Disruptive technology – impact on urbanization

Sociology, Social Issues

It is often been said that Necessity is the mother of all inventions. The human race has evolved significantly over the years and more so in the past two decades. This paved way for a significant amount of population to migrate from tinsel towns to urban areas; a paradigm shift termed as Urbanization.

Urbanization comes up with access to better infrastructure, better amenities, and more importantly, an improved quality in all spheres of our lives. This is something which is lacking at the rural front.

It is only imperative to say that Technology has certainly changed and redefined the way we lead our lives. The impact of westernization and the subsequent influence in the various technological advancements in developing nations like India has been immense in all aspects. That the advancements in technology have paved way for better socio economic lifestyle will only be an understatement.

Disruptive Technology or Disruptive Innovation on the other hand refers to the concept of replacing the existing technology either with an enhancement or with an entirely new piece of the same. Disruptive Innovation drives Urbanization. The key elements that drive Urbanization are Budget, Return on Investment (ROI), Time taken to implement, and the amount of Man Power required. These key elements when monitored efficiently will have a direct impact on the overall economy.

In a developing nation like India, which is abundant with its natural resources, Disruptive Innovation strikes the right balance on socio-economic aspects both at rural and urban fronts. Especially in the decade gone by,

there has been some path-breaking advancement in Medicine, Transport, and Security. One has to understand that the impact of Disruptive Innovation varies between developed and the developing nations.

The application of Disruptive Technology at an urban front involves a lot of Research and Development (Rn'D) in the existing system. This Rn'D helps the organization or the team to learn more on the technology in place, its shortcomings with respect to the current market situation, its efficiency in performance from the customers or end users, and the market share it brings to the table.

Smaller organizations are increasingly willing to take that extra risk in implementing a new technology as they come along and contribute to their overall economies. Larger organisations on the other hand are slightly reluctant to implementing new technologies or the enhancements it right-away for they see the bigger picture from a completely different angle than the smaller folks.

To conclude, Disruptive Innovation improves the sigma value of the overall process. In doing so, it brings a new agility into the system, an innovative thought-process that looks at constant improvisation from all spheres and everything put together will contribute to the overall economy.

The impact of Technology on Social Conduct

Before we even talk about the impact of technology on Social Conduct, let us try to understand what technology is in the first place. Technology is something which applies the concepts of STEM abbreviated as Science,

Technology, Engineering and Mathematics in solving all the problems and providing better solutions to the evolution of the mankind.

Social Conduct, on the other hand, could be summed up as a quintessential right to the human being. It is also an authority for any individual whom he/she exhibits in the social media. Now, the bigger question here is: how does technology assist an individual in their social conduct or behavior.

Technology is evolving fast, and it is evolving at a much greater pace than ever before. With several advancements in technology, we come across an efficient and improvised way of dealing with the critical elements in both our personal and professional lives. One thing which has become alarmingly higher over the past five years is abuse against women. Not only are the developing nations being a victim of this, but even the most technologically advanced nations are no exception to this menace.

This is where the technology comes into the picture. It enables one to utilize their most important human right – freedom. To exhibit one’s freedom or in other words – the social ethics, it is very crucial to understand to become aware of what is happening around us. One must know the pros and cons of every technological piece they prefer to use. Continuous improvements in technological features and its subsequent enhancements means improved efficiency, ease-of-use, and very importantly – better security; and improved security gives rise to a better quality of the product in use.

The one downside of being active on Social Media is that everything is either being watched or monitored by at least two pairs of eyes at any given point

in time. This makes us prone to a cyber-hazard more often than not. Disruptive Innovation, a paradigm shift in the way technology is shaping up the future strikes the right balance between various technological advancements and its corresponding impact on the social media by its users.

Technology has changed the way people look at things nowadays. Everyone is connected to literally everything at any given point in time and it only makes this planet a better place to live and I am confident that we have plenty to look forward to in the future in terms of technology that would make human life an enriching experience.

The Future of Mobility and Urban Planning

Urban Development, Digital Innovation, and Technological Advancements are few key factors that contribute to Mobility in the present day world.

