



Telecom Dynamics In Surguja, Chhattisgarh: A Global Perspective On Organizational Structures

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Abstract: Telecommunication companies have experienced significant structural changes due to advanced technology and the widespread use of mobile phones and internet services. These companies have become prominent players in the global market, providing essential services to meet the demands of today's society. In Surguja district, Chhattisgarh, the challenge of balancing infrastructure development, especially fiber networks, with the need to reduce resource consumption and emissions is acknowledged among communications service providers (CSPs). As global connectivity increases, there is a growing need to find a harmonious balance between expenditures and the diverse needs of households, businesses, localities, and the environment in Chhattisgarh. The study conducted in Surguja district involves analyzing survey data from middle and higher-level employees in the telecom industry. Out of 130 forms sent, 114 were received, and 70 accurately filled forms were used for analysis. The research focuses on evaluating the organizational structure of the selected telecom industry, exploring the impact of factors like technical complexities, vision, mission, geographic dispersion, and market competition on the organization. Ultimately, the study aims to understand how these companies choose a structure that aligns with their specific needs.

Index Terms - Market Competition, Technological Complexity, Geographic Dispersion, Organizational Structure, Long-Term Strategic Vision, Innovation and Adaptability Influences, Cost-Effectiveness and Resource Allocation, Regulatory Environment, Network Coverage

I. INTRODUCTION

Organizational structures serve as comprehensive visual representations delineating the roles and hierarchies within a business and its subsidiaries. The complexity of telecommunication architectures varies based on the organization's size and adherence to procedural frameworks. Typically, telecommunications companies operate under the oversight of a high-ranking board of directors or a governmental body, promoting centralized decision-making for greater efficiency. This approach is particularly advantageous in larger organizations, fostering a structured and orderly work environment (Cabrera et al., 2008).

The organizational structures of telecommunication companies in India are diverse, encompassing both private and public entities. The Department of Telecommunications (DoT) under the Ministry of Communications, Government of India, plays a central role in regulating the sector and has its own organizational structure[1][4].

Department of Telecommunications (DoT)

The DoT is responsible for formulating and implementing telecommunication policies and regulations in India. Its organizational structure is detailed in the DoT Organization Chart, which outlines the various departments and divisions within the organization[1].

Private Telecommunication Companies

Private telecommunication companies in India are typically structured around a central management team, with divisions for sales, marketing, technology, human resources, and finance. These companies operate as independent entities, with their own organizational structures tailored to their specific needs and strategies.

Subsectors of the Telecommunications Industry

The Indian telecommunications sector comprises various subsectors, such as infrastructure, equipment, mobile virtual network operators (MVNOs), white space spectrum, 5G, telephone service providers, and broadband.(Avinash, 2023).

Telecommunications Consultants India Limited (TCIL)

Telecommunications Consultants India Limited (TCIL) is a government-owned undertaking that provides telecommunication consultancy and engineering services to friendly developing countries and telecom operators in India and other countries[4]. TCIL's organizational structure is designed to manage its diverse projects in telecommunications and information technology, as well as other fields such as power transmission, rural roads, and civil construction[4].

