REMAPPING INDIAN TELEVISION IN THE AGE OF DIGITALIZATION (2001-2020)

Dissertation Submitted For the Award of the Degree of Doctor of Philosophy in Arts at Jadavpur University, Kolkata

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Certified that the Thesis entitled

Remapping Indian Television in The Age of Digitalization (2001-2020) Submitted by me for the award of the Degree of Doctor of Philosophy in Arts at Jadavpur University is based upon my work carried out under the Supervision of **Professor Abhijit Roy**.

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Contents

Introduction

Distribution of free colour television sets is commonly regarded as one of the reasons why the DMK-Congress coalition won the Tamil Nadu State Assembly elections in 2006. More than one crore colour television sets were distributed during the five years of the DMK (Dravida Munnetra Kazhagam) government at the cost of almost 3,600 crore rupees. Upon reclaiming power in 2011, the Jayalalithaa administration cancelled M. Karunanidhi's flagship project. Jayalalithaa further implied that the free colour television set giveaway was aimed at increasing the profits of the cable distribution businesses coordinated by M. Karunanidhi's grandson, Dhayanidhi Azhagiri, and his grandnephews, Kalanidhi and Dayanidhi Maran, who runs Sumangali Cable Vision (SCV), a part of the Sun Group, which is widely spread in Tamil Nadu and other parts of India. Later, in 2019, at a political outreach initiative in the Thoothukudi district of Tamil Nadu, an eleven-year-old girl told Udayanidhi Stalin, the son of M K Stalin, president of the (DMK) party and grandson of late Tamil Nadu Chief Minister M Karunanidhi, "During the last time when DMK ruled, you gave us free TV. But we are not able to watch TV as set-top box prices are expensive". In reply, the DMK youth leader claimed, "Yes, my grandpa gave free TV. Please vote and bring back my father to power. We will distribute free set-top boxes."[1]

This discussion on the close relationship between television sets and electoral politics was necessary to underscore the point that television in India is not an uncomplicated apparatus of entertainment and information, rather to talk about television in India is to talk about the distinct way television is connected with the possibilities of changing historical processes, political mobilization, market conditions, and the new form of publicness.

In this dissertation, I try to locate the shifting relationship among the various stakeholders, who are implicated in the mandatory digitalization of television broadcasting. My objective is to underline how digitalization can be conceived within the television broadcasting ecosystem in neoliberal India and how digitalization shapes the technologically mediated relationship

[1] Swarajya Staff, "'My Grandpa Gave You Free TVs. Vote My Father If You Want Free Set-Top Boxes', Stalin Junior Tells Tamil People," *Swarajya*, Feb 6, 2019, https://swarajyamag.com/insta/my-grandpa-gave-you-free-tvs-vote-my-father-if-you-want-free-set-top-boxes-stalin-junior-tells-tamil-people.

between the state and its citizens. Focusing on the implementation of the Digital Addressable System (DAS), I investigate in what way developmentalist-democratic rhetoric combines technology, development, governance and markets under neoliberal imperatives.

Television in India has played an important role in the developmental projects of the state. Since development was considered to be a fundamental goal of the Welfare State, the Indian government historically adopted several policies to address the needs of the public during the early days of television. The state used television as a tool for identity creation and subject formation. Since television remained strictly under the state's control for a long time, it was used by the state for its nation-building project, where informing, educating and creating a national identity among people was a key objective. As television remained state-controlled, programming remained limited to education and development.

Even when the first soap opera was broadcast in India in 1984, it offered a blend of education and entertainment.[2] The programme became popular among the audiences leading to the entry of private production in state-controlled medium.[3] Though in this dissertation, I am not engaging with the content of television channels, mentioning the entry of private entities in content production is vital to underscore the idea of how the state and private entities began their collaboration.

This was further evident with India's economic liberalization in 1991, which ushered in a new age for television. The coming of private channels and the growth of cable television changed the viewing experiences of the public. The growth of channels resulted in the entry of new stakeholders providing both television signals and content. With the availability of these channels, the interests of the public shifted towards private channels, which offered them a variety of content. The entry of private satellite channels led the Doordarshan to lose its popularity. Also, the haphazard growth of cable television led the government to initiate the Cable TV Act, of 1995 to regulate the industry. Allegedly, lack of transparency in the cable

[2] Arvind Singhal and Everett M. Rogers. "Prosocial television for development in India." *Public communication campaigns* 2 (1989): 331-350, 335.

