A network diagram in the top right corner consisting of a complex web of light blue lines connecting various sized blue circular nodes of different colors (light blue, medium blue, dark blue).

onest

**OPEN NETWORK FOR EDUCATION
AND SKILLING TRANSACTIONS**

**Imagining an open network for
education & skilling to bridge the
skill-employment gap in India**

Background

In today's interconnected and rapidly changing world, the significance of supporting overall human development has become more critical than ever before. As societies aim for advancement and prosperity, it is vital to acknowledge that the **bedrock of sustainable socio-economic progress** lies in fostering a *knowledge-based economy*. This involves enabling individuals to thrive by providing them with the necessary **skills, knowledge, and opportunities for livelihood** encompassing their current socio-economic and geographical status in order to empower them to adapt, innovate, and flourish in an ever-evolving environment.

Realising the need, the Government of India's foremost focus today lies in enhancing the skills of the youth and promoting digitalization within the education sector. In the **Union Budget¹ 2023-24**, the education sector has received its highest-ever allocation of **INR 1.12 lakh crore (\$13.66 billion)**. Finance Minister Nirmala Sitharaman has introduced a range of measures aimed at bridging the emerging gaps in education.

In addition, if we look at the skilling & job private sector, the EdTech industry in India has been witnessing a significant growth driven by increased internet penetration, digital literacy, and a growing demand for accessible and personalised education. Today, India is the second-largest market² for e-learning after the US with a market size of **INR 49,056 crores (\$6 billion)** and is expected to grow to **INR 81,860 crores (\$10 billion) by 2025**. As the tech sector continues to expand, it becomes crucial to bring together the fragmented education and upskilling solutions along with establishing mechanisms ensuring affordability-led access with transparency, credibility, and regulation. This will help individuals to navigate through this diverse ecosystem and make informed decisions about the educational & careers journeys, building a more holistic approach linking education to employability.

¹ <https://www.investindia.gov.in/team-india-blogs/budget-2023-major-impetus-indias-education-sector#:~:text=The%20education%20sector%20has%20received,%20crore%20in%202023%2D24>

² <https://www.cnbctv18.com/education/india-edtech-market-expected-to-grow-to-10-billion-by-2025-startups-unicorns-16391151.htm>

The Education & Jobs paradox – Increasing skill gap and decreasing employability

India is presently benefiting from a demographic dividend, a period characterised by a peak ratio of working-age individuals capable of propelling the country's GDP to unprecedented heights. However, despite having the world's largest and youngest working-age population, a mere **4.7 percent** of the total workforce in India possesses the necessary skills. A recent report emphasises that India will require **3 crore (30 million)** digitally skilled professionals by 2026, and half of the current workforce must undergo reskilling in emerging technologies and other emerging sectors. Adding to concerns, the India Skills Report (ISR) 2021 indicates that only **46 percent of graduates are deemed employable**, underscoring a significant mismatch between academic standards and industry expectations.

This contradicts the emergence of tech platforms as enablers which has undoubtedly revolutionised the education landscape, offering new avenues for learning and skill development but yet is not able to match the Job-skill needs. It is concerning that almost 50% of youth in India are unemployable, and 12.6% drop out of school due to **affordability** and **accessibility** challenges resulting in an increasing skill gap. While technology has made education and jobs more accessible and has enabled surplus opportunities, there are some key factors that are preventing the unlocking of the true potential of India's education and Job ecosystem.

Some of the key factors of widening skill-job gaps include-

Fragmented Education & Jobs sector

There is a multitude of EdTech & job discovery providers operating in various niches, offering diverse services and solutions. Although platform players aim to tackle this issue individually, they operate in isolation, resulting in valuable interactions and experiences gained by skilled

workers and employers being confined within their respective platforms. This results in a lack of standardisation and a fragmented market landscape. Moreover, the availability of numerous platforms and courses influenced by an emerging trend often leads to confusion among learners and makes it challenging for them to navigate and select the most suitable options. The lack of integration and interoperability among different EdTech/job platforms hampers seamless learning & skilling experiences thus hindering sustainable professional & economic growth.

Lack of handholding mentor support

The lack of mentorship for a guided career path in India remains a pressing issue. While the country boasts a large and talented pool of individuals, many struggle to navigate the complex terrain of career choices and professional development. A mentorship program provides invaluable guidance, support, and advice from experienced professionals in various fields, helping individuals make informed decisions, set realistic goals, and acquire the necessary skills to succeed. Unfortunately, such mentorship opportunities are often limited, especially for those from disadvantaged backgrounds.