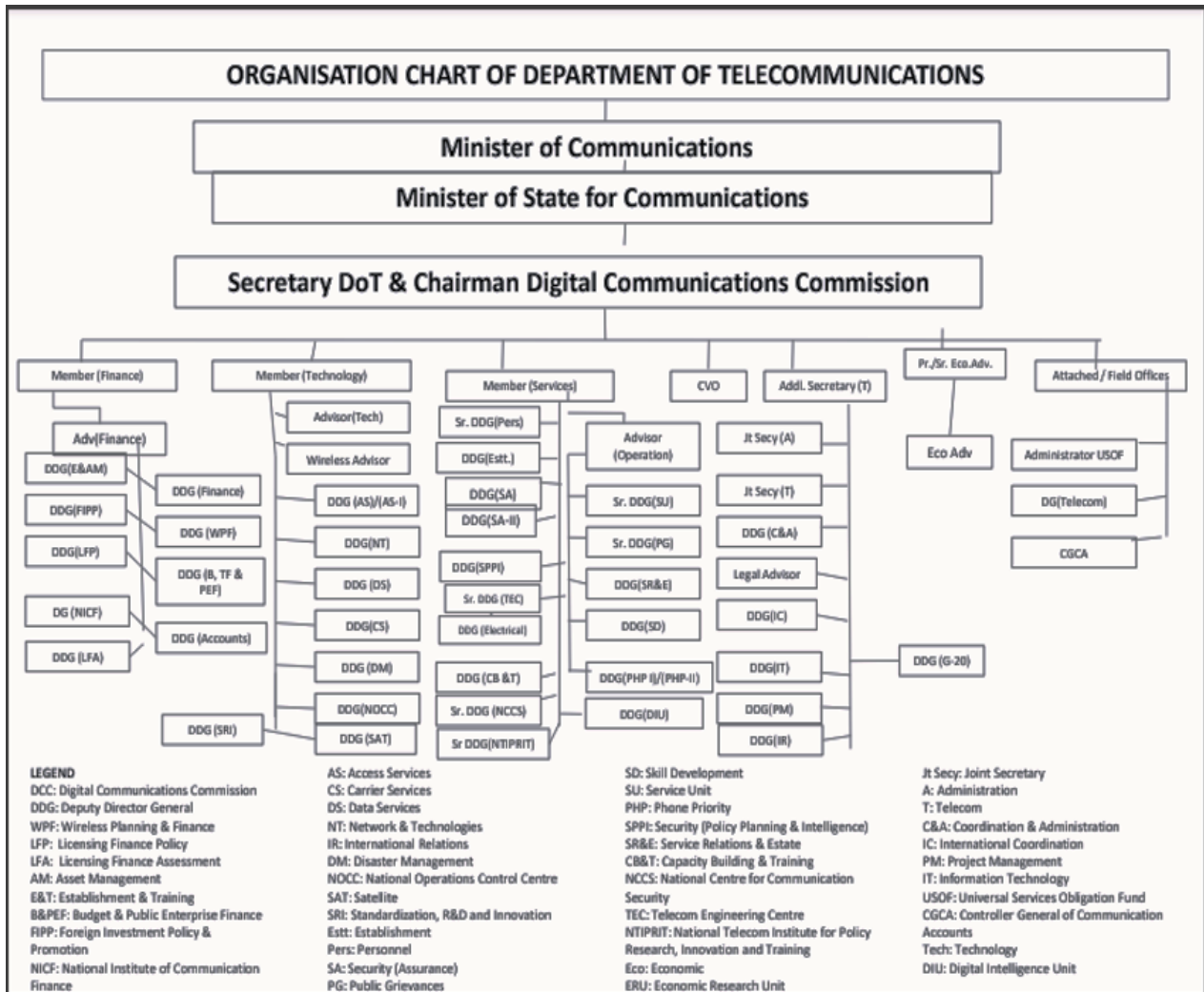
Organizational Structure Variations

Organizational structures within the telecommunications industry in India can vary based on factors such as company size, market focus, and strategic priorities. For example, some companies may have a more centralized structure, while others may have a more decentralized structure to accommodate their specific needs and strategies.

The organizational structures of telecommunication companies in India are diverse, encompassing both private and public entities, with variations based on factors such as company size, market focus, and strategic priorities. The Department of Telecommunications (DoT) plays a central role in regulating the sector and has its organizational structure. Private telecommunication companies typically have their organizational structures tailored to their specific needs and strategies.

The telecommunications sector has emerged as a pivotal force in today's economy, facilitated by advancements in fundamental communication systems encompassing transmitters, transmission media, and receivers. Leading corporations in the telecommunications industry often initiate operations under the guidance of a board of directors or a governmental entity, allowing for streamlined decision-making with a limited number of key decision-makers. Larger corporations in this sector exhibit a formal and organized work setting, characterized by hierarchical structures that provide employees with clear job responsibilities and supervision, ultimately reducing uncertainty at higher management levels (Jensen & Meckling, 2009).

The rapid evolution of technology, particularly the widespread use of mobile phones and internet services, has driven substantial structural transformations within telecommunication companies. These entities have ascended to prominence as reputable and active players in the global market, offering essential



telecom services that have become indispensable in contemporary society.

Fig.1- Hierarchical Structure of a Telecommunication Company

Source- <https://dot.gov.in/organizational-structure> updated on- **13-12-2022**

Given the ubiquity of mobile devices, telecom services provided by Communications Service Providers (CSPs) encompass dedicated telecommunication services, including data transmission and telephonic access, catering to the diverse needs of subscribers.

The hierarchical structure of a Telecom Company assumes paramount importance due to its expansive nature. This structure can be categorized into three main levels, each comprising several sub-level classifications, ensuring a well-defined organizational framework for effective functioning as shown in Fig. 1

1.1 The Global Telecommunication Industry on Organisational Structure-

The telecommunication industry is encountering a significant strategic challenge, akin to issues faced by mature industries and utilities. Despite being crucial for billions of consumers and nearly all businesses, the sector is grappling with strategic concerns that require careful consideration and adaptation.

Fueled predominantly by the demand for video content, the worldwide data usage across telecom networks is projected to almost triple, escalating from 3.4 million petabytes in 2022 to 9.7 million petabytes in 2027. Nevertheless, despite this substantial surge in data consumption, telecommunication providers encounter constrained pricing influence within the progressively commoditized market for connectivity and data services. The revenues generated from internet access, serving as an indicator for broadband expenditure, are anticipated to exhibit modest growth with a 4% compound annual growth rate (CAGR), reaching US\$921.6 billion by the year 2027. Simultaneously, telecom companies must make substantial investments in costly infrastructure to support customer needs, with an estimated investment of US\$342.1 billion in their networks in 2027 alone. This financial challenge is compounded by the ongoing transition to 5G and the adoption of new technological standards.

Companies navigating an increasingly complex and competitive environment should focus on strategic approaches to sustain outcomes and growth. As companies persist in prioritizing cost reduction, optimization, and automation, they can also venture into growth opportunities within sectors like Internet of Things (IoT) solutions, private 5G networks tailored for businesses, fixed wireless home broadband catering to households, and customized digital infrastructure, data, content, and platform services for industries such as entertainment and media, healthcare, manufacturing, and mobility. To succeed in these emerging areas, telecommunications companies need to embrace broader ecosystems that are transforming the industry, marking a shift in their strategic imperative.

1.1.1 Consumer-Centric Data Demand Rises-

Telecommunication companies are diversifying revenue sources beyond connectivity, aiming for a share in content subscriptions and IoT applications. Telecommunication companies are experiencing increased demand due to evolving user preferences and emerging devices with higher data requirements. Video consumption is set to surpass total data usage in 2022-27. Traditional communication data, boosted by pandemic-driven remote work, will grow by 26.8% from 2022-27. Gaming, identified as a noteworthy growth sector, is anticipated to experience a 21% Compound Annual Growth Rate (CAGR) in data consumption from 2022 to 2027, driven by the increasing popularity of online and cloud gaming. Virtual reality (VR) data is projected to expand by approximately 43%, constituting 5% of the total data consumption by 2027. Despite ongoing technological advancements and heightened competition, decreasing data prices are expected to result in a 4% CAGR in internet access revenues, reaching US\$921.6 billion by 2027. Notably, cellular data is poised to be the fastest-growing category globally, with a robust 27% CAGR. driven by variations in data consumption behaviors across geographies. In Asia, Reliance Jio and Bharti Airtel where cellular data is projected to account for 30% of all data traffic, the rollout of 5G in India is expected to drive service development and innovation, especially in gaming and healthcare, with potential for millions of 5G subscribers.