Modernization is a process of systematic and progressive transition of human race from an existing culture to a modern culture. It can also be defined as the movement of individuals or groups from one socio-economic level to another. If there is one thing on which Modernization has a direct impact on – it has to be Mobility.

Mobility can be termed as a quality or capability of an individual or a group which permits them to move from place to place while retaining the ability to fulfil their primary objective. The most commonly associated field with Mobility in real-time is the Technological World. For instance, in Enterprise Mobility, an individual or a group may upload a presentation from their Desktop or a PC to a cloud storage service and then access it from any of

their personal devices at a location which is different than the source. It can often be said that Mobility is the result of Urban Planning and vice-versa. This means that, both these paradigms are interdependent on one-another.

Richard Carson, an American author famously quoted planning as “ A plan that everyone dislikes for different reasons is a success; A plan everyone dislikes for the same reason is a failure; A plan that everyone likes for the same reason is an act of God!”

Urban Planning refers to the study or analysis of the built environment of a city, town, or an urban area. This is closely related to environmental studies, conservation, and land-use planning and is often offered within the school of architecture. Urban planning concerns itself with both the development of open land i. e. Greenfields Sites and the revitalization of existing parts of the city.

Autonomous vehicles, electric powertrains, and other technological advances are transforming urban mobility drastically. Planning ahead can help cities capture the benefits of the transformation from cleaner air to easier journeys.

As per a recent statistical analysis, it has been observed that the present-day urban population would multiply itself by three-quarters of a ratio in the next three to four decades. One could always argue that there are several reasons contributing to this phenomenon; one thing that stands out from everything is increased mobility of population. With Mobility, it means that there has been a significant change in people’s lifestyle from one sphere to

another without compromising on the quality and efficiency; with progressive movement from rural to semi-urban areas and then ultimately to the urban` areas.

To conclude, Mobility and Urban Planning are in correlation with one another; and with Digital Innovation influencing Urban Planning and the subsequent Mobility, one has many a positive to look forward to in terms of a better and an improvised lifestyle.

Augmented Reality and its correlation with Smart Cities

Augmented Reality (AR) can be defined as an interactive experience of a real-world environment whose elements are " augmented" by computer-generated perceptual information, sometimes across multiple sensory modalities. In simple words, it can be termed as to make something that is already developed – greater in terms of size, quality and efficiency.

Augmented Reality has been called the next big paradigm shift in computing, similar to the kind of transformational changes that the internet and the smartphone made in the field. AR is transforming the world of education where content may be accessed by scanning or viewing an image with a mobile device. Another example is an AR helmet for construction workers which display information about the construction sites.

Boeing researcher Thomas Caudell coined the term augmented reality in 1990 to describe how the head-mounted displays that electrician used when assembling complicated wiring harnesses worked.

In today’s times, more than one half of the world’s population live in semi-urban and urban areas. The United Nations estimates that by the year 2050, the urban areas would become home to close to three-fourth of world’s population.

To accommodate such huge numbers of population into cities, the cities must evolve themselves. This means that the present day urban areas must reinvent themselves in terms of its infrastructure, basic amenities, overall development, and the social-economic factors of its residents.

This is where the concept of a smart city comes into the picture.

A Smart City is an urban conglomerate that uses different types of electronic data collection sensors to supply information which is used to manage assets and resources efficiently. This includes data collected from citizens, devices, and assets that is processed and analysed to monitor and manage traffic and transportation systems, power plants, water supply networks, waste management, law enforcement, information systems, schools, libraries, hospitals, and other community services.

The smart city concept integrates Information and Communication Technology (ICT), and various physical devices connected to the network (the Internet of things or IoT) to optimize the efficiency of city operations and services and connect to citizens. Smart city technology allows city officials to interact directly with both community and city infrastructure and to monitor what is happening in the city and how the city is evolving.

In order to accommodate such large numbers of people, cities would have to develop in a sustainable fashion. This does not mean scaling up the existing resources and services. This is neither physically possible nor economically feasible. Instead, the services have to be automated, energy efficient within existing infrastructure and information acquired at different places in a city reused as much as possible. Also, the expectations of citizens are high and they increasingly expect more from the cities.

