Metaverse

This editorial is based on **"Metaverse has potential to revolutionize e-commerce"** which was published in Livemint on 25/07/2022. It talks about the Metaverse and its applications.

For Prelims: Applications of Metaverse, Augmented Reality (AR), Virtual Reality (VR), Digital India, Intellectual Property Rights, 5G

For Mains: Challenges Associated with Metaverse in India, Intellectual Property Rights, Future of Metaverse in India

The **metaverse** is an extension of our real world into the digital realm providing an immersive **multi-user experience** for anyone accessing it around the globe.

Accessing this virtual world requires the Internet and digital devices. The technology behind this is called **Augmented Reality (AR)** and **Virtual Reality (VR).**

The growth of **Digital India** is accelerated by India's large young population which is deeply acquainted with **digital interactions and recreations.** While the technical, demographic and policy foundations for the metaverse appear to be present in India, there **remains the operational challenge of building the metaverse.**

What are the Applications of Metaverse?

- **E-Commerce:** The metaverse can **bridge the gap between the physical and virtual world**, hence **merging online and offline commerce into one.** This means that users will be able to experience the physical world via the metaverse, digitally, making online shopping **more convenient.**
    - Companies would benefit hugely from the metaverse, as it not only **widens their consumer base** but also has the **potential to get reviews on new products,** thus pointing them in the right direction for the future.
    - **Brands can interact with the global audience through Metaverse** in the ecommerce business framework despite the geological barriers.
- **Skill Enhancement:** Metaverse can play a key role in skill enhancement in a remote manner due to its scope of developing new **experiential learning scenarios.**
- **Virtual Tourism:** With the **360° virtual tour, the viewers can not only watch the location recorded but also be present digitally in the desired location** with realistic effects.
    - For instance, **Virtual Reality Holiday "Try before you Fly" helps the potential tourists to visit their desired destinations virtually.**
- **Education and Learning:** VR combined with the effects of Metaverse has brought the **learning experience to a qualitative new level.** Students can now watch **live experiments with more intensive and high quality knowledge resources.**

    - Another Metaverse example is **Mesh** created by **Microsoft** which is a **mixed reality platform where faculty, staff and students can interact using their 3D avatars.**
- **Healthcare:** Telemedicine **and Telehealth** is a concept fueled by the Metaverse post pandemic where patients and doctors can interact in virtual 3D clinics.

What are the Challenges Associated with Metaverse in India?

- **Privacy and Security:** Online risks may be exacerbated in the metaverse, where unwanted contact could become more intrusive and pervasive.
    - There exists a **possibility of the citizens' data being collected and sold to third-party** aggregators.
    - If the metaverse suffers from weak security procedures, it may also be vulnerable to **cyber-attacks**, **identity theft**, **fraud** and a **safe haven for the harassers, criminals and fringe groups.**
    - The increase in virtual interactions and the growth of concepts like digital avatars will make **tracking and intercepting illegal content and cybercriminals more difficult.**
- **Tradition v/s Technology:** Technology with its vast positiveness, does have a great negativeness for the tradition.
    - **There are both benefits and drawbacks to** social networking **sites. The rise** of social media has introduced **pseudo social behaviour** that has slightly delineated traditional social values of **collectivism and brotherhood.**
- **Legality of Metaverse:** The questions of **legislations and jurisdictions that will be applicable in this boundless digital world** is also a prominent concern requiring consideration by lawmakers.
    - The protection of intellectual property **(IP) and ownership** is another legal issue that is likely to emerge.
    - Protecting the IPR (IP Rights) of content creators will also be a challenge considering the **difficulty in tracking copyright infringements in the virtual space.**
- **Insufficient Infrastructure and Connectivity:** Building a **pragmatic, robust and accessible meta-governance infrastructure** is wrought with difficulties.
    - At the very least, **it will require a** 5G **connection to provide a safe and reliable experience.** Most rural communities are still struggling with acquiring and maintaining a secure **4G connection**.
        - Additionally, the amount of energy currently available is inadequate compared to the energy warranted by the metaverse.
- **Digital Divide:** As per **ITU's World Telecommunication/ICT Indicators Database 2020,** only **43% of the population in India uses the** internet.
    - This has **widened the gap between demographics and regions** that **have access to modern** information and communications technology (ICT), and those that don't or have restricted access.

What Should be the Way Forward?

- **Reducing the Digital Divide:** Governance mechanisms for virtual worlds would need to be supported with **strengthening and scaling efforts to promote** digital literacy**, safety and wellbeing** so that participants can engage meaningfully in online communities while consciously navigating harmful content and behaviors.
- **Policy Backing:** It is the **right time for the government to create the right policy background for its operation** and leverage the metaverse for public services.
    - The government **needs to focus on information accessibility, information utilization and information receptiveness.**
- **Safe and Secure Metaverse Ecosystem:** There is a strong need to develop and regulate effective ecosystems to address the distinct elements of safety, privacy, and security within the DNA of this technology.
    - Building a **citizen-friendly meta-governance infrastructure** will need a **collaboration by experts from various disciplines, including designers, business model** experts and lawyers, to mitigate any potential legal hurdles. **Private sector intervention** may be required as well.
- **Meta Help Desk:** In e-governance, essential information is released to a targeted audience

through ICT. Meta-help desks or meta-divisions in a particular ministry/ other government agencies can help in providing the critical data required.

- **Transparent and Consent-based Applications: Technology companies** will need to be more responsible and **transparent in their data processing** and safety practices.
    - Fostering an **informed consent-based model while collecting personal data and abiding by the principles of data minimization** and purpose limitation will be critical to prevent unchecked data processing and collection for commercial gains.
- **Global Cooperation:** As the metaverse continues to develop, we are seeing a glimpse of a more **digitally advanced borderless world** that is full of promise.
    - While this new world continues to expand, we have to be aware of the set of challenges it brings with every new development and to look forward towards uniform regulations across the globe.

Drishti Mains Question

"While the technical, demographic and policy foundations for the metaverse appear to be present in India, there remains the operational challenge of building the metaverse." Explain.