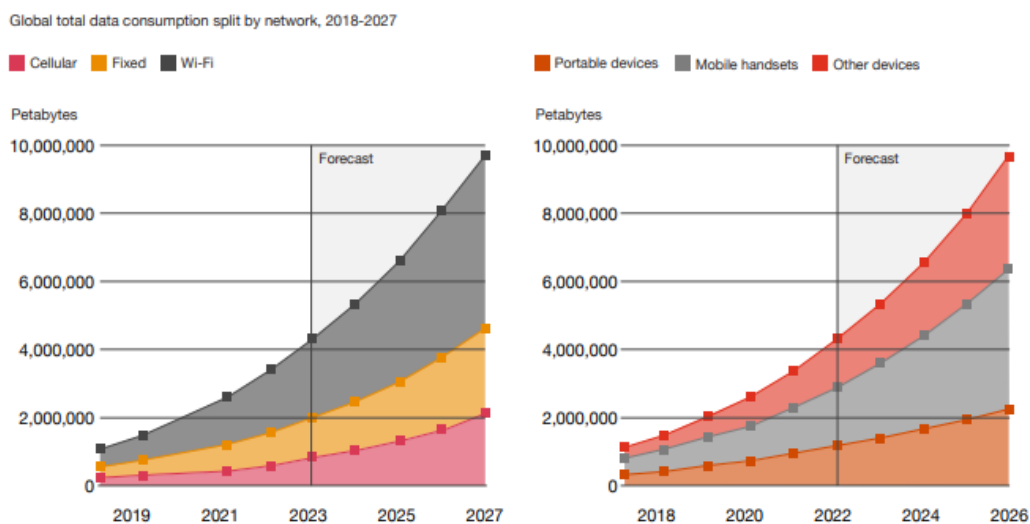


Fig- 2. Consumption Trends- Global Data Consumption Split by Network 2018-27

Source: PwC's Global Telecom Outlook 2023-27, OMDIA

1.1.2. Promoting IOT Adoption in Business-

The business and corporate customer segment is witnessing shifts in demand for IoT adoption, yet revenues have seen only linear growth due to constraints in chipsets, networks, and business capabilities. To fully flourish, IoT needs an ecosystem of partners, including telcos, software providers, and integrators, to develop effective solutions. Over the next five years, enterprises' interest in IoT will convert into revenues, with the consumer sector experiencing significant growth, reaching nearly 10 billion devices in 2027. Business applications, especially in commercial and industrial electronics, will take center stage, with medical IoT devices growing rapidly at a 16.7% CAGR. As IoT devices place diverse demands on networks, telcos are partnering with tech players in complementary ecosystems to enhance efficiency and scalability. Within the B2B context, there will be an increased emphasis on private networks, necessitating services from cloud, telecom, hardware, and software providers (Singh Ahuja et al., 2023). The competition in delivering private networks is expected to involve diverse participants, encompassing telecommunication companies, technology firms, neutral host providers, system integrators, and Original Equipment Manufacturers (OEMs).

1.1.3. Network Evolution's Impact on Telecom's Future-

The future of telecom networks is becoming more diverse with a range of technologies available. As of the start of 2023, close to 200 telecommunications companies had introduced 5G networks. The trajectory indicates that 5G is anticipated to evolve into the predominant smartphone connection by 2025, surpassing the 50% mark and exceeding two-thirds of smartphone connections by the year 2027. While fiber deployment is increasing, open radio access networks (Open RAN) are still niche but gaining attention, as seen with initiatives like Vodafone's Open RAN. Capital spending on 5G infrastructure led to a 4.2% growth in total telecom capex in 2022, reaching US\$319.1 billion. Nevertheless, the annual growth rate in fixed and mobile broadband investment is anticipated to decrease steadily until 2027, influenced by elevated inflation and interest rates. In 2026, mobile network capital expenditures (capex) are projected to outpace fixed broadband investments, fueled by the widespread rollout of 5G, expansion of fiber infrastructure, migration to cloud-based services, and the exploration of open-source network solutions by operators in the United States, Europe, and Japan.

Spurred by aggressive rollout of infrastructure, global 5G connections will top 3.8bn by 2027.

Split by generation, 2018-2027

■ 3G and lower connections ■ 4G connections ■ 5G connections

Millions of connections

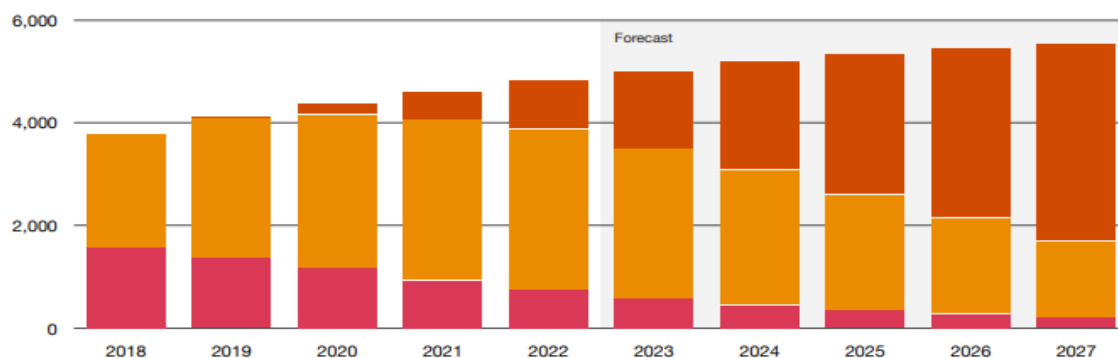


Fig- 3. The 5G wave Source: PwC's Global Telecom Outlook 2023-27, OMDIA

Telecommunication companies are under prolonged financial strain due to substantial investments, prompting a heightened emphasis on enhancing efficiency, maximizing revenue, and controlling costs. Notably, several operators, including T-Mobile US, Rain, Singtel, Vodafone, STC, and Orange (Singh Ahuja et al., 2023), have initiated the deployment of 5G standalone networks. Some are directing investments towards neutral host networks, while others are exploring mergers to achieve economies of scale, evident in proposals such as Orange and MásMóvil in Spain and Vodafone and CK Hutchison's Three UK in the UK (Singh Ahuja et al., 2023). In China, telecom giants like China Unicom and China Telecom are collaborating to establish a shared 5G access network. Opportunities in the industry extend to providing fixed access networks for residents and small businesses and delivering 5G private networks tailored to various industries. In India, government regulations encourage B2B-focused solutions, leading to new players investing in private 5G networks.