Smart Villages – A Peep into the Future

India – a developing nation with the sixth-largest economy in the world is home to more than six-million villages. The Urban and Semi-Urban areas which together form close to eight per cent of all the towns, cities, and villages. In the past couple of decades, we witnessed a rapid overall growth in both the urban and the semi-urban areas. Towns and Cities expanded themselves in terms of their overall infrastructure, basic amenities, and several other fields.

After the Urban and the Semi-Urban areas, the focus shifts to the core of the Indian Economy – its villages. There are several challenges our villages poses in the present-day scenario.

In today’s times, more than twenty-percentage of the world’s population remain without access to electricity. In addition these, close to forty-percentage of the population are still cooking on dangerous and inefficient cooking equipment with a vast majority of them residing in rural areas. One cannot be able to register progress of any sorts until and unless people living

in rural areas have access to the modern-day technologies and services which their counterparts from the semi-urban and urban areas have access to.

This brings us to the concept of a Smart Village. Smart Village India gets its foundation from Mahatma Gandhi’s vision of Adarsh Gram (model village) and Gram Swaraj (Village self-rule/independence). Gandhi in two texts, Hindi Swaraj and Gram (Village) Swaraj, promotes the concept of integrated rural development to impact majority of the population, as the primary initiative after India Independence in 1947. The key motive behind the concept of a Smart Village is to identify several challenges the villages face; and provide an effective and efficient solution that would lead to the overall growth of that village. Fundamental amenities such as: Good Health Care, Quality Education, Sanitation, Security, Improvement of Small-Scale industries to boost the overall economy form contributing factors for a Smart Village.

The Smart Villages Initiative, aimed at this very cause – worked in each of six regions across the globe to bring together people from various fields and domains for providing an Open and Discrete Economy to tackle various challenges the villages pose. It also focuses on generating new ideas, conducting workshops on specific goals and objectives related to that particular village. In Smart Village, the development of the village is based on the five paths namely: Retrofitting, Re-development, Green Fields, e-Pan, and Livelihood. It is very important here to understand that facilitating and the continuous following of the implementation is the key for sustainable development of villages. Thus the post-implementation of the smart-village

concepts can be described as: Facilitate the establishment and implementation, work with various research partners and technology providers to learn the impact of implemented models or ideas, Identify any challenges and provide a work-around; Provide inputs on the futuristic or upcoming enhancements for the villages.

Clean Technology and Circular Economy

Clean technology (Clean Tech) is a general term used to describe products, processes or services that reduce waste and require as few non-renewable resources as possible. The Clean Technology Trade Alliance, a global initiative to drive the expansion of clean tech, defines it as: A broad base of processes, practices and tools, in any industry that supports a sustainable business approach, including but not limited to: pollution control, resource reduction and management, end of life strategy, waste reduction, energy efficiency, carbon mitigation and profitability. The term “ clean tech” is often credited to Ron Pernick and Clint Wilder, who wrote a book called “ The Clean Revolution: The Next Big Growth and Investment Opportunity.

Clean technology is a general term for technology that aims to reduce reliance on non-renewable resources and promotes sustainability. This idea is promoted by groups like the Clean Technology Trade Alliance, a global agency with an interest in making tomorrow’s IT world more energy efficient and less wasteful.

A Circular Economy is a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and

narrowing energy and material loops. This can be achieved through long-lasting design, maintenance, and repair, reuse, remanufacturing, refurbishing, and recycling. This is in contrast to a linear economy which is a ‘ take, make, dispose’ model of production.

A major argument in favor of the circular economy approach is that achieving a sustainable world does not require changes in the quality of life of consumers, nor does it require loss of revenues or extra costs for manufacturers and other economic agents. The argument is that circular business models can be as profitable as linear models and allow consumers to keep enjoying similar products and services.

To achieve models that are economically and environmentally sustainable, the circular economy focuses on areas such as design thinking, systems thinking, product life extension, and recycling.

Renewable Energy is energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy in four important areas: electricity generation, air and water heating/cooling, transportation, and rural (off-grid) energy services.