IT for Change's response to[1]

MEITy's Consultation White Paper on Strategy for

National Open Digital Ecosystems (NODE)

May 31, 2020

Key points:

1. NODE(s) are not just technical constructs; they represent the design of future governance systems of a digital society.

2. NODE(s) have two key functions: core digital governance of any sector, and provision of public digital infrastructures for it.

3. NODE must be anchored by a public body, with due democratic-constituional mandate and accountability. Only public finance can be employed for developing and running NODE.

4. Distinction between governance of the technical layer (delivery platform etc.) and that of higher socio-economic layers of any NODE needs to be articulated, and both designed appropriately.

5. There must exist clear and strict provisions against any kind of undue privileged access to NODE resources for any private actors.

6. One of the key roles of NODE will soon be to govern a sector's common data and AI.

7. NODE(s) will need to frontally address the context of dominant corporate digital ecosystems in different sectors, *vis a vis* who between them sets the basic rules of digital interactions in a sector.

8. Rules of fair and equitable use, sharing, and contribution of resources and value have to be explicitly defined and enforced for all actors, especially the largest and dominant ones.

9. Principles and frameworks for governing NODE are required cross-sectorally, as well as in a sector-specific manner.

10. All software and applications employed in NODE must be open source.

11. As data is sought to be shared within the government and outside, privacy and data protection are of utmost importance, and should be embedded in the basic NODE design.

12. If done right, NODE architecture can form the basis of appropriate governance for a digital society.

13. NODE(s) can reverse the intense digital power concentration with a few global digital corporations, by significantly bringing digital governance and infrastructural roles back to the public sector, where they legitimately belong.

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NODE as the future of governance

We find the basic conceptualisation of National Open Digital Ecosystems (NODE) to be sound and forward-looking. We wish to congratulate the Ministry for Electronics and IT and others involved in this endeavour for this.

Our comments are inspired by the consultation paper's very useful and systemic thinking around NODE, to further build upon it. Seeking some clarifications, we point to places where there may be lack of clarity or apparent contradictions. We try to place the NODE concept in a larger framework of future of governance. It is from such a standpoint that we examine whether some points in the current framework need to be made clearer, and at times put in different ways, lest it results in some very undesirable unintended effects.

The basic concepts and architecture developed in the NODE consultation paper represent, in our view, not just how current structures of governance will be digitally-enabled, but an overall design for what will eventually be a far-reaching structural transformation of governance systems in India. This is not very different from how economic structures are fundamentally changing around emerging commercial digital platforms and digital ecosystems.

NODE like platforms and systems may begin as projects in different departments, but in time they will engulf and transform any department's entire governance activity towards NODE's own shape and logic. This is quite like how an Uber or Amazon like platform begins as just a, somewhat on-the-side, optional mediator among existing actors in a sector, but soon fundamentally transforms the sector, re-organising the sector around itself. As society's digitalisation evolves and matures, that is exactly what a NODE would do to every department or sector of government's activity, and perhaps beyond.

We should right now be extremely conscious that the basic architectural and governance principles underpinning NODE are likely become the bedrock of new governance relationships, norms, principles and structures in general. The architecture and set of principles for NODE therefore have to be developed extremely carefully, employing such a, forward-looking, long term view. Any such process has to centrally keep in mind the larger public interest, political economy, and constitutional framework of India.

Our response consists not so much in criticising the basic NODE concept as taking it very seriously. Assessing it to present the future of governance in India, we seek to get if fully right. Some may consider such fastidiousness to be pre-mature. However, it is a well-established fact that early architectural designs tend to have permanent impacts in the digital arena, and can become irreversible, as they get inscribed in society wide techo-systems. Setting the digital architecture of future governance therefore requires the greatest care and forethought right from the start. NODE for us is such a start.

Any model like NODE being developed at formative stages of a digital society should no doubt leave enough room for flexibility and learning, with the awareness that much is yet unknown in this area. But in framing what are essentially the architectural principles of future governance, we must equally not slacken on basic non-negotiables of democratic public governance, as per our constitutional norms.

NODE is core governance plus public digital infrastructures

The primary intention of NODE proposal currently appears to be oriented towards governance reform. But in its conceptualisation one also finds a marked accent on digitally enabling and helping organise all or most actors in a sector – private or public-interest based – towards addressing overall sectoral problems and objectives. NODE's real impact, therefore, would be much larger than reforming structures within the government. It would be across a social and economic sector like health, education, employment, urban services, agriculture, transportation, tourism, and so on. Any NODE should be seen in its dual nature and role of; (1) undertaking core public governance functions related to a sector, and (2) performing sector-wide infrastructural functions, providing basic digital enablers to support all or most actors in a sector. (In industrial societies too, governments had core governance functions plus the task of providing essential infrastructure.)