The rate of growth in capital expenditures in networks will decline.

Global capex spend by type vs. annual growth, 2018–2027

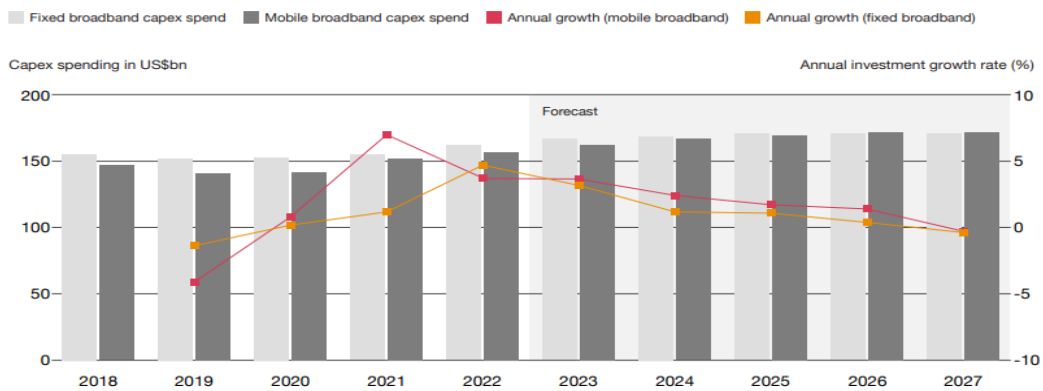


Fig. 4. Tapering Investment Source: PwC’s Global Telecom Outlook 2023-27, OMDIA

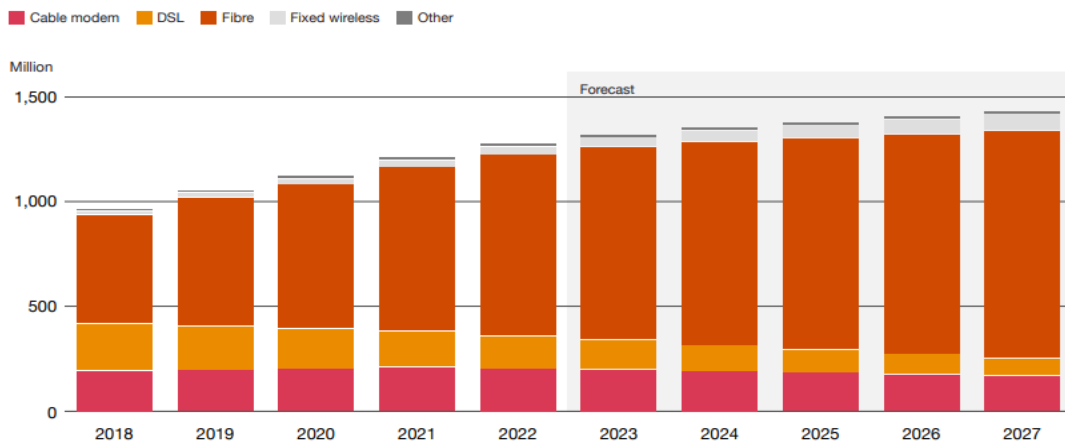


Fig.5. Global fixed broadband households
Source: PwC’s Global Telecom Outlook 2023-27, OMDIA

The Global Telecom Outlook portrays a rapidly evolving industry with challenges to existing business models but significant opportunities for incumbents and newcomers. Regardless of the chosen market or growth areas, substantial investment in time, money, strategic thinking, and resources is crucial for telecom innovation. The industry faces an era of muted revenue growth, increased cost of capital, and the need for utility-like efficiency in constructing and operating network assets. Monetizing assets through sales or carve-outs is a baseline requirement, but collaboration within and beyond the industry is essential. Strategic growth opportunities necessitate new interactions with suppliers, customers, and competitors, emphasizing the potential for ecosystem enablers. For telecom companies to prosper, it is essential for them to cultivate vertical expertise, excel in solution-oriented sales, proficiently execute systems integration, and provide innovative as-a-service solutions. Those fundamentally rewiring their internal capabilities for the evolving telecom ecosystem are poised to capitalize on growth opportunities.

1.2. Telecommunication Companies Operating in The State of Chhattisgarh-

The expansion of the telecommunications industry, propelled by the escalating significance of connectivity, presents communications service providers (CSPs) with a spectrum of opportunities and challenges. This study explores how CSPs contribute to meeting the rising demand for edge computing, examining their capacity to provide additional benefits to both individual and corporate customers through hustled services and diverse connectivity selections like "5G fixed wireless access (FWA) and fiber." In Surguja district, Chhattisgarh, the study recognizes the delicate balance needed between accelerating infrastructure development, particularly in fiber networks, and addressing the mounting pressure to reduce resources, waste, and emissions in network operations. With the surge in global connectivity, there is a pressing need to achieve a harmonious equilibrium between expenditures and the diverse needs of households, businesses, localities, and the environment in Chhattisgarh (Minz & Shrivastava, 2023)

➤ **Bharat Sanchar Nigam Limited (BSNL)**

BSNL, an enterprise under government ownership, has a substantial market share within the state of Chhattisgarh in the telecommunications industry. The company offers telecommunications services, including landline, broadband, and mobile services, in both urban and rural regions within the state. BSNL is the leading supplier of basic telephone services. There are now over 35 million Direct Exchange Lines and over 2.2 million phones in the Limited Mobile Telephone Services. BSNL offers a variety of interesting packages and plans to grow its customer base. BSNL provided Dialup Internet services through post-paid service under the "Netone" brand or pre-paid service under the "Sancharnet" brand. Currently available in 100 locations including Chattisgarh. In India, ISDN and PSTN customers may access Sancharnet via local call rates. To encourage more people to use the Internet in rural and semi-urban regions, the company launched the 6 Internet Dhaba plan.

