction

The way we shape our social structures and hence society including their organization has a profound influence on shaping us and our behaviours. The hierarchical 'paper base optimized' social structures have become ubiquitous and have lost lost their usefulness, viability and necessity. Social structure has become static in the face of rapid and disruptive technological change. Technology is set to fundementally change bureaucracy and free creativity. Social exclusion can be quite pernicious and may have a cascade effect on those affected especially when they access points of service. Exclusion may be enhanced by networked actors, acting as gatekeepers of inclusion. Included people tend to be busier and may ignore the problem and "pass by on the other side". The life chances for ethnic and diverse minorities are known to be adversely affected in current society. The current social network interconnection topology paradigm (permission-oriented social interconnection shape) is thought to be a justifiable cause for social inclusion (like membership credentials for joining

a club) but conversely also social exclusion when viewed as a binary opposite. Butlerin [8], Derrida [9].

Figure 1: A token ring physical and logical network topology imposing a "round table" social network topology and organizational engagement culture on its Actors 21



Since the Industrial Revolution, building on the inventions of centralised time-keeping, mechanical motive power production and automation, we have striven to centralise our organisational resources including our human ones, resulting in mass-produced sameness. This *culture of sameness* has become ubiquitous permeating our consumer products, technology and social preferences. The individual was required to become a standardised cog in the production wheel, to act in coordinated and predictable ways to ensure industrial outcomes. Education followed suite. The migration of labour from the fields (Society 2.0) to the towns and their changing requirements is well documented (Society 3.0, [12, 32]). To expedite the social upheaval, creativity originality and diversity have for the many been hitherto suppressed. It is argued that exclusion and cyber-bullying in our networks have been used by individuals co-acting (co-constructing) often at points of public service delivery to discourage non-conformity [27]. The resulting pyramidal organizational structure becomes self-fulfilling and self-healing!

In any democracy, established interests are defended by networks of individuals with more conservative authoritarian mindsets [33, 34, 17]. As a further network development, the pyramidal socio-economic network topologies we have created since the Pharaohs have become outmoded by the advent of the Internet and Blockchain technologies.

As Vitak Butlerin has proposed ....

"Decentralize everything!"

Butlerin, the inventor of the Ethereum blockchain and its distributed computing applications as smart contracts dApps, the Ethereum blockchain network technology and global processing resource is set to fundamentally change our views of governance and liberty [8]. *Derrida by comparison argues we need to keep reexamining our networks and that the societal framing process is dynamic rather than static or singular or only accompanies very occaional paradigm shifts.*

Delivering more Equality Diversity and Inclusion EDI through eGovernment more of the time between elections will increase public trust in democracy through increasing constructive electoral

engagement [23, 38]. Increasing the social narrative through media-led good practice exemplars extending into constructive gaming design will provide further assistance.

It would be easy to get lost in the 'divide and conquer' technocratic details of such wide-reaching electoral reforms that blockchain could deliver, without reminding ourselves of the necessity to combat EDI exclusion (exacerbated by corruption) in developing countries at least [5].

N.B: it is really about fitting the technology to the people, not fitting the people to the technology in our increasingly post structural world (Fitts List).

Self-service or DIY governance is described variously as being run time, just in time, on-demand with pick-and-mix co-constructed and pre-constructed elements with individual and consensual choices.

2. Permission-oriented 'Geometric' Network Topology

Figure 2: Microsoft's Active Directory AD System showing hierarchical direction of trust

AD allows an organizational structure to have reconfigurable, layered client trust in terms of access to resources, moderated by user group policy and perimeter security, but it remains a tree-shaped Tokens SATs. The direction of trust is still downwards as it is not allocated by the user but the administrator, requiring the AD domain (root) servers to be hidden, remoted and secret in a basement. Explanation: - our systems of democratic governance today are framed i.e. Pitched to the electorate increasingly under the assumption that they are consensual, two-way networks rather than the static, command control and communication C3I server-client militaristic hierarchical 1970s view [35]. This latter systems view implies functionality and feedback rather than governance by rank, privilege and position, where communication travels both up and down the network hierarchy or interconnection shape with transparency, but which is still of fixed spatial configuration (geometrical shape or network topology) or 'hard wired'. Voter trust has however been challenged by this two-way assumption about democracy, where politicians are on occasion perceived as operating from self-interest and privilege. This has resulted in disengagement and alienation, exacerbated by fake news and media. Furthermore, the opportunity for a corruption culture to take hold in governments will hasten the deployment of smart contracts, as built on the Ethereum blockchain. However, the network topology characterizing our democracy, governance economy and society has an organizational trust structure which is still pyramidal, tree-shaped and with binary inclusion or exclusion. Voters as participants and electorates are faced with fixed choices and pathways that cannot be reconfigured smartly as or when needed, as would be enabled by smart contracts. Blockchain is by comparison zero-trust [37], having perimeter-less security. Volunteering and local (individual act) ss security. Having fixed choices and outcomes does not solve the problem of having consensual resource allocation alone. Social diversity and exclusion