Need for high-quality and reliable educational content

The need for high-quality educational content in India cannot be overstated as it plays a pivotal role in shaping the learning experiences of students & teachers both, equipping them with the knowledge and skills necessary to thrive in an increasingly competitive global landscape.

As the country strives to strengthen its education system, it is crucial to provide students, teachers, and mentors with access to resources that foster deep understanding, critical thinking, and skill development. India is taking baby steps towards enabling the right content – such as the establishment of a **National Digital Library** which is specifically designed for children and adolescents. This initiative aims to enhance accessibility to high-quality educational content by enabling access to high-quality books and ensuring availability across different regions, languages, genres, and reading levels. There are several other public and private institutions and organisations driving similar initiatives, but owing to the diversity and technology fragmentations there is an urgent need to bring them together in a connected ecosystem that education seekers can explore and choose the most relevant content.

Demand-Supply Mismatch

The skill-job gap in India poses a significant challenge to the nation’s workforce and economic growth. Despite having a large pool of talent, there is a noticeable mismatch between the skills possessed by job seekers and the requirements of employers. This gap arises due to various factors such as outdated education curricula Vs advancing technology and emerging service sectors, inadequate industry-academia collaboration, and a rapidly evolving job market. The consequences of this gap are twofold: job seekers struggle to find suitable employment opportunities, while employers face difficulty in finding skilled candidates to meet their organisational needs. Bridging the skill-job gap requires concerted efforts from stakeholders including the government, educational institutions, and industry leaders to prioritise skill development, enhance vocational training programs, promote apprenticeships, and foster a culture of lifelong learning.

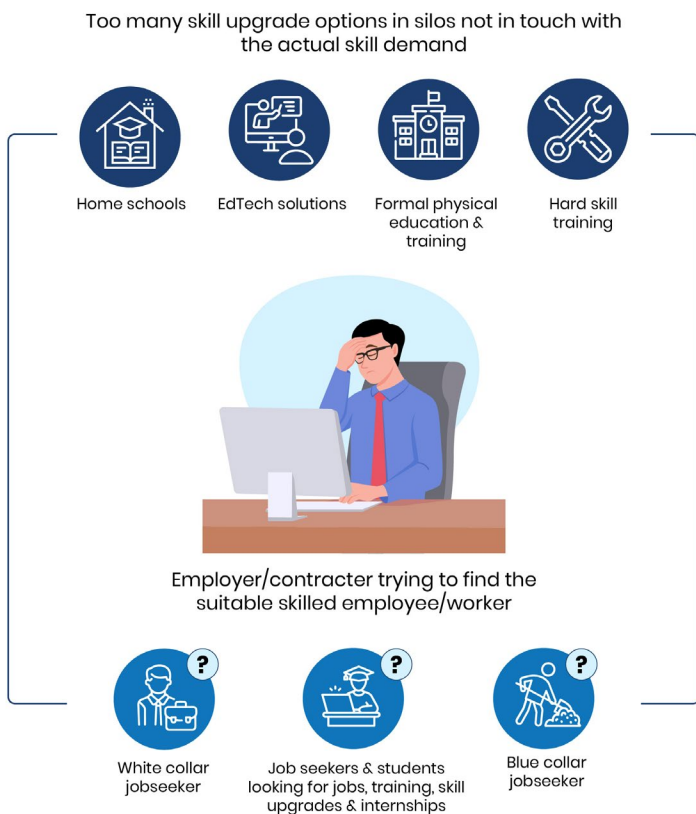






Fig : Dilemma of education providers, seekers and employers

Limited career growth & sustainable livelihood owing to lack of financial support for upskilling

India still faces a serious problem with the lack of financial assistance for education and upskilling, which hinders the expansion and improvement of its labor force. Due to a lack of resources, many people, especially those from economically disadvantaged backgrounds, struggle to obtain quality education and learn new skills. For prospective students, the cost of education—which includes tuition, books, and other related expenses—often becomes a hardship. Additionally, their capacity to seek higher education or specialised training is hampered by a lack of sufficient financing and scholarships resulting in unemployability and insufficient family income-led poverty.