➤ **Vodafone Idea (Vi)**

After the merger of Idea Cellular and Vodafone India, Vodafone Idea became one of the three largest operators in India and is allegedly developing a new operating model to increase productivity, which has raised speculation that, despite severe financial difficulties, the company still has long-term goals for the Indian market (asia.nikkei.com). Vodafone Idea has strategically divided its operational area into ten clusters, aiming to revolutionize business operations while adhering to legal requirements. Cluster business leaders, situated at cluster headquarters, will report to operations directors. Their primary focus includes boosting revenue market share, maximizing customer market share, enhancing customer experiences, improving channel productivity, and optimizing expenditures in the Chhattisgarh region, as outlined by Vodafone Idea.

➤ **Bharti Airtel**

Sunil Bharti Mittal launched Bharti Airtel, which has its headquarters in New Delhi, India, on July 7, 1995. One of Bharti Airtel Ltd.'s primary business functions is providing direct-to-home services. The other two are providing passive infrastructure services and communications systems and services. The section that focuses on mobile services in "India and South Asia" covers cellular data and voice telecommunications in those areas. Telemedia Services include "voice and data communications" that make use of fixed network technologies and broadband. The direct-to-home platform's digital broadcasting services are included in the Digital TV Services section. With Airtel Business, large Indian and international enterprises have a single point of contact for all their network integration, managed service, data, and voice requirements, providing them with end-to-end telecom solutions. The Tower Infrastructure Services sector in Chhattisgarh encompasses the construction, operation, and maintenance of wireless communication towers.

➤ **Reliance Jio**

The advent of Reliance Jio has resulted in a remarkable revolution in the telecommunications industry of India. According to the amount of mobile data consumed, Jio now bills itself as the greatest data network in the world. With services such as "Jio TV, Jio Phones (including Jio Phone 3), and Jio Fiber, among others," Jio further upended adjacent businesses. In a very short amount of time, Reliance Jio rose to prominence in India as well as Chhattisgarh. Due to a pricing war that broke out amongst telecom providers, consumers were able to obtain services at extremely low prices. People now have instant access to 4G broadband, texting, unlimited free phone calls, and other associated services in Chhattisgarh. There was a notable reduction in the market shares of other major industry players such as Idea, Vodafone, and Airtel.

II. LITERATURE REVIEW

The review of the literature of the study shows different aspects of telecommunication companies in India at its authoritative level which becomes a reason for this study. Designing and executing an organizational structure is challenging hence the challenge for managers is to design an organizational structure that allows employees to work effectively and efficiently with effect when managers develop or change the structure, they are engaged in organizational design, a process that involves decisions about six key elements: work specialization, departmentalization, the chain of command, span of control, centralization and decentralization, and formalization (Robbins et al., 2015). Organizational existence is inherently interconnected with its external milieu, thereby operating within a broader environmental

context. It is part of a larger system with other elements that mutually influence each other (Justina Chioma et al., 2023).

Organizational structures are considered important components of organizations due to their significance in the effectiveness of operations and the performance of goals (Armstrong & Rasheed, 2013). Technology constitutes a synthesis of skills, knowledge, abilities, techniques, machinery, and human endeavors utilized to transfigure raw materials and innovative perception into high-quality goods and services. Given the direct influence of modern technology and industry on cultural and social dynamics, there has been a consequential increase in interdependence among individuals, leading directly and indirectly to the construction of various managerial structures in contemporary society (Alsaman et al., 2022). The organizational structure of an entity is notably subjected by the central technology employed within the organization. The selection of a particular technology may not be solely based on its inherent superiority but may be driven by its alignment with the requirements of those holding power within the organization.

Successful organizational functioning necessitates a harmonious alignment of its structures and processes with the technologies it employs (Justina Chioma et al., 2023). The examination of mobile phones' contribution to sustainable development involves an assessment of the significance of telecommunications policies and national economic policies. Special attention is given to diverse functionalities of mobile tools, encompassing m-business, m-education, and m-governance. These applications are viewed as pivotal in optimizing the benefits of mobile technology, particularly in mitigating the digital divide within and among nations (Kiran P., 2012).

III. OBJECTIVES AND METHODOLOGY USED-

The principal aim of this research is to examine the establishment of administrative structures within a telecommunications company in India and to elucidate their respective functions. In the second step, data was collected through the survey method by creating an online Google form/questionnaire which was based on various research variables like technical complexities, vision, and mission, geographic dispersion, influence the structure of the organization, and how the organization selects the structure suitable for the organization, market competition, etc. The respondents comprise the middle-level and higher-level employees of the telecommunication companies from the Surguja district of Chhattisgarh. We sent 130 forms to the respondents out of which 114 forms were received back. Some forms were inaccurately or partially filled, so the study used 70 forms as valid data. With the help of Cronbach's Alpha, the reliability of the questionnaire is considered to be interrelated with the factors with 0.909 value.

IV. ANALYSIS AND DATA INTERPRETATION-

The research study underwent examination using the SPSS software, wherein the factors outlined below were subjected to analysis:

4.1. The size of the workforce impacts the choice of organizational structure-

In Table 1, respondents' opinions on the impact of workforce size on organizational structure choice are presented. Out of 70 respondents, 44.3% (31 respondents) agree with the statement, 12.9% (9 respondents) disagree, 25.7% (18 respondents) are neutral, 8.6% (6 respondents) strongly agree, and another 8.6% (6 respondents) strongly disagree with the statement.

4.2. The level of technological complexity in operations is significant when determining the organizational structure-

Table 1 presents respondents' views on the significance of technological complexity in determining organizational structure. Out of 70 respondents, 42.9% (30 respondents) agree with the statement, 12.9% (9 respondents) disagree, 31.4% (22 respondents) are neutral, 7.1% (5 respondents) strongly agree, and 5.7% (4 respondents) strongly disagree with the statement.

4.3. Geographic dispersion plays a crucial role in shaping the organizational structure-

Table 1 illustrates respondents' perspectives on the role of geographic dispersion in influencing organizational structure. Among the 70 respondents, 48.6% (34 respondents) agree with the statement, 7.1% (5 respondents) disagree, 22.9% (16 respondents) are neutral, 8.6% (6 respondents) strongly agree, and 12.9% (9 respondents) strongly disagree with the statement.