The NODE model's greatest appeal, in our view, is not just in terms of governance reform, as seen traditionally, happening within government structures. It relates to a larger transformation towards a different governance paradigm as required for a digital society. The NODE framework contributes to it by proposing open and fair, public interest based, protocols, principles and governance systems for the emerging sectoral digital ecosystems. This is planned in a context where the latter are currently getting formed around, and under the control of, a few large digital corporation, mostly global and foreign. Such a shift in our emerging digital ecosystems is much needed.

However, the consultation paper slips at places in explicitly ensuring fairness and equity, long-term sustainability, and democratic underpinning, of the proposed governance models for sectoral digital ecosystem. We mainly wish to point to such slippages, and provide suggestions for correcting them. This can ensure that the basic, laudable objectives of the NODE approach are fully achieved.

If it is core governance – it MUST be undertaken by a public body

One of the most important of basic principles and non-negotiables of democratic public governance is the necessity for public bodies, that have democratic-constitutional mandate, to remain at the core of society's governance. This imperative has to be carefully ensured in the challenging times of rapid flux towards digital society systems.

Dominant private corporations with the most operational presence in any given digital context often wield undue governance power, of an extra-ordinary magnitude. In the name of participatory governance, governance rights cannot be allocated on the basis of strength of presence and activity of private actors in a sector (or otherwise to any favourite private players). Doing so is simply an invitation for the corporations driving dominant private digital ecosystems in different sectors to become the respective key governance players as well. Public governance power is, in fact, generally shaped and employed to check against such concentration of private power (and its possible abuse). There needs to be complete clarity that governance of a NODE will entirely be with an anchor public body, while inputting views and suggestions is open to all. The directly affected stakeholders may also have access to specific stronger avenues in this regard. But, at the same time, there must exist sufficient effective provisions that prevent capture by vested interests of

decision making processes of any NODE, or even being able to apply undue influence on them.

In this regard, what we find as most problematic are parts of Principle 6 in the paper that are highlighted in bold italics:

> **Define accountable institution(s)**: Ensure a single-point of accountability, the right legal & organization structure, operating processes, etc. that are aligned with platform objectives. ***This involves identifying an accountable institution for each delivery platform, whether a public or a private body or a coalition set up as a Special Purpose Vehicle (SPV) or Public-Private Partnership (PPP), which is responsible for the overall administration of the platform*** and setting the standards or rules of engagement that drive accountability. Finally, organization structures, platform resourcing and performance management all need to align with these frameworks.

[There is considerable confusion, or at least lack of clarity, throughout the paper between what is 'delivery platform' and what is a NODE, and how they are different, or not. UPI (Universal Payment Interface) is referred to as a platform at one place and as a NODE at another, and as 'ecosystem' in a third place (which can be the same as NODE). Now, it does happen that a term may have both a narrow meaning of core systems as well as a wider one that includes the overall footprint of such systems. But what gets really confusing is, as in the above principle 6, when it is not clear whether the governance of a platform is meant or that of the wider ecosystem, or NODE – and the two can be quite different. A platform is defined in technical terms, and NODE as including the social elements involved. Governance of a technical system can have very different parameters than of a system and structure that is explicitly about socio-economic actors and activities. This very significant ambiguity is to a considerable extent the cause of NODE governance related issues that we have been highlighting. What may be acceptable norms in technical governance may not be so for governing more complex socio-economic interactions. Unless NODE designers explicitly address this ambiguity, and separate the elements of technical governance from larger NODE governance, many of these problems will continue. On the other hand, in explicitly seeing them separately, we could be closer to resolving many of them.]

[If all or most references to governance in the paper are just about governance of (technical) platforms, than what about governance of NODE? Or are the two simplistically conflated; is it implied that effective governance of a technology platform itself ensures, and is largely enough for, effective governance of larger socio-economic activities taking place over or through the platform? That then is a very significant, and very contestable, view of governance of a digital society. This point requires greater discussion, which we cannot undertake here. But note that Uber, for instance, would like to be governed as a technology platform alone, while courts and governments worldwide are intent on regulating it as a transportation system. This shows how vested interests can get hidden behind the expedient of relying solely on technical governance.]

