

EMERGING DIGITAL DISRUPTION: A JOURNEY TOWARDS DIGITAL REVOLUTION AND STUDY ON INDIA'S DIGITAL READINESS

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ABSTRACT

Change is the law of the nature. The introduction of the computers revolutionized almost every aspect of human life in 1960's. The combination of the internet with the computers has marked the beginning of a new form of revolution and is termed as Digital Revolution. The revolution goes beyond simple device connectivity to the internet of Everything and has impact on all the aspects of human life. This led to towards a new form of digital disruption in the economy. Digital Disruption refers to the change that occurs in the existing processes and the activities due to the introduction of the latest technologies and led towards a revolutionary growth and upward movement. The factors causing the disruption are known as Digital Disruptors. This transformation has brought both the opportunities and threats for the economies especially the developing ones which are required to be tackled with the active participation and support of all the elements of the economy. The research paper focuses on studying the concept of the Digital disruption along with its advantages and disadvantages in context of Indian economy. The impact of the digital disruption on the investments and the economy are also discussed. The benefits brought in by this new form of revolution can be harnessed only when an economy is prepared to adopt and implement them in full, therefore the Networked Readiness Index published by World Economic Forum has been used for the purpose of the study.

Keywords: Digital, Industrial Revolution, Disruptors, Networked Readiness.

Introduction

The term Digital disruption is a combination of two words: DIGITAL AND DISRUPTION. The term **DIGITAL** focusses on the digital methods, technologies and innovations that focuses on converting everything in electronic form. The term **Disruption** is used for any act or process that causes break or interruption in the normal course or hampers the continuation of the process or activity. The term Disruption although sounds a negative term as its signifies discontinuation of any ongoing activity or process but when the discontinuation of old processes leads towards the betterment it become the best positive word. Therefore, when both these words are combined together these can also result a revolutionary growth and upward movement. Thus the term **Digital Disruption** refers to the change that occurs in the existing processes and the activities due to the introduction of the latest technologies for the betterment. The factors that contribute in achieving the increased level of digitization are known as **Disruptors**.

The advancements in the technology has increased the level of the competitiveness at not only the country level but at the global level too and consequently warrants the existence of those processes and the businesses which are unable to adapt themselves in the changing landscape. It has been aptly said by As Klaus Schwab,

“In the new world, it is not the big fish which eats the small fish, it's the fast fish which eats the slow fish.”

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The digital advancements have completely revolutonised and modernized not only the business processes but also our day to activities. From groceries to investment, in the assets all are under the purview of the digitization and hence resulted a change in the way the peoples use their economic assets. Even the investments in the countries in the form of FDIs is based on the evaluation of the availability of the opportunities of the technological advancements and the readiness of the people of the country to adopt the digital means. The creation of the digitally empowered economy requires robust infrastructure, technological support, active government participation and the readiness of the peoples of the country to adopt new processes in place of the old ones. In developing countries like India the government has to play active role in the journey of forming of a digital country. Demonetization, Launch of Aadhar Card, JAM (Jan Dhan Aadhar Mobile) Trinity, Direct Benefit Transfer etc. are few revolutionary steps undertaken by the Indian govt. in the path of Digitization.

Objectives

- To study the concept of Digital disruption along with its pros and cons.
- To study the impact of Digital Disruption on the Investments and the economy.
- To analyse the readiness of Indian economy to reap the benefits of this disruption on the the basis of various parameters of its Networked Readiness Index published by World Economic Forum.

Research Methodology

This is a conceptual paper and secondary data has been used for the purpose of the purpose of the study. The networked readiness report published by the World economic forum for the year 2018 and 2019 has been used for the purpose of the study.

Concept of Digital Disruption

The Drivers of the disruption has led towards the formation of a new form of digital economy wherein all the sections of the population are impacted directly and indirectly. Availability of all the above mentioned factors along with the coordination can result in the formation of a digitally empowered economy. Perquisites for increasing the pace of Digitization of the economy:

- Adequate Infrastructure.
- Government support.
- Increased adaptability by the masses.
- Tradeoff between cost and profitability
- Cyber Security.