4.4. The long-term strategic vision of the company is influential in shaping the organizational structure-

The long-term strategic vision of the telecom industry in India is characterized by a commitment to technological innovation, infrastructure development, and inclusive growth. Summit Digitel, for instance, has established a significant market presence with a network of over 174,000 sites, long-term lease agreements, and a focus on supporting advanced technologies like 5G and 6G(Summit Digitel's Vision for India, 2023). The Indian government has demonstrated proactive support for the sector through the enactment of the Telecommunications Bill 2023. This legislation is designed to streamline the deployment of digital infrastructure and alleviate financial burdens on operators.(Prashant Singhal, 2023)

Anticipated to be a hub of innovation and transformation, the Indian telecom sector is poised for a 7-9% boost in revenue during the fiscal year 2024. This growth is fueled by advancements in 5G technology and emerging technologies. (Prashant Singhal, 2023). The government has been investing in technology infrastructure and reshaping key legislation to expand the scope of telecommunication services(Srivastava, 2023). Additionally, India has reduced its dependency on imported equipment, with 100% of telecom gear now being made in India and even exported to North America(Srivastava, 2023)

The sector's success is not just about technological advancements but also about making digital services accessible to every Indian, ensuring that every citizen can reap the benefits of the digital era. The Prime Minister's vision for India's telecom sector extends beyond 5G, as he introduced the 'Bharat 6G Alliance,' a dedicated task force aimed at propelling India to lead the world in 6G technology(Srivastava, 2023). In the long-term strategic vision of the telecom industry in India is shaped by a combination of technological prowess, long-term commitment, and a focus on inclusive growth. This vision is supported by the government's proactive measures, which then aim is to accelerate the deployment of digital infrastructure and alleviate financial burdens on operators.

Table 1 depicts the respondents' views on the influence of the long-term strategic vision of a company on shaping the organizational structure. Out of 70 respondents, 37.1% (26 respondents) agree with the statement, 17.1% (12 respondents) disagree, 14.3% (10 respondents) are neutral, 18.6% (13 respondents) strongly agree, and 12.9% (9 respondents) strongly disagree with the statement.

4.5. The focus on innovation and adaptability influences the choice of organizational structure-

Table 1 outlines respondents' perspectives on the impact of innovation and adaptability on the choice of organizational structure. Out of 70 respondents, 41.4% (29 respondents) agree with the statement, 8.6% (6 respondents) disagree, 30.0% (21 respondents) are neutral, 7.5% (5 respondents) strongly agree, and 12.9% (9 respondents) strongly disagree with the statement.

4.6. The consideration of cost-effectiveness and resource allocation is crucial in determining the organizational structure-

Table 1 presents respondents' viewpoints on the importance of cost-effectiveness and resource allocation in determining organizational structure. Out of 70 respondents, 51.4% (36 respondents) agree with the statement, 7.1% (5 respondents) disagree, 27.1% (19 respondents) are neutral, 8.6% (6 respondents) strongly agree, and 5.7% (4 respondents) strongly disagree with the statement.

Table 1- Findings Based on Responses from Respondents

ANALYTICAL FACTORS	DEGREE	Frequency	Percent	Valid Percent	Cumulative Percent
4.1. The size of the workforce impacts the choice of organizational structure	Strongly Disagree	6	8.6	8.6	8.6
	Disagree	9	12.9	12.9	21.4
	Neutral	18	25.7	25.7	47.1
	Agree	31	44.3	44.3	91.4
	Strongly Agree	6	8.6	8.6	100
	Total	70	100	100	
4.2. The level of technological complexity in operations is significant when determining the organizational structure	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	9	12.9	12.9	18.6
	Neutral	22	31.4	31.4	50
	Agree	30	42.9	42.9	92.9
	Strongly Agree	5	7.1	7.1	100
	Total	70	100	100	
4.3. Geographic dispersion plays a crucial role in shaping the organizational structure	Strongly Disagree	9	12.9	12.9	12.9
	Disagree	5	7.1	7.1	20
	Neutral	16	22.9	22.9	42.9
	Agree	34	48.6	48.6	91.4
	Strongly Agree	6	8.6	8.6	100
	Total	70	100	100	
4.4. The long-term strategic vision of the company is influential in shaping the organizational structure	Strongly Disagree	9	12.9	12.9	12.9
	Disagree	12	17.1	17.1	30
	Neutral	10	14.3	14.3	44.3
	Agree	26	37.1	37.1	81.4
	Strongly Agree	13	18.6	18.6	100
	Total	70	100	100	
4.5. The focus on innovation and adaptability influences the choice of organizational structure	Strongly Disagree	9	12.9	12.9	12.9
	Disagree	6	8.6	8.6	21.4
	Neutral	21	30	30	51.4
	Agree	29	41.4	41.4	92.9
	Strongly Agree	5	7.1	7.1	100
	Total	70	100	100	
4.6. The consideration of cost-effectiveness and resource allocation is crucial in determining the organizational structure	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	5	7.1	7.1	12.9
	Neutral	19	27.1	27.1	40
	Agree	36	51.4	51.4	91.4
	Strongly Agree	6	8.6	8.6	100
	Total	70	100	100	

4.7. The need for efficient communication and coordination between different teams or departments influence the choice of organizational structure to a significant extent-

Table 2 illustrates respondents' perspectives on the impact of efficient communication and coordination between different teams or departments on the choice of organizational structure. Out of 70 respondents, 48.6% (34 respondents) agree with the statement, 12.9% (9 respondents) disagree, 10.0% (7 respondents) are neutral, 18.6% (13 respondents) strongly agree, and 10.0% (7 respondents) strongly disagree with the statement.

4.7.1. The need for clear accountability and authority levels impacts the choice of organizational structure-

Table 2 illustrates respondents' perspectives on the impact of the need for clear accountability and authority levels on the choice of organizational structure. Out of 70 respondents, 45.7% (32 respondents) agree with the statement, 15.7% (11 respondents) disagree, 14.3% (10 respondents) are neutral, 12.9% (9 respondents) strongly agree, and 11.4% (8 respondents) strongly disagree with the statement.