remain problematic, as such organizations (as elected representative democracies) are essentially exclusive and binary by design: you are either on the inside acting as a 'server' (an electorally appointed rule-maker) or on the outside as a 'client' (a dispossessed rule-taker e.g. In receipt of services or 'benefits'). Volunteering and (individual actor) initiatives become discouraged as those on the outside are disadvantaged by mindset, size, access, salary and resources by those on the inside and those with vested interests (as also occurring in large corporations, peacekeepers, police and retail chains). Individual inclusion remains problematic as roles and responsibilities are generally only assigned statically to elected representatives following elections.

If an ICT installation *looks* secretive, it lacks transparency and *signs* that it is probably hiding something [1, 12, 13]. People in today's economy require to work on the go, away from the office, outside the traditional *perimeter* security afforded the office. Zero trust security on the other hand can provide additional *cryptographic* security for consensual security as required by distributed mobile applications [7].

In a hierarchical trust model, emulating physical network topologies e.g., land with logical topologies e.g. deeds only gives the appearance of ownership, refer to Figure 2 and Land Registry Proposal [28]. The land can still be packaged up and re-sold as leasehold. Digital identity ownership by private corporate equity undermines public trust and creates an unlevel playing field threatening marginalized minority groups and interests including EDI. Given that our elected representatives run our democracies by forming pyramidal leadership hierarchies, it is inevitable that the parliamentary and local governmental structures they form will emulate the same form of structural topology, with roles and responsibilities stretching down to the points of contact with the public they serve and beyond

3. Towards Human Centered Organizations: "Society 5.0"

Organization Centered vs. Human Centered Designered Society

"The vision of Society 5.0 requires us to re-frame two kins of relationships: the relationship between science and technology and the technology-mediated relationship between individuals and society" [22].

Once electorates have tried these revised organizational structures and topologies as proposed, they will not want to revert to the status quo, and it will be difficult to shoehorn personal liberty and back into its original rigid geometric shapes!

Putting Humpty Dumpty back together again - a near impossibility once fallen?

(Entropy: the Second Law of Thermodynamics 26.)

The progressive trend towards personal anarchy is well documented

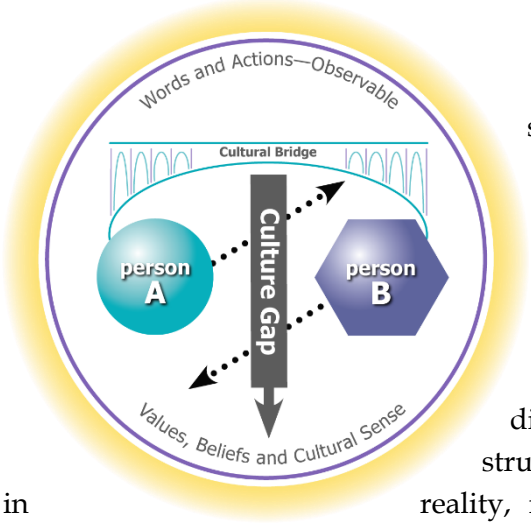
3.1 The Technical Case for Human Centered Society and EDI

The Technical Case for Democratizing the Internet with SSIs NFTs and adding a Digital Identity Layer to the Internet Protocol

Before the large global corporations monopolised the Internetwork traffic network and personal data ownership, Internet traffic was handled anonymously and went largely un-recorded. With our reluctance to embrace government-led SSI personal IDs, managing our digital personal identity against commercial interests has become problematic. Computer networks were generally optimized to run under certain conditions of traffic flow. They had an interconnection shape and traffic management protocol that didn't give priority to one owned flow stream over another. Flow was handled anonymously. The interconnection shapes had various combinations of token ring (Figure 1), tree or pyramidal (Figure 2), net and bus topologies, resembling the roads in a city or threads in a spider's web, hence the nickname "Web". Steps are being taken at senior levels now to restore some equality of access and break up the ownership monopolies. Data privacy assurance also requires EDI management to restore public trust in the social networks and government and to restore equality of access inclusion to web services including banking. A blockchain network comprises a distributed resource database that keeps track of resources allocated to networked nodes [29]. By adding a digital ID protocol layer data security will be greatly increased, reducing the opportunity for identity and data theft.

With the ring topology, fairness of access is built in, giving users a second degree of freedom 2.