Examples of the Digital Disruptors

Following are the few examples:

- Facebook has become the world's largest media company.
- LinkedIn (online social network) has become the leader in the recruitment business.
- Netflix (a software company) has the largest no of subscribers in video service.
- Canon Cameras are totally replaced by the smartphones.
- Uber has replaced the traditional taxi service business.
- Introduction of cryptocurrencies like Bitcoin will revolutionize the banking sector.

Benefits of the Digital Disruption

The Digital Disruption has undoubtedly revolutionized the business processes, lives of the masses and the government perception towards the digitization. It has therefore become imperative to study the benefits that this disruption has brought for the different segments of the society.

Benefit to the Business

The companies or the business firms which were unable to update themselves with the latest innovations and technologies has been out of the market space even though they were leaders at some time ago. Therefore, the businesses are required to implement the new processes and the technologies to remain competitive. The benefits that these modern firms enjoy are:

- Make the business more competitive.
- Helps to provide increased customer experience.
- Increased productivity from the employees.
- Higher profit margin due to reduced costs.

Benefits to the Masses

The masses term encompasses the final users of the service or product. They are the actual beneficiary of the benefits brought in by the introduction of the new technologies by the businesses. The growth and success of these new technologies is dependent on the readiness of these peoples to accept it and the knowledge to use it. Following are the benefits to them:

- Saves time.
- Increased flexibility.
- Increased Satisfaction.
- Increased knowledge.
- Competition among the businesses led to the availability of the products at cheaper rates.
- Better decision making.

Benefits to the Economy

The digitization of the processes and its adoption brings benefits to the economy as a whole for example:

- Increased investment by the businesses in R&D.
- Increased FDI.
- Increased Global competitiveness.
- Talented workforce.

Disadvantages of Digital Growth

Advantages and Disadvantages are the two sides of a coin and both come together therefore after analyzing the benefits it brings with it, it become equally important to study the disadvantages associated with it. Few of them are mentioned below:

- Complexity in usage.
- Security issues.
- Ever changing technologies.
- Increased competition.
- Inadequate infrastructural support.
- Over reliance on gadgets.
- Reluctance among the aged generations.
- Jobs insecurity
- Addiction
- Social Disconnect
- Crime and Terrorism
- Anonymity
- Increased workload.
- Manipulations by using digital media.

The above mentioned points highlights that though the increased usage of the technologies has revolutionized all the spheres of the human life and has brought several favorable outcomes too in form of increased knowledge, better productivity and increased global competitiveness but there are certain disadvantages associated with it which are required to be given due consideration too.

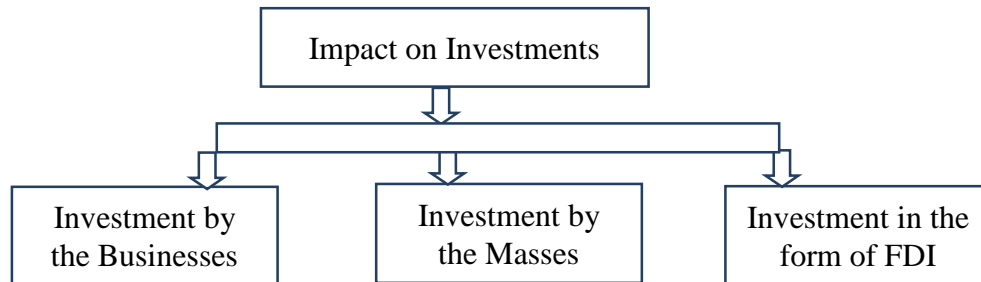
The journey of digitalization faces various challenges such as:

- Digital Illiteracy.
- Poor rural households.
- Lack of clarity in policies.
- Lack of awareness among the masses.
- Last mile connectivity.

In developing countries, like India, the most important hurdle in the growth of the digitalization is the availability of adequate infrastructure to support it in the developing economies. The govt. of our country spares a sufficient amount of money (approx. Rs 3212.52 crores in budget 2020) in the budget for the development of the infrastructure to support digitization. The introduction of Aadhar as a national identity, the launch of Jan Aadhar Mobile trinity etc. are the few important steps undertaken by the government in this direction.

Impact of Digital Disruption on Investments

The latest innovations in the technologies and processes termed as digital disruptors has brought changes in the investment pattern of not only the businesses but also the individuals. The investments by the foreign countries in the form of FDI is also dependent on the availability of the technologies as well as the adaptability of the masses towards the latest technologies.