The challenges are not just limited to seekers today but there are also challenges that the education & employment service providers face today, which are required to be resolved. Some of the challenges include:

-  **Inability to reach the right users**
-  **High cost of providing service owing to platform-led models**
-  **Digital divide based on popularity**
-  **Inability to establish trust**

India's rapidly expanding young population & the exponential technological advancements in the service delivery space is often seen as a distinctive advantage that distinguishes the country from both developed and developing nations. The task of making the education-led "outcome" meet the "impact" i.e creating employment opportunities becomes a colossal endeavour that plays a vital role in fostering economic growth, upholding social stability, and stimulating consumer expenditure.

Need for a multi-dimensional approach

The Indian skill development and employment landscape is large, heterogeneous, diversified, fragmented, and complex; which is high on friction and low on outcomes. It inherently has significant challenges such as information asymmetry, and high cost of trust verification thus challenges around reliability, lack of discoverability, creditworthiness, and portability. To address this fragmentation and skill-gap challenges a multi-dimensional approach is needed, that can enable seamless collaboration between-

-  **Education seekers** (students, professionals, etc.)
-  **Education providers** (teachers, mentors, educational institutions, content providers, etc.)
-  **Education facilitators** (Government, not-for-profit, funding agencies, etc.)
-  **Finance providers** (Grants, loan, scholarship, etc.)
-  **The employment industry** (organisations, GIG work contractors, job facilitators, and CSR initiatives etc.)

Addressing a problem on a massive scale necessitates a paradigm shift from relying solely on centralised platforms for storing and exchanging value to embracing a decentralised

network comprising interconnected ecosystem actors that facilitate the flow of value. Rather than following an operator-driven and monolithic platform-centric approach, there is a growing need to adopt a facilitator-driven and interoperable decentralised network model that enables collaborations.

The collaboration is important to bridge the gap ensuring that learners are equipped with relevant and in-demand skills for the job market. This will not only bring the **demand and supply together** but will also help in **validating the relevance of the education provided today** against the changing employment needs of India, and can help the Government to make data-driven, policy decisions objectively to make the Indian education system more relevant and globally applicable.

What if there existed an alternative model where every individual had equal and fair access, free from any central intermediary's influence over transactions? What if the universal discovery was a natural process, and the end participants (providers and consumers) regained their autonomy and control? Would this not result in digital independence for the entire population, especially when it comes to seeking livelihood opportunities?

ONEST

An open network for education & skilling addressing the fragmentation, interoperability & job-skill gap challenges

What is ONEST?

Open Network for Education Skilling Transaction (ONEST) fosters a fair and accessible network that is both open and decentralised, allowing individuals and organisations to harness its power to unlock their full potential, facilitating access to learning and livelihood opportunities.

An open network refers to a collaborative and interconnected ecosystem where multiple stakeholders can be brought together to discover each other, and exchange information, resources, and services. It aims to serve as an enabler that ensures **interoperability** across multiple technology platforms via a “**set of standardised protocols**” for platforms to **discover** and **transact** amongst themselves seamlessly agnostic of the technology used to enable access or provide services to the consumers. A great example of an open network is the “Internet” itself which enables anybody and everybody to discover products or services, as per their current need. The internet makes it platform agnostic where anybody can use any application to search for a specific need at their convenient time.

Built and envisioned along the same lines, ONEST **fosters a fair and equitable network** that is both open and decentralised, allowing individuals and organisations to harness its power to unlock its full potential, facilitating access to learning and livelihood opportunities across the stakeholders.

The **objective** of setting up ONEST is to break the current siloed ecosystem where the education & content providers, education facilitators, education seekers, education facilitators & job providers operate in a fragmented and secluded manner which restricts collaborations that could have otherwise flourished into business & social

partnerships aiming towards the same goal of “**equitable education & skilling to enhance employability and sustainable livelihood.**”

The aim of ONEST is to empower every citizen and provider and hand them keys to unlock the skilling and livelihood journey for India beyond socio-economic and geographical boundaries.

What will ONEST enable?

ONEST will enable B2B & B2C discovery and transactions and will help address the needs of service providers as well as service consumers in the education and job ecosystem by establishing platform-agnostic interoperability on the same analogy of UPI. Organisations and individuals will also be able to broadcast their services & content facilitating a democratic and informed approach facilitating “freedom of choice” to end consumers select the services from a surplus pool of providers of their choice as per their preferences in terms of services, location, and affordability. The initiative also envisages a mechanism to identify each other uniquely, trust each other, and store their credentials including proof of work in machine-readable formats which are portable and verifiable across different tenets, to help them build reputation and credibility.