Figure 3: Narrative "Cultural Sense" Structures 32



It appears that no single fixed (static) interconnection shape can effectively serve all the needs of communities and economies all of the time as they change and evolve. In an urban traffic network for example, mixed topologies are deployed to relieve gridlock and facilitate centralized macro socio-economic planning. A dynamically reconfigurable network topology on the other hand gives its users (electorates) a third degree of freedom [3]. Flow direction can be packet-switched. Such an organizational structure appears chaotic, diverse, anarchistic, swarm-like, but in reality, it isn't chaotic, but rather more ant-like, creative and collaborative! Many funds have, by comparison, no funds allocated for their governance, where income streams are generated by "block chain mining".

3.2 The " Natural" Case for Human Centered Society and EDI

Nature copes well with organizing and managing close to the edge of chaos, on demand; from ecosystems to manage decay to managing resource distribution in crowds. Examples from Nature

include flocks, shoals, hives and colonies (of ants). Hive mind ecosystems also imply circular economies, swarm intelligence - which is in turn also being implemented by neural networks and AI.

Takeaways: - a chaotic office can be a busy productive workplace, assuming the occupants are focused on the productive work that matters, not shuffling paper, creating arbitrary ordering of information and form-filling! [15]. People are kept sufficiently busy and collaborative to find time for counter-cultural activities

To allow individuals to govern and be governed whilst living under near-chaotic, less structured conditions of personal liberty and creativity and anarchy, they require a set of internalized protocols (ethics, cultural sense, mission, territory and purpose [24]. and smarter government interfaces, consensually enacted by blockchain technology enabled smart contracts.

3.3 The Blockchain Case for Human Centered Society and EDI

Given the unprecedented EDI challenges our society, democratic governance and economies now face 14, we need to re-evaluate and restart by decentralizing everything back down to the individual level in order that we may discover constructively the new collaborative and structures and opportunities afforded by the new technology, given the new societal and economic restructuring opportunities afforded by online gaming, simulation and blockchain technology [8].

Giving individuals a smartphone and an SSI digital ID with smart contracts, NFTs and dApps will help support EDI including in poorer countries making the Ethiopian Blockchain Initiative very timely [2].

Organizational structures may in the future be shaped more fluidly and functionally like the blockchain (more dynamically reconfigurable like networked human brains); more like neural networks shaped by AI.

By comparison, if a geometrical organizational topology is represented completely in two- or three-dimensional space i.e. if it can be drawn on paper, then a neural network topology will require multiple dimensions and more complex symbolic functional representation [21].

3.4 Distributed Multiple Futures, Dynamically Framed (Reconfigured)

This individual level thinking is not new, as it also manifests itself as personal fitness, creativity and entrepreneurship, as currently promoted by Stockholm's Mayor Anna Koenig, in free school education and more recently neoliberal personal anarchy. We also live in a world of multiple realities, enabled by the new technologies enveloping us [37].

4. Conclusions and Recommendations

4.1. Identifying and training the Actors including gatekeepers to public (and private) services e.g., health where doctors controlling referrals to medical consultants require EDI training overhaul.

The number of neonatal baby deaths are still 45% higher amongst the BAME population from deprived backgrounds [19, 35].

4.2. Identify local Actor narratives and provide counter-narratives

4.3. Identify the enabling technologies: Blockchain, dApps, SSIs, NFTs, gaming platforms, editors etc. and integrating and embedding the user interface into routine tasks

4.4 "Reassembling the Social" also frees us to fundamentally re-examine or *deconstruct* our social factors including interactions between objects, networks and concepts on an ongoing basis [9].

4.5 Unconscious bias can also influence the systems design process, so having publicly accessible EDI checklists available for public scrutiny with training for staff is recommended, to unite organizational commonsense with cultural sense.

Social media hate crime may be more effectively governed aw we discover the power of networked groups and individuals

4.6 develop local and global Actor Networks to spot EDI abuse on social media

4.7 Provide banking for the unbanked with SSIs e.g., as foreign development aid

4.8 Provide individuals with government-issued digital ID's aka SSIs

4.9 Uptake of local and global moderators to promote EDI (counter) narratives in organizations and online [5]

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Nicholas Robinson is a part-retired freelance inventor patentee and ergonomist, a member of the CEDEM15 steering committee and contributing author. After his studies, he worked in Germany on Humanization of Work Projects, design, teaching and in the UK Aerospace industry. His project highlights have included exhibiting in the UK Digital Cities Exhibition having advised government on the introduction of ICT systems for urban regeneration, Hull, 2000 at the invitation of Alan Johnson, MP. When standing for local council elections in 2002, he lobbied and co-invented successfully to get cycling, scrap recycling, offshore wind and tidal flow adopted by the UK in the early 2000s, thereby creating substantial local employment and helping attracting major European offshore wind energy manufacturers to locate in Hull and Humberside. His low head tidal flow collector invention developed with US partners is now in use internationally including in developing countries. His current proposals include a revised patenting human-centered flight control system to make flying cars accessible to operate. He strives to maintain his spoken German language networking and technical interests.