[3] Arvind Rajagopal,. "The rise of national programming: The case of Indian television." *Media, Culture & Society* 15, no. 1 (1993): 91-111, 92

industry has led to channel blackouts, non-payment of dues, varying agreements with individual broadcasters and multi-system operators and local cable operators, under declaration of the number of subscribers, all of which have affected the viewers in various ways.

Under this backdrop, the collaboration between the industry and the government took place in the implementation of Digital Addressable System (DAS) mandating the requirement of the set-top box. Hence, it is important to understand how the adoption of this particular policy affected the stakeholders involved in the digital switchover. In doing so, I use ethnographic accounts with various stakeholders to question various practices, decisions and actions related to this switchover. The notions of transparency, inclusivity, affordability, choice, informality and a sense of futurity emerge as key categories through field work. Parallel to making sense of these through ethnography and a critical study of policy documents, I look into the changing landscape of Indian television through the introduction of over-the-top video streaming services. The effects of digital technology and multi-platform digital distribution, as well as the ways in which viewers engage with such media, need to be addressed in any study of non-Western televisual cultures. OTTs, I argue, are changing the category of the 'television' as a broadcast television system that was often tied to a national culture and a particular type of governmentality. In this context, I revisit the old question, is there an unbridgeable gap between the intended and the actual beneficiary of development? Here we confront one of the key problems that this dissertation tries to address: how the state imagines an active consumer-subject with the desire for personalization and individual advancement, which becomes pivotal to the state's policy rhetoric.

A brief note on the method

In order to probe deeper into the complex events surrounding the digitalization of cable television and its effects on the stakeholders, I am using ethnographic methods. Ethnography enables me to investigate the layered landscape of cable television in India and gain an insight into the scattered accounts surrounding the digitalization of Indian television. To identify the motivations, anxieties and interests, it is necessary to have a critical understanding of the narratives that are prevalent in the field of cable digitalization. In-depth interviews in addition to formal and informal interactions, were helpful in providing clarity regarding the state of cable television in India. It helps to connect hard infrastructural forms, such as set-top box,

television, cables, and buildings, with soft infrastructural forms, including institutions, protocols, and social practices.

Multi-sited ethnography is a method of analysis that was originally introduced by anthropologist George Marcus and is now extensively used in research of widely scattered occurrences including phenomenon like, movement of people, economic flow, media use, and investment practices. Even though multi-sited ethnography usually applied to the practices of an ethnographer conducting research at different physical sites as a component of a distinct study, it can occasionally also point to the practice of research of a single site that is imagined as part of a wider context that extends beyond the field site.[4] Multi-sited ethnography enables ethnographic involvement with an ostensibly wide-ranging phenomenon, without compromising the close depiction of everyday lives. By expanding the significance of the term 'site' beyond the confines of a geographical area (a 'site' can be a community of people or a geographically diverse groups of workers), multi-sitedness enables all who are willing to use the exploratory possibility of the method to design self-consciously imaginative ethnographic studies.[5]

Using multi-sited ethnography, I sought to understand the concerns and perspectives of stakeholders at various levels of the cable television digitalization hierarchy. As the stakeholder's influence depends on their place in the pyramid, it becomes essential to interpret their interactions and ties through ethnographic narratives. In my study, the use of multi-site ethnography allowed me to comprehend the responsibilities performed by many actors in the digitalization of cable television. Formal and informal discussions were undertaken with stakeholders to understand their perspectives on cable digitalization, the evolving position of stakeholders, audience responses to the switchover, and the Telecom Regulatory Authority of India's continual revisions to policy papers. As I began my investigation, I drew on a repertoire of theory concerning media ethnography and the broader scholarship on television studies.

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[4] Southerton, Dale, ed. *Encyclopedia of Consumer Culture*. 3 vols. Thousand Oaks, CA: SAGE Publications, Inc., 2011. https://dx.doi.org/10.4135/9781412994248.

[5] Matsutake Worlds Research Group. "A New Form of Collaboration in Cultural Anthropology: Matsutake Worlds." *American Ethnologist* 36, no. 2 (2009): 380–403. http://www.jstor.org/stable/27667568.

