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 ijirset@gmail.com

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Spending and Growth Rate of Information Communication Technology in India

Dr. Kiran Jayade¹, Dr. R. S. Waghmare², Dr. Sapana B. Baviskar³

Assistant Professor, Dr. PDKV College of Agriculture, Nagpur, Maharashtra, India

Associate Professor, Dr. PDKV College of Agriculture, Nagpur, Maharashtra, India

Assistant Professor, Dr. PDKV College of Agriculture, Nagpur, Maharashtra, India

ABSTRACT: Information and communications technology (ICT) is an Information Technology which is connected to the Communication Technology to send and receive the data from one computer to another computer over the Internet and computer network. ICT is a system that includes any communication device, encompassing cell phones, computer and network hardware, satellite systems and so on, as well as the various services and appliances with them such as video conferencing. In the present study, the growth rate percentage in spending of ICT have been calculated. In this paper, we studied the different components of ICT in India, studied the spending and growth rate in ICT in India during the year 2021 to 2023. Despite facing a sluggish phase in 2022 and 2023, primarily due to inflationary pressures, overall spending in India is projected to witness a strong resurgence in 2024, growing 10.7% year-over-year. Two-digit growth rate are due to the attitude of Indian customers offer to pay a higher price to buy for better ICT solutions and upgrading to new ICT hardware. Projection of spending and growth rate percentage for the year 2024 for ICT in India have been projected. India in 2024, there is an increase growth rate of 10.7% with spending of 124609 US\$.

KEYWORDS: Growth rate, Spending, Information, Communication, Technology, ICT

I. INTRODUCTION

Information and communications technology (ICT) is an Information Technology which is connected to the Communication Technology to send and receive the data from one computer to another computer over the Internet and computer network. ICT is an extensional term for information know - how (IT) that stresses the role of unified communications and the integration of telecommunications (telephone lines, satellite link and wireless signals) and computers, as well as necessary enterprise software, middleware, storage and audio-visuals, that enable users to access, store, transmit, understand and manipulate information. ICT is a system that includes any communication device, encompassing cell phones, computer and network hardware, satellite systems and so on, as well as the various services and appliances with them such as video conferencing and distance learning.

The major ICT centers in India are Bengaluru (also known as the Silicon Valley of India), Mumbai, Pune, Hyderabad, Chennai, New Delhi and Gurugram. India has a well-organized distribution system and several established, global ICT distributors. ICT companies can sell their products directly and through local partners, including system integrators and value-added resellers.

Advanced India's 5G telecom infrastructure, in July 2022, the Department of Telecommunications auctioned 51,236 MHz out of 72,098 MHz spectrum across 10 different bands (600 MHz, 700 MHz, 800MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300 MHz and 26 GHz). In October 2022, the India launched 5G services to enhance digital connectivity and improve network infrastructure and access to high-speed internet. The rollout of 5G in India has been the fastest in the world.

The Indian telecommunications sector is the second largest in the world by subscribers, with 1.2 billion wireless and fixed-line subscribers. India's mobile economy has been driven by widespread adoption, with wireless subscriptions representing 98 percent of telephone use. According to Deloitte, India is expected to reach 1 billion smartphones by 2026, from 770 million currently. India has also emerged as the second largest manufacturer of mobile handsets in the world. India also has 856 million broadband subscribers.

II. OBJECTIVES

The objectives of the study are given below

1. To study the different components of ICT in India
2. To study the spending and growth rate in ICT in India during the year 2021 to 2023 year-over-year
3. To find projected spending and growth rate % for the year 2024 for ICT in India

III. METHODOLOGY

The methodology of the paper focuses on the source of data, period of the data, data analysis tools, estimation of growth rate % in spending are used to achieve the objectives.

a) Source of data

The secondary data is collected from the authentic website and other sources related to the information communication technology.

b) Period of the data

The year wise data is collected from the year 2021 to 2023 for the spending of information communication technology.

c) Data Analysis Tools

The statistical data analysis tools are used to estimate the spending and growth rate percentage of ICT.

Estimation of Growth Percentage

In the present study, the growth rate percentage in spending of ICT have been calculated.

Equation to find the growth rate on year-over-year basis of the following type is used.

$$Y = (b - a) / a * 100$$

where,

- Y = Percentage growth rate (%) of spending
(spending in millions US\$)
- a = Previous year's data of spending
- b = Next year's data of spending

IV. RESULTS AND DISCUSSION

Results regarding the spending and growth rate % of ICT in India are presented and discussed in this section on the basis of objectives mentioned.