ONEST will primarily focus on enabling equitable opportunities for education, upskilling & jobs under the following four key categories:

-  **Learning Experiences:** Content, Courses, Trainings, etc.
-  **Financial Support:** Scholarship, Grants, etc
-  **Work Opportunities:** Internship, Jobs, Gigs, etc.
-  **Expert Connect:** Mentorship, Volunteering, Tutoring, etc

Learning Experiences: Content, Courses, Training

Skilling and upskilling is an essential need with the growing competitiveness and technology-advanced job ecosystem. Onest will onboard both the education providers as well as consumers for enabling broadcast & discovery of courses, content, upskilling & training opportunities. This will help the end consumers & professionals to up-skill, leverage and create/curate new content that can be further discovered and utilised by other businesses and individuals. ONEST will serve as a common interface to facilitate a multi-provider architecture that will encourage healthy competition, drive innovation, and nurture partnerships to bridge the existing supply-demand gap, empowering not just individuals but also organisations and the Government to resolve the current challenges with a holistic approach.

Financial Aid: Scholarship, Grants, CSR

The UDISE+ 2021-22 data shows that the dropout rate is highest at the secondary level (9-10) with 12.6 percent, followed by upper primary (6-8) with 3 percent and primary (1-5) with 1.5 percent. High dropout rates are concerning since they have a negative influence on students' prospects. High dropout rates are caused by a variety of causes, such as poverty, lack of access to excellent education, lack of family and community support, and societal and cultural norms that place other pursuits above school. A multifaceted strategy encompassing not only schools, educators, families, communities, and legislators is necessary to address these concerns.

To control the increasing dropout rates in school & higher education owing to economic factors ONEST will work closely with multilateral and not-for-profit, donor organisations to support students and young professionals discover and seek financial aid. Financial aid will help in the completion of primary and professional education increasing youth employability and improving job prospects in India. It is envisaged that the multilateral organisations, Governments, colleges, and universities offering scholarships & grants can be discovered on the network against which the students and professionals can also fill, and track application status with a unified user experience.

Work Opportunities: Internship, Jobs, Gigs

ONEST will also facilitate B-2-B and social collaborations with large employment organisations, job portals, and employment agencies to bring the available Indian employable population closer to the prospective employers. The employers and agencies can integrate their respective portals, application, and website with the network and will facilitate discovery of relevant job & internship opportunities by students, professionals and vice versa.

In addition, ONEST will also enable livelihood opportunities and GIG discovery for GIG workers which is typically project-based or short-term work, leading to irregular and unpredictable income. The fluctuating income makes financial planning and stability challenging for gig workers, especially those who rely solely on gig work for their livelihood and are dependent on word of mouth or job referrals.