Investment by the Businesses

The digital technological advancements among all the business sectors across the globe has brought tremendous influence on the investments made by the business in all the stages commencing from the conception of the idea of a new product/ service till its final delivery to the ultimate customers/ consumers.

Following points highlight the impact of digital disruption on investments by the businesses:

- Shift in focus from better product/ service to better experience of the masses.
- Increased competition has forced them to undertake more investments in adoption of latest technologies.
- The companies have to undertake various campaigning activities to make the people realize the benefits of adopting latest technologies.
- The businesses have to undertake investments in creating the basic infrastructure required to accept the digital payments for example installation of swipe machines to accept card payments.
- The investments are also required to be undertaken for training and knowledge upgradation of the existing workforce.
- The businesses have to focus on creating their digital presence for example creating their websites or tie up with the online companies.

Investment by the Masses

The advancements in the technologies have revolutionized the life style of the masses as these advancements came up with lot of benefits for them in the form of the reduced cost and increased convenience. The digital disruptors have only not brought changes in the spending habits of the masses but also on the way they save and invest.

Following points highlight the change in the investment patterns of the masses due to the technological advancements:

- Increased preference of the digital currencies such as bitcoin over the physical currencies.
- People have started investing in gold bonds instead of jewelry.
- Launch of REITF (Real Estate Investment Traded Funds) has encouraged masses to invest in real estate in digital form.
- The preference of the masses towards making digital payments using cards or wallets has increased tremendously.
- The convenience posed by the digital means has increased inclination towards investing in shares and mutual funds.
- Digitization has resulted in reduced reliance on cash by the masses for making day to day transactions.
- Deeper penetration of the internet services and the increased sale of the smartphones on year on year basis highlights the increased acceptance by the masses towards the creation of digital economy.

Investments in form of FDI (Foreign Direct Investments)

The phenomenal digital transition of the Indian economy, increased investments by the domestic companies in digital technologies, increasing appetite for digital solutions of the masses and the commendable support by the government of our country in the form of increased infrastructure has formed the bedrock for increased investments in the form of FDI in our country.

- In 2018, India received approximately USD 1.79 billion in Venture Capital supported funding across 97 deals.
- In the first quarter of 2019 India became the top Fintech funding target market by receiving investments of around USD 286 million across 29 deals.
- Google (a technology giant) has decided to invest \$ 10 billion in India in coming 5 to 7 years and as a part of its commitment in 2020 it has decided to invest Rs 33,737 crores for 7.73% stake in Jio platforms.

Impact of Digital Disruption on the Economy

The latest advancements in the technologies have transformed the entire economy. All the sectors of the economy, whether it is production or service, has been transformed gradually over the years. These disruptors have led towards the origination of a new form of the economy and is termed as Digital Revolution.

It requires the collaborative efforts of the government, private players and the residents of the country to reap the benefits of digitisation in full.

It plays an important role in the economic growth and prosperity of the masses of the country but the various dangers posed in the form of cyber security, loss of jobs of unskilled labourers etc. should also be given due consideration along with the merits associated with it.

Following points highlights the impact of the digital disruptors on the Indian economy:

- The increasing digitisation of the economy contributes in the increased global competitiveness of the country.
- The introduction of the latest innovations and the researches in the production processes contributes in the increased earnings in the form of increased no of units and the reduced per unit costs.
- The launch of 3D Printing technologies in the production processes has the potential to change the world trade wherein 3D printers are used in production that results in reduced wastages.
- The Increased investments in the form of the Foreign Direct Investment as Venture Capital contributes in increasing the prosperity of the nation.
- Increased usage of the digital means results in reduced reliance on cash by the masses for performing routine transactions and increased investments in the digital assets.
- The increased expenditure by the businesses on training and knowledge enhancement of their employees results in framing a knowledge economy.
- The increased production and the globally acceptable products will help in increasing the GDP and per capita income of the economy and ultimately economic prosperity of the peoples of the country.
- The Country with the increased digital acceptance has people with higher standard of living as compared to the others.
- The ambitious projects of the government of creating Smart Cities and Digital India is possible only with the increased acceptance of the digitalisation.