4.7.2. The requirement for quick decision-making affects organizational structure to a considerable degree-

Table 2 presents respondents' perspectives on the impact of the requirement for quick decision-making on organizational structure. Out of 70 respondents, 40.0% (28 respondents) agree with the statement, 14.3% (10 respondents) disagree, 20.0% (14 respondents) are neutral, 11.4% (8 respondents) strongly agree, and 14.3% (10 respondents) strongly disagree with the statement.

4.7.3. The need for efficient decision-making and communication channels affects the selection of organizational structure to a certain extent-

Table 2 showcases respondents' perspectives on the impact of the need for efficient decision-making and communication channels on the selection of organizational structure. Out of 70 respondents, 40.0% (28 respondents) agree with the statement, 8.6% (6 respondents) disagree, 20.0% (14 respondents) are neutral, 21.4% (15 respondents) strongly agree, and 10.0% (7 respondents) strongly disagree with the statement.

Table 2- Findings Based on Responses from Respondents

ANALYTICAL FACTORS	DEGREE	Frequency	Percent	Valid Percent	Cumulative Percent
4.7. The need for efficient communication and coordination between different teams or departments influences the choice of organizational structure to a significant extent	Strongly Disagree	7	10	10	10
	Disagree	9	12.9	12.9	22.9
	Neutral	7	10	10	32.9
	Agree	34	48.6	48.6	81.4
	Strongly Agree	13	18.6	18.6	100
	Total	70	100	100	
4.7.1. The need for clear accountability and authority levels impacts the choice of organizational structure	Strongly Disagree	8	11.4	11.4	11.4
	Disagree	11	15.7	15.7	27.1
	Neutral	10	14.3	14.3	41.4
	Agree	32	45.7	45.7	87.1
	Strongly Agree	9	12.9	12.9	100
	Total	70	100	100	
4.7.2. The requirement for quick decision-making affects organizational structure to design a considerable degree	Strongly Disagree	7	14.3	14.3	10
	Disagree	10	14.3	14.3	26.8
	Neutral	14	20	20	48.6
	Agree	28	40	40	88.6

	Strongly Agree	8	11.4	11.4	100
	Total	70	100	100	
4.7.3. The need for efficient decision-making and communication channels affects the selection of organizational structure to a certain extent	Strongly Disagree	7	10	10	10
	Disagree	6	8.6	8.6	18.6
	Neutral	14	20	20	38.6
	Agree	28	40	40	78.6
	Strongly Agree	15	21.4	21.4	100
	Total	70	100	100	

4.8. The consideration of market competition and the need for rapid innovation is important in shaping organizational structure-

Table 3 presents the responses of the respondents regarding the consideration of market competition and the need for rapid innovation in shaping organizational structure. Out of 70 respondents, 41.4% (29 respondents) agree with the statement, 8.6% (6 respondents) disagree, 18.6% (13 respondents) are neutral, 18.6% (13 respondents) strongly agree, and 12.9% (9 respondents) strongly disagree with the statement.

4.8.1. The level of competition among private telecommunication companies in Surguja is highly influential in shaping the status of the industry within the region-

Table 3 outlines respondents' perspectives on the influence of competition among private telecommunication companies in Surguja on the status of the industry in the region. Out of 70 respondents, 38.6% (27 respondents) agree with the statement, 17.1% (12 respondents) disagree, 20.0% (14 respondents) are neutral, 14.3% (10 respondents) strongly agree, and 10.0% (7 respondents) strongly disagree with the statement.

4.9. The regulatory environment in Chhattisgarh impacts the status and operations of telecommunication companies operating in the region to a significant extent-

The telecommunications regulatory landscape not only influences the characteristics, accessibility, cost, and provision of services for specific areas or customers but also plays a crucial role in the progressive expansion of the telecommunications network connecting different regions. This dynamic creates an anticipated conflict between the growth of public telecommunications networks, traditionally fostered by regulations aimed at benefiting the broader community, and private (corporate) networks designed to secure a competitive edge for specific entities over their counterparts. Table 3 illustrates respondents' views on the influence of the controlling atmosphere in Chhattisgarh on the status and operations of telecommunication companies in the region. Out of 70 respondents, 48.6% (34 respondents) agree with the statement, 7.1% (5 respondents) disagree, 21.4% (15 respondents) are neutral, 14.3% (10 respondents) strongly agree, and 8.6% (6 respondents) strongly disagree with the statement.

4.10. Government policies and regulations in Surguja have a significant impact on the status and operations of private telecommunication companies in the region-

Table 3 presents the respondents' opinions on the impact of government policies and regulations in Surguja on the status and operations of private telecommunication companies in the region. Out of 70 respondents, 40.0% (28 respondents) agree with the statement, 14.3% (10 respondents) disagree, 17.1% (12 respondents) are neutral, 17.1% (12 respondents) strongly agree, and 11.4% (8 respondents) strongly disagree with the statement.

4.11. The infrastructure and network coverage in Chhattisgarh affect the status of telecommunication companies in the state to a considerable degree-

Table 3 presents respondents' perspectives on the impact of infrastructure and network coverage in Chhattisgarh on the status of telecommunication companies in the state. Out of 70 respondents, 44.3% (31 respondents) agree with the statement, 11.4% (8 respondents) disagree, 18.6% (13 respondents) are

neutral, 15.7% (11 respondents) strongly agree, and 10.4% (7 respondents) strongly disagree with the statement.