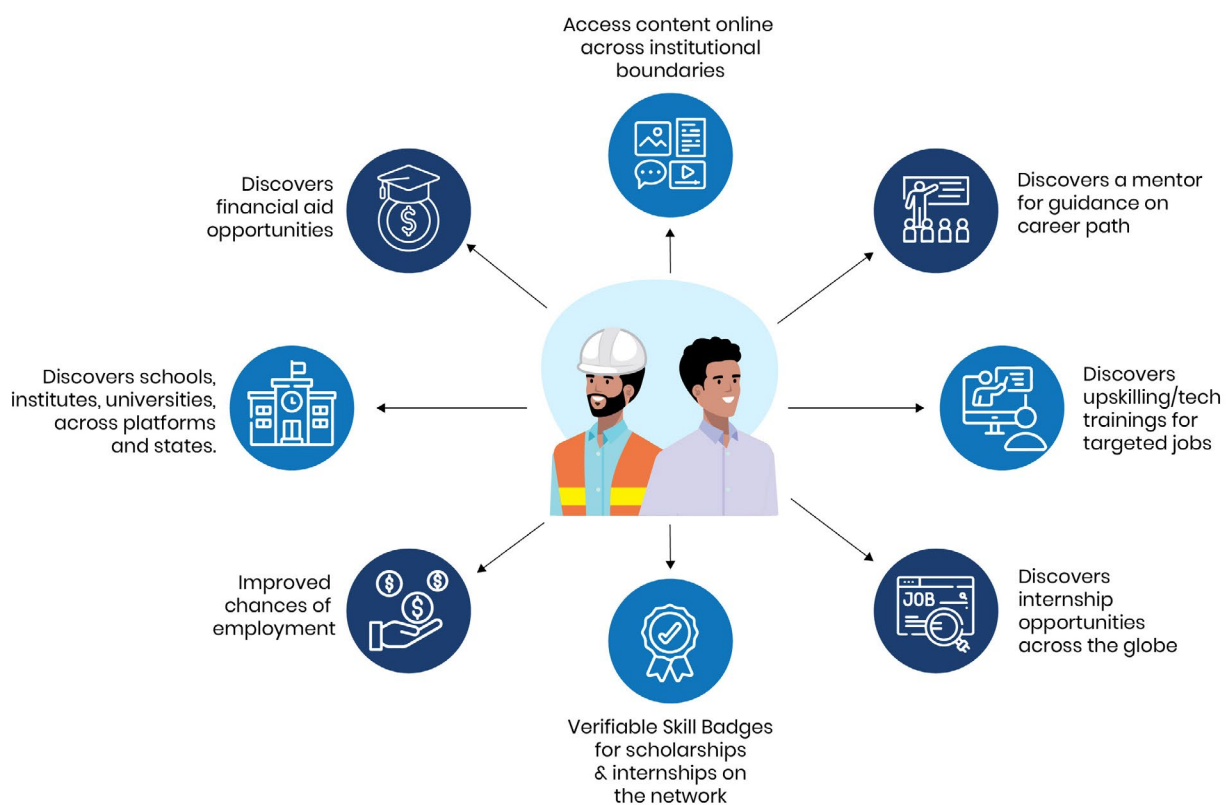
Expert Connect: Mentorship, Volunteering, and Tutoring

ONEST will facilitate mentorship, coaching, and tutoring by providing a platform for connecting learners with experienced mentors, coaches, and tutors. A student or professional can discover a mentor, or coach based on their specific needs & goals as per their respective career graph.

The consumer side platforms can then innovate by building and utilising algorithms to match learners with suitable mentors who possess the desired expertise and experience. The discovery – booking – fulfilment & post-fulfillment stages enabled by ONEST’s transaction fabric, can facilitate feedback on a learner’s progress, improvement areas, assignments and

performance with progress tracking features enabled by the end consumer apps. This will help in accelerating a career path for an individual which otherwise in the absence of a mentor can lead to confusions and incorrect professional decision-making.

ONEST – An open network facilitating content, courses, mentorship, job & financial aid Discovery & enabling Unified Access Experience for students, professionals, job-seekers, empowering an “Open Education & Livelihood Ecosystem”.

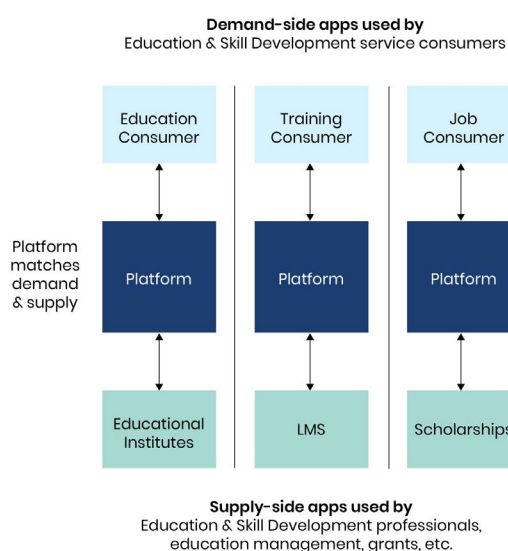


How will ONEST work?