NODE governance CANNOT be in the hands of a private body or a Public-Private-Partnership. As argued, NODE will not remain a purpose-limited side project of a department but will overtake its core and general functioning. A private or PPP body as the anchor point of a NODE would then translate into private actors

de facto running government departments. (Again, think of Uber starting as just a mediator to becoming the central actor of urban transportation, digitally orchestrating all other actors. To put this in the above platform versus NODE governance discussion, Uber may have started as a technical service platform, but today it represents a complex economic system that requires comprehensive economic governance – in relation to the served socio-economic sector, transport, and not just governance as a technical service.)

It is important to note that examples of sector NODE(s) in section 5 of the consultation paper, rightly, do not envisage a NODE as providing just one specific platform or service, but a host of them, with evidently many more to be added. The Agriculture NODE, for instance, is to simultaneously organise a marketplace, agri advisory services, lending, insurance, government outreach, and so on. As digitalisation covers almost every activity, this set will include, in not too distant a future, almost all activities that the agriculture department undertakes currently, plus many more new possibilities. How can a private sector or even a PPP entity be acceptable as the anchor body for such an agriculture NODE, or, on the same reasoning, for any sectoral NODE? That would directly amount to privatising the Indian government – not just at the implementation peripheries but in terms of its core decision making and resource allocation roles. (There is much lesser problem in having private or PPP actors in implementation roles – of service development and delivery.) This is what we find as most problematic, and unacceptable, in otherwise, generally, a good consultation paper and general design of NODE.

Governance of even relatively straightforward platforms/ecosystems, like the financial infrastructures/ecosystems run by the National Payment Corporation of India, has been contentious. It may also be remembered that *Aadhaar* had to be subsumed under a public body, backed by a legislation. For such, mostly single-dimensional, infrastructures, interests of the involved actors may indeed be 'relatively' common and shared (though not always), or certainly more easily governed. But it becomes very different when a much larger and diverse set of digitally-enabled socio-economic activities and services are to be managed in a NODE, like for agriculture or urban services. This is increasingly going to be even more so as such activities begin to centrally involve the most important digital society resources of data and AI. It is not acceptable that major industry players could themselves be involved in governance and allocation of these key societal resources. If they did, it will be very different model of governance than the democratic public governance mandated in our constitution.

NODE(s) are headed towards a future where they will (1) underpin and enable digital interactions among a whole host of sectoral actors and activities, also governing such interactions and (2) govern the distribution of society's common resources of data and AI.

We do understand that the period of transition to digital society systems requires various innovations, that can call for active involvement of outside actors. Too much inflexibility may hamstring such possibilities, which will be to overall detriment of public interest. It may therefore be fine, if required, to undertake early demonstration experiments in a sandbox environment that can involve key roles for helpful private actors. The rules and the temporariness of any such sandbox experiment, however, should be explicitly laid out. Any outputs from the experiment have to be publicly appropriated in equitable fairness to all actors in the

sector, without any continuing or abiding advantages to any of the involved private players. Mainstreaming of the experiment into developing a full-fledged NODE will involve a public sector body as the anchor organisation. It may also be needed to be backed by new rules, and perhaps legislation.

Unless thinking and work around NODE is informed by such forward looking conceptions, NODE will end up being under-optimal in efficiency and effectiveness, as well as causing very problematic erosion of public interest through weakened and captured instruments of public governance.

We therefore suggest that the current Principle 6 be replaced by the following:

> **Define accountable institution(s)**: Ensure a single-point of accountability, the right legal & organization structure, operating processes, etc. that are aligned with NODE objectives.
> This involves identifying an accountable institution, as the anchor body, for each NODE, which will be a public body associated with core public governance functions related to the subject matter of the NODE, or any other appropriately designated public body. Such a body will be responsible for the overall administration of the NODE and setting the standards or rules of engagement that drive accountability. Finally, organization structures, ecosystem resourcing and performance management all need to align with these frameworks. Early experimental work towards developing innovative technical elements of NODE may involve closer association with private parties, and perhaps different, temporary, governance models in a sandbox environment. Such governance models too however should have a majority of public interest actors. (1) Rules of such sandbox arrangements will be clearly laid out, including transparency, openness and non-partisan appropriation of its outcomes for public interest, and (2) mainstreaming of any relatively mature NODE design would have a relevant public body as its anchor governance body, which will hold accountability for it within the overall government system.