Table 3- Findings Based on Responses from Respondents

ANALYTICAL FACTORS	DEGREE	Frequency	Percent	Valid Percent	Cumulative Percent
4.8. The consideration of market competition and the need for rapid innovation is important in shaping organizational structure.	Strongly Disagree	9	12.9	12.9	12.9
	Disagree	6	8.6	8.6	21.4
	Neutral	13	18.6	18.6	40
	Agree	29	41.4	41.4	81.4
	Strongly Agree	13	18.6	18.6	100
	Total	70	100	100	
4.8.1. The level of competition among private telecommunication companies in Surguja is highly influential in shaping the status of the industry within the region	Strongly Disagree	7	10	10	10
	Disagree	12	17.1	17.1	27.1
	Neutral	14	20	20	47.1
	Agree	27	38.6	38.6	85.7
	Strongly Agree	10	14.3	14.3	100
	Total	70	100	100	
4.9. The regulatory environment in Chhattisgarh impacts the status and operations of telecommunication companies operating in the region to a significant extent	Strongly Disagree	6	8.6	8.6	8.6
	Disagree	5	7.1	7.1	15.7
	Neutral	15	21.4	21.4	37.1
	Agree	34	48.6	48.6	85.7
	Strongly Agree	10	14.3	14.3	100
	Total	70	100	100	
4.10. Government policies and regulations in Surguja have a significant impact on the status and operations of private telecommunication companies in the region	Strongly Disagree	8	11.4	11.4	11.4
	Disagree	10	14.3	14.3	25.7
	Neutral	12	17.1	17.1	42.9
	Agree	28	40	40	82.9
	Strongly Agree	12	17.1	17.1	100
	Total	70	100	100	
4.11. The infrastructure and network coverage in Chhattisgarh affect the status of telecommunication companies in the state to a considerable degree	Strongly Disagree	7	10	10	10
	Disagree	8	11.4	11.4	21.4
	Neutral	13	18.6	18.6	40
	Agree	31	44.3	44.3	84.3
	Strongly Agree	11	15.7	15.7	100
	Total	70	100	100	

V. GLOBAL PERSPECTIVE OF ORGANIZATIONAL STRUCTURE TOWARD UPCOMING TRENDS IN THE TELECOM INDUSTRY-

Telecommunications industry to effectively adapt to new challenges and capitalize on emerging opportunities globally by evolving their organizational structures. Organizational structures may be shaped with Organizational Focus, Cross-functional Collaboration, and the key positions in the company. Following are the expected upcoming trends-

5.1. 5G Deployment- 5G network planning, deployment, and optimization should be the Organizational Focus to be handled by specialized teams to increase collaboration between network engineering, IT, and R&D teams for companies Cross-functional Collaboration. The Key Positions can be created as Chief Technology Officer (CTO), 5G Deployment Manager, and Network Optimization Specialist.

5.2. Internet of Things (IoT)- There will be dedicated IoT divisions with expertise in connectivity, device management, and data analytics as the main focus of the organization according to the upcoming data-dependent generation. Cross-functional Collaborations can be done between IoT, data science, and cybersecurity teams Key Positions can be generated like IoT Director, Data Analytics Manager, and IoT Security Specialist.

5.3. Artificial Intelligence (AI) & Machine Learning (ML)- The Organization should Focus on the Integration of AI/ML capabilities into various departments, possibly a dedicated AI unit. Cross-functional Collaboration can be done between data scientists, network engineers, and IT professionals and the major key positions can be created as Chief AI Officer, Data Science Manager, and ML Engineer.

5.4. Cloud Adoption- The job positions like Cloud Architect, Cloud Operations Manager, and DevOps Engineer can be created only by collaborating with cloud architects, network engineers, and IT professionals. This group of people can work on the transition to cloud-native architectures with expertise to grow the organization.

5.5. Cybersecurity – There should always be dedicated established cybersecurity units or integration into existing IT and network security teams for this cross-functional collaboration between cybersecurity, IT, and network operations teams. With job positions like Chief Information Security Officer (CISO), Cybersecurity Manager, and Security Analyst.

5.6. Smart Cities and Connectivity Solutions- The upcoming market demand needs collaboration between telecom, urban planning, and data analytics teams for smart city projects and urban solutions. Smart City Solutions Manager, and Urban Technology Specialist are a few job positions that can be evolved.

5.7. Diversification of Telecom Services- Another cross-functional collaboration can be done between traditional telecom, content, and service-specific teams for fostering and creating separate divisions for diversified services as an organizational focus.

5.8. Regulatory and Policy Changes- The establishment of legal and compliance departments to navigate evolving regulations should be the primary focus of the organization globally. There can be better communication between legal, compliance, and operational teams so it can work in functional collaboration. The Key Positions can be created like Chief Legal Officer, Compliance Manager.

The organizational structures in the telecommunications industry are likely to become more dynamic, with a focus on flexibility, collaboration, and adaptability to upcoming trends. Companies will need to foster a culture of innovation, invest in talent development, and ensure effective communication between different functional units to successfully navigate the evolving landscape of the telecom industry.

VI. CHALLENGES AND OPPORTUNITIES-

Telecommunication firms on a global scale encounter formidable challenges marked by fierce competition, swiftly advancing technologies, and regulatory shifts. Conversely, opportunities manifest in the escalating demand for data services, the implementation of novel technologies, and the expansion of network infrastructure. In Surguja, Chhattisgarh, the telecommunications landscape is poised to be shaped by variables such as local demand, infrastructure advancements, and governmental policies. Addressing connectivity gaps and ensuring alignment of telecom services with the requirements of the local populace may pose challenges. Government initiatives at both national and state levels wield substantial influence over the telecom sector, encompassing policies related to spectrum allocation, infrastructure development, and the promotion of digital inclusion.

VII. CONCLUSION AND SUGGESTIONS-

In conclusion, the comprehensive analysis of data collected from middle- and upper-level personnel within the telecom sector of Surguja, Chhattisgarh, sheds light on the organizational hierarchies of Vodafone Idea (VI), Airtel, and Reliance Jio. Drawing insights from 70 accurately completed surveys, this study underscores the dynamic nature of organizational structures within these telecom entities. The primary findings indicate that the organizational structures of Airtel, Vodafone Idea (VI), and Reliance Jio, BSNL in the Surguja region exhibit adaptability to various factors, including market competitiveness, geographic dispersion, technological complexity, and overarching vision and purpose.

In light of these observations, the report advocates for strategic adjustments in organizational frameworks, underscoring the imperative for telecom enterprises to align their structures with the distinctive opportunities and contextual challenges prevalent in the Chhattisgarh region. Emphasizing the necessity for a nuanced understanding of the interplay between external influences and internal organizational dynamics, the research emphasizes the need for crafting structures that resonate with the specific opportunities and challenges inherent in the telecommunications landscape of the Surguja district.

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