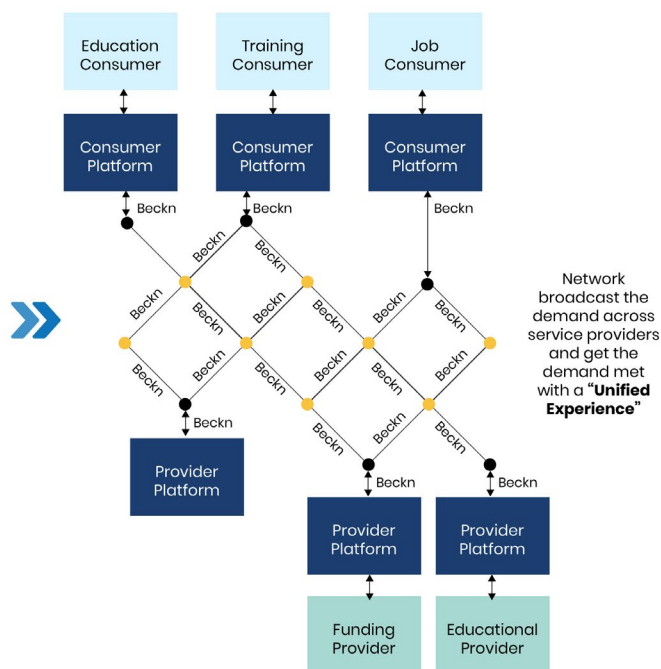
ONEST is an open network that will enable the discovery of courses, training, educational content, financial aids & scholarships, and employment opportunities by onboarding ed-tech, skilling, job, and sponsorship platforms by collaborating with large public-private entities, Governments and multilateral organisations. ONEST leverages the “Decentralised skilling & education protocol (DSEP)” which is an education & skilling specifications of the open-source [Beckn Protocol](#).

Sectoral adaptation of the Beckn protocol has also been adopted by several other population-scale initiatives, within ONDC for enabling **discovery, order, fulfillment, and post-fulfillment** transactions for goods & services or health and wellness services within ABDM UHI. ONEST, thus, will ensure cross-platform transaction interoperability, thus facilitating the platform-to-network shift, as indicated in the illustration, below.

A typical 2-sided siloed Digital Infra approach for education and skill development



An open network approach - Discover education, financial aid and content at one place



Key components of the ONEST architecture

The ONEST architecture is based on three core principles,



Access

ONEST will leverage DSEP protocols to enable discovery and access to education, upskilling, and job opportunities irrespective of financial or geographical status thus enabling equitable distribution. It will not only facilitate discovery but an end-to-end workflow **discovery-ordering-fulfillment-post fulfillment** on the network between provider and consumer platforms.



Trust

The trust layer will be powered by digitally verifiable credentials (VCs) & electronic registries. VC issuance, thus, can be made available as a service for service provider platforms to issue verifiable education, training, and work certificates & licenses to augment trust in the education and job ecosystem. The verifiable credentials will help the students, professionals, and employers to fast-track hiring and background checks with enhanced credibility.