Private finance cannot be employed for public governance

As an associated point; since NODE(s) are to be the core public governance structures of not too distant a future, we are fully against depending on any private financing models, innovative or otherwise, for developing and running NODE. Embedding private financing in designing or running NODE will be equivalent to involving private finance in designing/running key departmental functional of governments. Once again, it may be somewhat different at the experimental or demonstration stage, where limited external public interest (but not commercial) funding may be accepted in exceptional circumstances. But it must always be clear that all decision making about NODE design and development will be undertaken by a public body, with no undue influence by any vested interests. (As discussed before, the early architecture and design of digital systems are of paramount importance, and often difficult to undo or reverse.) And in its mainstream functioning, any NODE will entirely be public finance based.

In any case, NODE development is a human resources and technology intensive activity and is not as costly as most physical infrastructure projects. With good planning, and with the understanding that the NODE model represents the future of governance, the involved costs should not be difficult for the departments concerned to bear.

We therefore recommend that Principle 10, about adopting 'a suitable financing model' be entirely dropped. It provides the wrong incentive structure and design direction for planning and developing NODE.

[The example of OpenLMS health logistics platform, provided under Principle 10 about innovative financing models, involves renting a suitable technology infrastructure and not running a NODE proper. Different components of a sectoral NODE, that are relatively peripheral, can have different provenances and modes of working and governance. For example, even if a health NODE in India as described in the National Digital Health Blueprint was to use an appropriate outsourced health logistics platform like OpenLMIS, it would amount to private outsourcing of a component of the system, and not be about how the NODE itself is run or financed. (Even such outsourcing has to be based on well-defined principles.) What we are focussed on here is governance principles for an overall NODE proper, and for functioning of its core systems. With regard to these, promoting and looking around for private financing models is absolutely inappropriate.]

No special role or access for privileged private actors

A very important requirement for such public digital ecosystems interacting with private actors is to develop clear principles of engagement for the latter (especially for businesses or other supply side actors, beyond general citizens). These would include completely transparent principles of fairness and equity regarding inclusion and exclusion. It must not be, or appear, that some such private actors have unreasonable privileged access to NODE's systems and resources. Principles of full transparency, fairness and equity for engaging private actors/partners therefore have to be a centrepiece of NODE governance structure. There should also exist an open and effective grievance redress system in this regard. Such principles can be included in Principle 7 about 'rules of engagement' or in Principle 11 on 'ensuring inclusiveness', or preferably in both. There has been considerable criticism about new government-supported digital systems that begin experimentally, and then remain stuck in a beta-stage limbo, as possibly providing special privileges to some private actors. This for instance, is alleged to have happened in the case of some recent developments around HealthStack/*Arogya-Setu* that are discussed towards the end of this document.

Principle 11 on 'ensuring inclusiveness' is currently aimed only at end-users of services, and not at intermediate private actors. A separate principle is required for ensuring transparency, fairness and equity with regard to all supply or business side actors engaging, or seeking to engage, with a NODE. [Principle 12 which is 'facilitate participatory design and co-creation' is a good one. Explicit rules for openness, fairness and equity for all actors should be developed in this regard.]

Governance of a sector's common data and AI

The three stages of GovTech are well conceptualised by the consultation paper. As a digital society matures, and data and AI become central to functioning of our socio-economic systems, there will be a fourth stage of GovTech. Here, one of the main functions of any NODE like system will be to govern key societal and economic resources of common or collective data and AI. Data governance, data sharing and data

infrastructures are already considered very important. We will soon be speaking as much, if not more, about AI governance, AI sharing and AI infrastructures. (If, as Google's CEO says, AI compares with fire in its

importance for human race, one can well understand the centrality of AI governance to the emerging social systems.)

Governance and management of these new social commons, of society's data and society's AI, will be among NODE's most important functions. This will be relevant to (1) delivering intelligent public services, as well as (2) supporting private digital enterprises through public digital infrastructures ((not just technical kind, but also comprising data and AI based services).

The need for ensuring democratic and accountable, public sector centred, governance for NODE gets even stronger as NODE(s) become society's key institutions for managing society's common data and AI. NODE's design should specifically keep in mind this most important emerging governance role of, and in, any sectoral NODE.