Before commencing my study, I had scrutinized modern and historical ethnographies, which I revisited when I initiated my investigation. While, initially, it was reasonably demanding for me to identify reoccurring themes, as I grew more absorbed in the accounts from the respondents, I was eventually able to recognize recurring themes from the comments, observations and opinions.

Along with multi-sited ethnography, I also read the policy documents related to the mandatory digitalization of cable television through a critical policy studies approach. Similar to policy studies in general, critical policy studies concentrates on the policy making mechanism. This emphasis is comprised of two critical focuses: how policies are selected in a political context and the techniques of policy analysis, particularly how they approach the development and evaluation of specific policies and their results. As a result, critical policy studies have evolved as an attempt to comprehend policy making process not just in regards of visible inputs and outputs, but also in the context of the political and social interests, values, and ethical premises that influence and direct these activities. Therefore, the character of knowledge, including both the information used to design policy and the types of information and preconceptions that drive the execution of policy positions, constitute one of the most significant concerns in critical policy studies.[6]

In the brief outline of the chapters below, I try to articulate more on how I build up the texture of the problematics in this dissertation.

A brief outline of the chapters

In the first chapter, titled, *Perspectives on Digitalization and Television Broadcasting: Outlining the Key Debates*, I trace the trajectory of the discipline of television studies by engaging with the work of a range of scholars from India and abroad. The objective of this chapter is to find out the research gaps and inadequate explorations of digitalization in the non-Western context – to identify the entry points into the issues and debates related to digitalization. I address the concern of how the discipline of television studies shaped by the Western context might be inadequate in understanding the developments taking place in a

[6] Fischer, Frank, Douglas Torgerson, Anna Durnová, and Michael Orsini. " Introduction to critical policy studies". In *Handbook of Critical Policy Studies*, (Cheltenham, UK: Edward Elgar Publishing, 2015), 3.

developing country like India. I seek to then understand the ways in which the shift towards digital platforms influences the emerging digital culture. In today's mediascape of multiple screens, interfaces and media platforms, I question what kinds of televisual subjects are being constructed. The range of practices shaped by digitalization, including menu design of set-top boxes, distribution of paid content to public media spaces, can provide a different kind of televisual experience to the viewer compared to traditional practices of watching television. Therefore, I try to critically look at the available scholarship related to digitalization to understand the changing trajectories of television studies in India and worldwide. In order to map the field of television studies, I engage with the work of scholars on digital platforms to understand the kind of relationships being shaped between the users and owners of digital platforms. I also look into the ways in which technology has shaped the relationship of the state with its citizens in the wake of the practices of digital governance. After an understanding of digital platforms and governance, I engage with the works of scholars that focus on the digital switchover of television in the global context. The right time for switching off the analogue signals and the cost of buying the equipment have been a significant concerns for the majority of the countries involved in the digital switchover. Since my concern has been to comprehend the Indian scenario, which was undergoing the digital switchover at that point in time, so, the works of scholars related to the Indian cable industry and digital television are discussed. I then try to give a historical overview of the development of television in India, discussing the various distribution patterns evolving in the process. Focusing on limited and scattered scholarly works related to digitalization in the global context, as well as studies in Indian context, I try to comprehend the intricacies of digitalization in general and digital switchover in particular by situating them within the existing academic framework.

In Chapter 2, *Reading Between the Lines: Tracing the Consumer-centric Approach in Policy Documents*, I try to understand the field of media policy and the ways in which the field has been abruptly shifting. I do this by analyzing the works of different scholars. I then try to point out how scholars have stressed on critically analyzing the various aspects of media policy making by gathering empirical evidence to conceptualize the policy environment.[7] The role of several advocacy groups, civic society members, stakeholders, and lobbying members has

[7] Hilde Van den Bulck, Manuel Puppis, Karen Donders and Leo Van Audenhove, eds. *The Palgrave Handbook of Methods for Media Policy Research*. London: Palgrave Macmillan, 2019, 13.