4.1 ICT components

ICT components include the following:

- Devices (hardware).
- Software.
- Middleware.
- Data Centre Systems
- IT services
- Wired networks.
- Wireless networks.
- Communication Devices and technologies.
- The cloud
- Communications protocols and interfaces.
- Information security and governance policies.
- ICT means more than its list of components. It encompasses the application of all those various components.

4.2 Spending and Growth rate of ICT in India

Spending and growth rate % of ICT in India from 2021 to 2023 and projected spending and growth rate percentage for 2024 are given in the following Table 1. Spending of ICT components viz. devices, software, IT services, data center systems, communications services and overall ICT services from 2021 to 2023 are given in table 1.

Table 1. India’s Information Communication Technology Growth and Forecast (Millions of U.S. \$)

ICT Services	Spending in 2021	Growth rate (%) in 2021	Spending in 2022	Growth rate (%) in 2022	Spending in 2023	Growth rate (%) in 2023	Estimated Spending in 2024	Estimated Growth rate (%) in 2024
Devices (Hardware)	49,530	37.3	49,853	2.0	46,309	-7.1	51,000	10.1
Software	11,250	19.9	13,115	15.1	14,931	13.8	17,689	18.5
IT Services	19,210	15.0	21,837	13.3	23,262	6.5	26,651	14.6
Data Center Systems	3,180	14.4	3,607	18.6	3,766	4.4	4,121	9.4
Communications Services	24,380	5.7	24,651	0.2	24,287	-1.5	25,148	3.5
Overall ICT services	107540	22.1	113,063	5.5	112,554	-0.5	124,609	10.7

Source: Gartner (November 2023)

The above table shows that devices in 2021 have increased by 37.3 % highest growth rate year-over-year with spending of 49530 millions US\$, in 2022 only 2.0% growth rate, in 2023 a decline by -7.1% and in 2024 there is a projection increase of 10.1% year-over-year with spending of 51000 US\$.

Software spending in 2021 have increased by 19.9 % growth rate year-over-year with spending of 11250 millions US\$, in 2022 only 15.1% growth rate, in 2023 an increase of 13.8% growth rate and in 2024 there is a projection increase of 18.5% growth rate with spending of 17689 US\$.

IT services spending in 2021 have increased 15.0 % year-over-year with spending of 19210 millions US\$, in 2022 growth is 13.3%, in 2023 an increase of 6.5% and in 2024 there is a projection increase of 14.6% with spending of 26651 US\$.

Data centre systems spending in 2021 have increased 14.4 % year-over-year with spending of 3180 millions US\$, in 2022 growth is 18.6%, in 2023 an increase of 4.4% and in 2024 there is a projection increase of 9.4% with spending of 4121 US\$.

Communication services spending in 2021 have increased 5.7 % year-over-year with spending of 24380 millions US\$, in 2022 growth is only 0.2%, in 2023 a decrease of -1.5% and in 2024 there is a projection increase of 3.5% with spending of 25148 US\$.

Overall ICT services spending in 2021 have increased 22.1 % with spending of 107540 millions US\$, in 2022 growth rate is only 5.5%, in 2023 a decrease of -0.5% and in 2024 there is an increase growth rate of 10.7% with spending of 124609 US\$.

Despite facing a sluggish phase in 2022 and 2023, primarily due to inflationary pressures, overall spending in India is projected to witness a strong resurgence in 2024, growing 10.7% year-over-year. The two digit growth are due to the

attitude of Indian customers offer to pay a higher prices to buy for better ICT solutions and upgrading to new ICT hardware.

4.3 Projection of Spending and growth rate of ICT

From the table 1 above, ICT spending to return to growth after declining in 2022 and 2023. The ICT spending for 2024 and growth rate percentage for 2024 are projected. India's Overall ICT spending is projected to total US\$124.6 billion in 2024, compared to US\$112.5 billion in 2023, an increase percentage growth rate of 10.7% from 2023 year-over-year basis, with a double-digit growth rate, according to recent projections.

V. CONCLUSIONS

Spending of ICT components viz. devices, software, IT services, data center systems, communications services and overall ICT services have increased from 2021 to 2023 and significant increase is projected in 2024. There is an increase of ICT spending growth rate from 2021 to 2024. There was sluggish phase of spending in ICT in 2022 and 2023, primarily due to inflationary pressures, overall spending in India is projected to witness a strong resurgence in 2024, growing 10.7% year-over-year. Two-digit growth are due to the attitude of Indian customers offer to pay a higher prices to buy for better ICT solutions and upgrading to new ICT hardware. Projected spending of ICT for 2024 and growth rate percentage for 2024 are projected. India's Overall ICT spending is projected to total US\$124.6 billion in 2024, compared to US\$112.5 billion in 2023, an increase percentage growth rate of 10.7% from 2023 year-over-year basis, with a double-digit growth rate, according to recent projections.

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