NODE or corporate-led digital ecosystems – Two swords in one sheath

A key question is how will the structure and governance of NODE address the issue of digital monopolies in different sectors developing their own captive digital ecosystems? Uber plans to centrally manage much of urban transportation, and not just ride-hailing. It seeks to position itself as the linchpin of all kinds of mobility services. Amazon is emerging as 'the' ecosystem for consumer goods, controlling the value chain right from manufacturing and trading to logistics, delivery and payments, and dictating its rules of digital engagements. Dominant digital corporations seek to develop the key standards and protocols in a sector, like Baidu is developing 'Apollo', as the 'android of transportation', in partnership with some traditional car manufacturers. Such corporate-developed and -led ecosystems will, in time, become 'the' digital ecosystem in any sector. The leading corporation(s) will lay down the rules and protocols of digital engagements for all/most actors in a given sector, and govern its common central resources of networking, data and AI. How do the planned National Open Digital Ecosystems (NODE) relate to these corporate-led digital ecosystems? After all, only one of them can write the basic rules and protocols of digital engagements in any sector, and govern their application, as well as manage the sector's common resources of networking, data and AI.

What would be the relationship of sector NODE, many examples of which are discussed in the consultation paper, with such corporate digital ecosystems coming up in every sector? There is an example in the paper of a NODE for the employment sector. Google is developing a jobs related digital ecosystem, employing AI. (1) How shall it be ensured that various actors in the employment sector primarily plug into the open and fairly governed ecosystem of NODE and not the captive digital ecosystem being developed by Google? (2) If, on the other hand, Google too was to join the employment NODE, how shall it be ensured that Google does not benefit disproportionately from the resources of employment NODE, and contributes back sufficiently and fairly into its 'commons'?

Lets consider an X company (hypothetically, say, a partnership between Bayer and Microsoft) that manages to become Uber's equivalent for the agriculture sector of India. It dominates various agri-services and agri-markets through its command over the sector's networks, data and AI. Will X company be able to access various data collected and curated by the agriculture NODE on the same terms as anyone else? The

problematic implications of this should be obvious. What would be the obligation on X company to contribute back to the 'commons' governed by the NODE? This becomes an especially important question as X develops leading AI for the sector – built *inter alia* from data shared on NODE – and employs it to dominate all activities and actors in the sector? Just contributing back some data to the NODE may not be enough; there should perhaps also be some kind of collective claim to the AI developed from the commons data. Meanwhile, the problem of who frames and enforces the basic, dominant rules of engagements in the sector also remains. Would it be NODE because of its democratic and public interest legitimacy, and open and fair governance, or X company based on its many available tools of allurement and coercion arising from its monopoly digital power in the sector?

The consultation paper does say: "Therefore, a NODE must have a strong governance framework to ensure fair value sharing while keeping stakeholder behaviours in check…." This requirement is then partly expressed in what is mentioned as one of the 'key elements of NODE governance framework'.

> **Platform ownership and access:** Frameworks defining the institutional home of platforms, rules of engagement for various stakeholders, and responsibilities and liabilities of ecosystem actors with respect to the delivery of services through these platforms.

This is followed up in principle 7:

> Establish rules of engagement: In a multi-stakeholder system, have clear delegation of responsibilities, decision rights & liabilities to avoid mismanagement and instances of conflict of interests. Also, introduce regulations to ensure fair value sharing within the ecosystem and check for undesired behaviours.

What constitutes fair contribution, and fair sharing of resources and value, will have to be clearly determined, defined and enforced in public interest by the anchor public body for any NODE. Some explicit principles for it will also have to be laid out in the overall NODE governance framework. This most important governance task for NODE is considerably underplayed in the paper, which only carries broad statements about its need. As resources are economically important, their fair sharing may require backing of appropriate rules and laws. (Proposed section 91 of the draft Personal Data Protection Bill is one good beginning in this regard, but it needs much better elaboration, as well as appropriate checks and balances.) The likely problem of use of a digital commons for disproportionate benefit by the largest players is already being seen in the case of UPI.

For the present, a new governance principle for NODE may be added as follows:

> **Ensure fair use, sharing and contribution of resources and value**: The anchor public body will create a framework for every NODE for (1) transparent, fair and equitable sharing of various NODE resources and value among various actors, (2) their fair use, and (2) fair contribution back into resource 'commons', as appropriate. Going forward, appropriate rules and legislation may be required to underpin such a framework, cross-sectorally, in general, as well in a sector-specific manner.

Both cross-sectoral and sector-specific frameworks are needed

Responding to consultation question 5:

> Do NODEs across sectors require common governance frameworks and regulatory/ advisory institutions to uphold these? Or is it sufficient for each node to have an individual governance construct?