Analytical Analysis of Indian Economy

India is a developing economy where the majority of the population lives in rural areas. The usage of digital technologies and equipment requires a certain level of knowledge and education thus it poses difficulty for the illiterate peoples living in far flung areas of the country. Therefore, for the achievement of the goals of inclusive growth, it becomes imperative for the government to create a conducive environment for equal participation of all the sections of the population.

The detailed analysis of the Indian economy on the basis of creating a digitally empowered economy highlights the following facts:

- The no of the rural and the urban telecom subscribers, no of smartphone users in the country has increased and the overall tele density has also increased from 2016 to 2020.

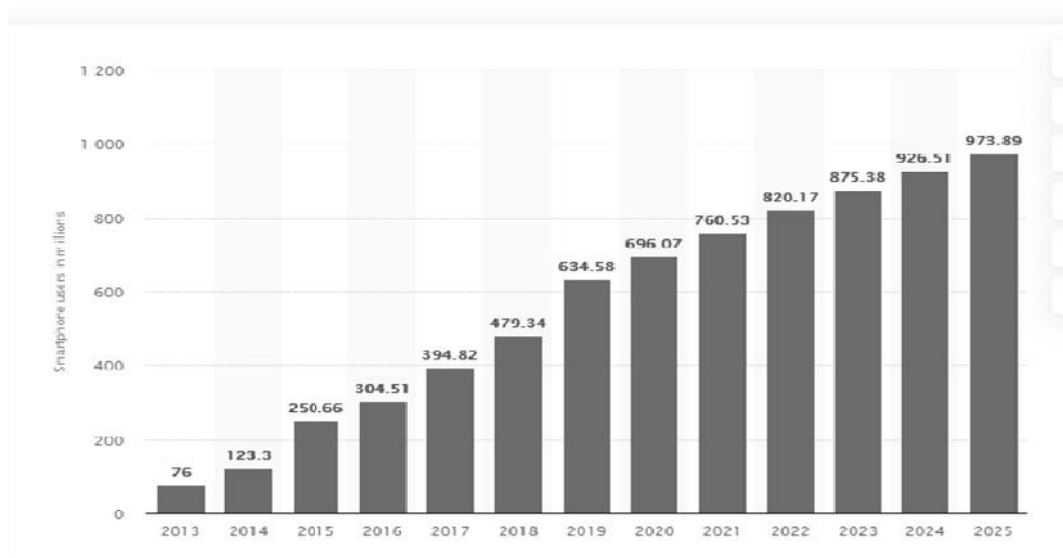
Data pertaining to Rural and Urban Telecom Subscribers and Overall Tele-Density:

Data as on 31 Jan	Urban Telecom Subscribers (in Million)	Rural Telecom Subscribers (in Million)	Overall Tele-Density (%)
2016	603.85	439.43	82.30
2017	681.15	493.65	91.61
2018	672.54	502.47	90.61
2019	672.91	530.86	91.82
2020	662.75	514.27	87.45

Source: Report of TRAI.

No of Smartphone users in India from 2015 together with the expectations upto the year 2025.

(In Millions)

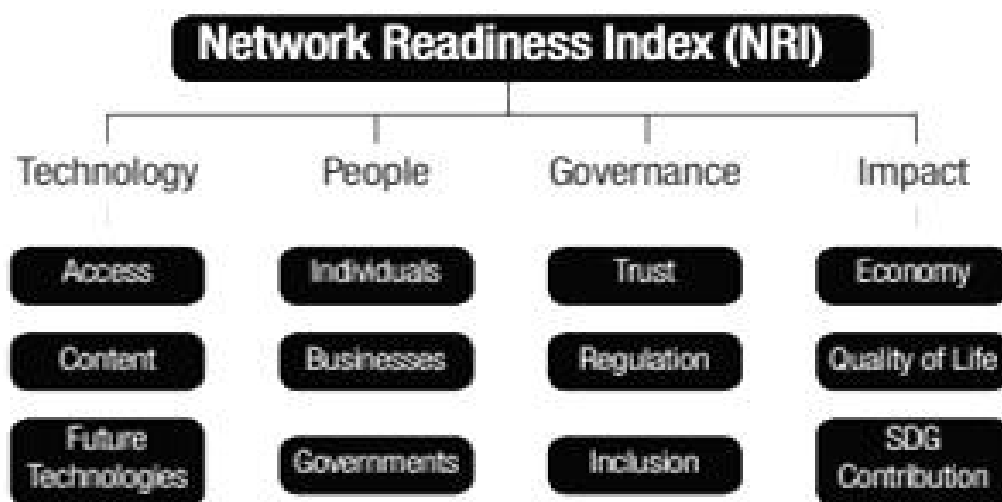


Source: Statista 2020.