become crucial in the study of media policy[8] in the digital age as the policy process has become more complex and arduous. I then look into the growth of media policies in India, paying special attention to the development of broadcasting policies. After this brief overview, I look at the role of Telecom Regulatory Authority of India (TRAI), which was entrusted with the responsibility of making rules for the broadcasting industry by the Ministry of Information and Broadcasting in the year 2004. TRAI's role in regulating the television broadcasting industry and initiating the mandatory digital switchover has been crucial. TRAI's role has been crucial as TRAI conducted open house discussions, initiated consumer outreach programmes and issued consultation papers to understand the interests of the stakeholders affected through cable digitalization in order to bring transparency in the process of policy making. TRAI's insistence on creating a regulatory structure to monitor the agreements and tariffs of the stakeholders involved in the business was highly debated. Following an analysis of TRAI's role as a regulator- looking into the technical standards and economic viability of the industry with a claim to protect the consumers' interests- I delve deeper to trace the reasons behind the initiation of cable digitalization in India. I do so by studying the policy documents issued by TRAI at different time periods using critical policy studies approach. I also try to look into why the shift towards television digitalization in India has been in cable television instead of terrestrial transmission. I try to understand the elements of public interest, inclusivity, affordability and choice as mentioned in the policy to make sense of the strategic position of the policy documents and underline the fact that the consumer-subject becomes pivotal to the state's policy rhetoric. I conclude by pointing to the fact that TRAI's mention of digitalization as a growth driver[9] draws attention to TRAI's interest in initiating digitalization to not only solve the constant friction between the stakeholders but also to keep the sector up-to-date with the changes by adopting a future-proof technology. Since the cost of the switchover was to be borne by the cable operators and the consumers, and the government would gain revenue in the form of taxes from individual subscribers and other stakeholders, it was in the interest of TRAI, along with the broadcasters and MSOs to implement this switchover. This chapter closely reads the policy documents to underline a marked shift in the state's approach because

[8] Des Freedman, *The contradictions of media power*. Bloomsbury Publishing, 2014,11.

[9] TRAI, "Interim Recommendation on Conditional Access System," February 23, 2004, 1-49, pt 16 (d), 7, accessed November, 2020,
https://trai.gov.in/sites/default/files/Recommendation_CAS_23022004.pdf

this shift is crucial to understand the changing relationship between the market, digital technology, and the developmental modern.

In Chapter 3, *Technology, neoliberal state and the politics of DAS deadline in West Bengal*, I try to look at the politics of deadline related to the implementation of the Digital Addressable System (DAS) in West Bengal. While doing so, I try to understand how emerging practices related to the implementation of DAS offer us a site to explore the interaction between the government, the neoliberal market, and digital technology, emphasizing the inconsistencies that characterize modernity. I also try to explore by what means DAS fits into the evolving political economy of broadcasting in neoliberal India and the ways in which it may be situated within the longstanding trajectory of techno-cultural rhetoric of public policy. In doing this, I discuss in detail about the complexities of the neoliberal conditions in which these changes are taking place. I make a concerted effort to decipher the theoretical split between political economy, cultural studies, and studies based on governmentality as they pertain to the conceptual category of neoliberalism. I also try to scrutinize, how researchers in the fields of communication and media studies have challenged neoliberalism's status as both a theoretical framework and a conceptual category. I argue that foregrounding neoliberal logics, which are continually and dynamically linked with other sociopolitical, economic, and cultural logics, may be more useful to understand neoliberalism. The logic of an activity is the rules or grammar of the practice and the circumstances that make the activity both viable and unstable.[10] Thus, I try to understand neoliberalism as a sequence of foundational logics, discursively intertwined with other logics. It is within this context that I look into the issue of delay in maintaining the deadline of transition from analogue to digital in the context of West Bengal and in doing so I also look into the issues confronted by developed countries such as the UK and the United States to provide the context in which the cooperation between state and the market takes place. After providing a brief historical overview of the deadlines related to the digital switchover, I deliberate on the tussle between the West Bengal state government and the central government regarding the implementation of the deadline. I point out how the digital ecosystem is laden with inherent contradictions, which has been apparent in other initiatives related to a public policy like Digital India and Aadhar project. The gaps in the system do not let the intended beneficiaries of state benefits receive fully what is aimed

[10] Jason Glynos and David Howarth. *Logics of critical explanation in social and political theory*. Routledge, 2007, 136.