It is important to have common or horizontal principles and frameworks across NODE(s) in different sectors, because they share many common features. It is also because digital resource, infrastructures, etc., often work across sectors. But equally required are sector specific principles and frameworks that arise from the unique context and requirements of any sector.

All software and applications must be open source

Regarding question 4:

> In your opinion, should all delivery platforms be 'open source' or are 'open APIs' and 'open standards', sufficient? Please elaborate with examples.

All government software as well as all NODE delivery platforms should be open source. Open APIs and open standards for engaging with outside actors is a different and additional layer, also extremely important. The National Digital Health Blueprint, quoted later in this document, is unambiguous in demanding open source software for national health digital ecosystem. There is no reason why this should not be a general and common principle for NODE(s).

People's privacy rights are paramount

The question 7 is:

> What are some potential risks that open digital ecosystems can leave citizens vulnerable to, for example, risks related to data privacy, exclusion, having agency over the use of their data etc.? What types of overarching guidelines and/or regulatory frameworks are required to
> help mitigate them?

The issue of privacy and data security is of utmost importance. There exists huge disquiet about how data will be shared across government systems, and outside. We are concerned that that the Personal Data Protection Bill currently in the Parliament has considerably weakened checks-and-balances with regard to State's use of people's data as compared to the earlier Srikrishna committee version. For effective functioning in the digital society, various agencies of the state do need access to many kinds of data, including personal data. But this should be subject to clear and strong rule of law, with adequate checks-and-balances, and effective quasi-judicial supervision. Such institutional requirements are very inadequate in the current Bill, and we hope it will be improved on this account. Various sector oriented NODE(s) should be backed by appropriate, clearly articulated rules, and possibly legislation, in relation to their handling of personal and other kinds of data. These should be in strict accordance with the conditions laid down by Supreme Court's Puttaswamy judgement on privacy. This area requires a lot of attention and work in designing sectoral NODE.

A quick example of right NODE approach and a wrong one

Attempts at developing digital ecosystems in the health sector in India provide both a very good and a bad example of how NODE should we designed and developed.

We approvingly quote from the recent National Digital Health Blueprint (NDHB), that intends to underpin a National Health Digital Ecosystem.

> All the building blocks and components of NDHB shall conform to open standards, be interoperable and based on Open Source Software products and open source development. The policy of MeitY, GoI on Open Standards and Open Source Software shall be adopted in designing of the building blocks of the Blueprint and in all procurements relating to its implementation. Interoperability will be inherent to all the building blocks. Federated Architecture shall be adopted in all aspects of NDHB. Only the identified Core Building Blocks will be developed and maintained centrally. All other building blocks shall be designed to be operated in a federated model that factors regional, state-level and institution-level platforms and systems to function independently but in an interoperable manner.

Open, distributed and (purpose-specific) federated digital systems need to underpin any good NODE. Such an architecture as provided by NDHB, governed by a public body like the National Health Authority for fairness, equity and accountability, working under the guidance of the health department, will be the appropriate design for a NODE. This should be backed by necessary statutory rules, and in time, with legislation.

A wrong kind of NODE will be what was sought through a sudden gold rush witnessed among some private players seeking clustering around *Arogya Setu*, in a very *ad hoc* and questionable manner, to develop a health services platform, where vested interests were involved both in governing it and benefiting from it. See this detailed description in The Ken, https://the-ken.com/story/the-elite-vc-founder-club-riding-aarogya-setu-to-telemed-domination/?searchTerm=arogya%20setu .

If some immediate responses to Covid related emergency were indeed required in terms of digital platforms for various medical services, etc., these should come in an appropriate, rules-based, manner through an authorised and accountable public body. Such a body has to transparently ensure neutrality among all the players that could benefit from such a platform, and uphold all other requirements of law and public interest. Suggestions and advice in this regard however can and should be sourced from all possible quarters.

NODE may be the way to go

Our hope is that a well thought-out, and well-instituted, NODE kind of policy approach will make possible such required systemic responses from government agencies, in a rules-based, open, fair and accountable manner, to the fast-emerging digital governance and infrastructural requirements in all sectors of a digital

society. Effectively functioning NODE(s) can also help reverse unsustainable digital power concentration with a very few global corporations, which happens because the latter are able to monopolise digital infrastructures of different sectors, and thus also their *de facto* digital governance. NODE(s) can considerably bring back these governance and infrastructural roles to the public sector where they legitimately belong.