- According to the IMD World Digital Competitiveness Ranking 2019 (WDCR) the India's position has been improved from 48 rank in 2018 to 44th rank in 2019 indicating improvement in all the factors comprising knowledge, technology and future readiness.
- The Digital payments holds share of 769% of India's GDP for the financial year 2019.
- The start-up environment of India registered a strong growth in the number as well as the volume of funding deals. The highest no of technology deals was witnessed by the technology sector with 112 deals in 2019 followed by 99 deals of e commerce and 97 deals of the financial sector.
- India, for instance, has created the India Aspiration Fund, a so-called "fund of funds" with \$306 million to invest in private venture capital funds in order to expand the pool of, and boost, Indian entrepreneurs
- 375 start-ups out of the total no of the start-ups in 2019 were the fin-tech start-ups related to the payments sector only.

Network Readiness Index: A study on the digital preparedness of a nation

The advancements in the Information and Communication Technologies and their interaction with the human life has forced the countries across the globe to measure the impact brought in by the advancements on increasing the economic growth as well as the competitiveness. As a result, the Network Readiness Index was developed by the World economic forum that compares the data of 121 countries and rank their performance on the basis of following 4 main pillars and 3 Sub pillars each of the 4 main pillars:



Source: NRI 2019

The top performer country in the year 2019 was Sweden with total score of 82.65 followed by Singapore with index score of 82.13. India holds 79th position out of 121 countries with index score of 44.81

NRI 2019

Particulars	Rank out of 121	Score
Network Readiness Index.	79	44.81
Technology pillar	72	41.76
1 st sub-pillar: Access.	73	59.14
2 nd sub-pillar: Content..	84	32.97
3 rd sub-pillar: FutureTechnologies	46	36.16
People pillar	81	35.87
1 st sub-pillar: Individuals	103	28.35
2 nd sub-pillar: Businesses	87	22.60
3 rd sub-pillar: Governments	36	56.67
Governance pillar	52	63.66
1 st sub-pillar: Trust	49	61.89
2 nd sub-pillar: Regulation.	59	64.61
3 rd sub-pillar: Inclusion	58	64.49
Impact pillar	100	36.96
1 st sub-pillar: Economy.	66	19.37
2 nd sub-pillar: Quality of Life	93	52.39
3 rd sub-pillar: SDG Contribution	108	39.11

Interpretation

- The readiness index prepared prior to this year in 2016 highlights that India ranked 91 among 139 countries although the data of both the index cannot be compared directly owing to various structural and operational differences.
- The strongest pillar as per the index is Governance pillar. Launch of PMJDY, Demonetization, JAM, Digital India etc. are amongst the factors that be accounted for this position.
- The weakest pillar is Impact pillar in which India holds 100th rank among 129 countries and highlights the ample scope of improvement.
- The technology pillar and the people pillar interact with each other therefore the focus should be not only on the increased usage of the technology but also on the generation of future technologies.

Conclusion

The advancements in the technology has brought multifaceted impact on all the spheres of human life. The integration of the computers with the internet have marked the journey towards Internet of Everything. This new form of Digital Revolution has revolutionized almost all the countries across the globe and therefore realizing the benefits brought in by this revolution the countries are focusing on building technology and human capital for reaping the benefits in full.

In developing countries like India sincere and coordinated efforts are required to be undertaken by the service providers, users as well as the government to support the spread of the services to all the sections of the population. The analytical analysis of the technological spread of India highlights that the penetration of the basic infrastructure in the form of Tele density and the no of smartphone users is witnessing an increasing trend.

The study of the Network Readiness Index 2019 highlights that India lacked preparedness to harness the benefits brought in by the Digital Disruption. The Impact pillar and the people pillar and their sub pillars are required to be adequately analyzed and developed so that the Country's overall ranking can be improved and the obstacles in the growth process are tackled beforehand to reap the advantages and contribute in economic growth and prosperity.

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