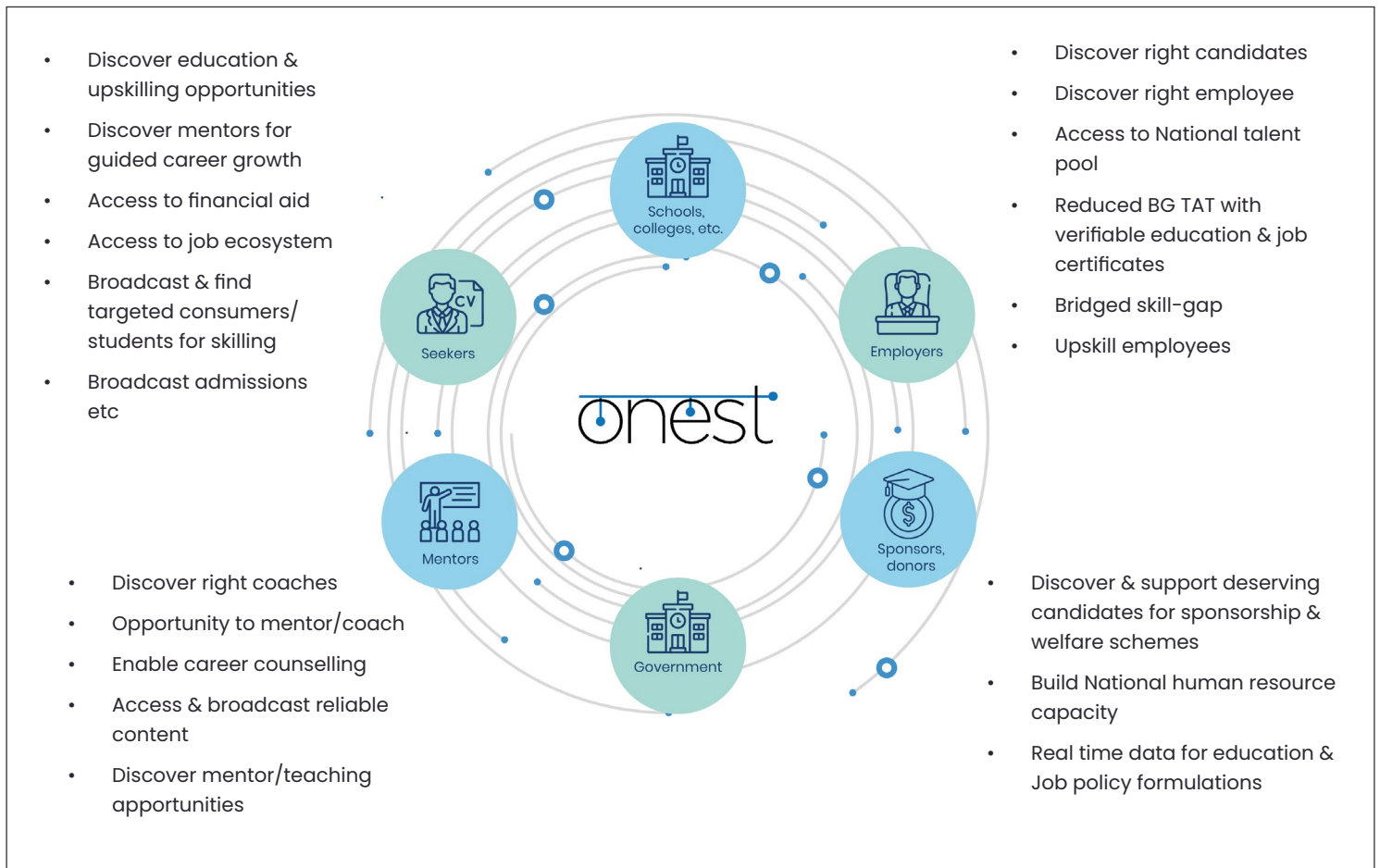
Ownership

ONEST will enable a consumer-centered ecosystem, where the end consumer (student, professional, organization) can store their VCs in their choice of digital wallet. ONEST will leverage existing consent and data exchange architecture under the data protection framework. The digital wallet can also be linked to a student's ID to facilitate government sponsorships and scholarship programs.

A digital Wallet will not only function as a trust infrastructure but can also be connected to a student's digital ID to facilitate government sponsorships and scholarship programs via digital money-led initiatives. This can further leverage digital payment infrastructure and facilitate direct benefit transfers, rewards, scholarships etc.

Who will benefit from ONEST?

ONEST is a multi-dimensional ecosystem touching all aspects of education, skilling, and employment in India. It will promote open digital ecosystem culture that will facilitate synergies and public-private partnerships in the jobs and education sector enabling a holistic human capacity in India.



Who will facilitate this network?

ONEST is a community-led initiative a step taken towards building a more equitable, accessible, and collaborative skilling and employment open ecosystem, intended to benefit both **“the employment and education providers”** as well as the **“the seekers”**.

The initiative will be incubated and led by **“Ek-Step Foundation”** as the **“Network Incubator”** with **“ONDC”** as the **“Network Facilitator”** along with

“FIDE” as the **“Protocol Partner”** & **“Protean”** as the **“Knowledge partner”**. The pilot will utilize the **ONDC** open network infrastructure and governance for seamless scaling after the pilot phase. The EkStep Foundation, as the lead, will help bring together interested platforms and applications on both provider and seeker sides to systematically enhance value for the end users.

Conclusion

With the implementation of Direct Benefit Transfers, every citizen now has the ability to claim their entitled benefits. Through initiatives like Jandhan and UPI, every citizen was brought into the formal financial system, enabling them to conduct their economic transactions in a digital, presence-less, and cashless manner. Building upon the concept of digital empowerment, the introduction of ONEST as an **Access-Trust-Ownership** driven network helps in formalising the education, livelihood, and skilling ecosystem in India.

It will enable individuals from every corner of the country to access a wide range of educational and skill development programs, empowering them to enhance their abilities, secure meaningful livelihood opportunities, and contribute to the nation's socio-economic growth.

This initiative is not just a necessity, but a transformative step toward building an inclusive, knowledgeable, and prosperous society.

Please share your suggestions and build this concept paper together through the Github Discussion linked here: <https://github.com/orgs/ONEST-Network/discussions/2>