towards them. The primary reason behind this is that the structure of a centralized state has been unable to grasp, let alone develop acceptable mechanisms to define or control, this new ecosystem. In overcoming the 'last mile' problem, technology has been considered to be the primary driver of growth by the government. While addressing this issue, scientist Vikram Sarabhai understood linguistic diversity and geographical distance to be the primary hindrances in last-mile delivery; hence, from the early days, the developmental rhetoric has backed technology to be the central force in linking the citizens to connectivity. In India, the significant interest in the notion of "convergence" during the 1990s and early 2000s was to create new coalitions between previously competing goals of identifying the intended and actual beneficiary of development and to create a universal approach to solve a wide range of problems and here, entrepreneur, Nandan Nilekani's view on electronification gained prominence. So, while Sarabhai envisioned a benevolent state trying to deliver benefits to the public, Nilekani expounded the idea that by creating the Aadhar ecosystem, the actual beneficiary will be registered in the digital arena, bringing in transparency and leaving it to the market to do the rest. The possibility of markets to do public good has been contested by scholars like Amartya Sen, who believes that if a market hurts the interests of an influential or the political group then they can try to turn the narrative in their favour and so, there is a need to resist and scrutinize them as well as their intellectual arguments.[11] I suggest, Sen's justification for why the market may have historically resisted the transmission of the public good is pertinent in the context of cable digitalization. His reasoning pertains to why some distribution methods that may have originated as public goods had to change their premise to enter the market; as a result, even if they are doing good, these methods may not qualify as delivery mechanisms for the public good. So, the question of who actually benefits from cable digitalization is raised and here, Partha Chatterjee's classification of civil society represented by the 'citizen' and political society represented by the category of 'population' has been used to understand the predicament.[12] All state benefits had to be in the name of the normative citizen as he/ she provided the constitutional foundation of the Indian state but since a significant portion of the population did not qualify as normative citizens, a different structure of distribution was adopted by the state. The benefits of welfare were made available to the

[11] Amartya Sen, *Development as Freedom*, (New York: Anchor Books, 1999), 122.

[12] Partha Chatterjee, *Politics of the Governed*, (New York: Columbia University Press, 2004), 61.

population, which was not only known through the political processes of democracy but also through methods such as census, ration card and bank accounts.[13] It is well known, however, that the two approaches were inherently at odds with one another, as civil society perceived the political system with suspicion because of its inherent corruption. This is the quintessential example of the "last mile dilemma" in media policy, which persists even in the digital era and may be traced to the conflict between the state government and the central government's over the implementation of the deadline for the shutdown of analogue television signal access in the city of Kolkata. It can be said, the controversy regarding 'digital deadline' points to the 'preparedness' of the welfare state to distribute state benefits evenly and efficiently through new technologies. I raise the concern of whether the complexities of a market-driven mechanism for regulating entrance into the digital ecosystem force a rethinking of the fundamental notion of the 'last mile'?

In Chapter 4, *The Disruptions and Continuities: Ethnographic Reflections*, I attempt to briefly outline the chaotic development of the cable industry in India, which was later brought under The Cable Television Networks (Regulation) Act, 1995, for consolidation. In addition, in this chapter, I focus on how further developments in technology led to the entry of a new stakeholder, multi-system operator (MSO). The constant friction between the local cable operators, multi-system operators and broadcasters has been evident during the pre-digitalization period leading to frequent channel blackouts resulting from non-payment of dues. The industry blamed the government for its inability to develop a coherent policy for the sector to be the primary reason for the constant friction between the stakeholders. However, even after the initiation of digitalization, frictions continued for various reasons and thus, an enquiry into the stakeholders' positions regarding digitalization was necessitated. In my attempt to investigate the field of cable television in India, I conducted a multi-sited ethnography to comprehend the diverse narratives surrounding the digitalization of Indian television.[14] This chapter begins with the mention of the problems of gaining access, the apprehensiveness of some of the stakeholders to allow an outsider, and inconsistencies in the narratives of the stakeholders. Nonetheless, the formal and semi-formal interviews did help

[13] Chatterjee, *Politics of the Governed*, 62.

[14] George E. Marcus, "Ethnography in/of the world system: The emergence of multi-sited ethnography." *Annual review of anthropology* 24, no. 1 (1995): 95-117.

me to organize my findings around particular themes. Themes such as, the inevitability of digital, the unpreparedness of the state, the changing attributes of the Set-top Box, the conflict between 'choice' and 'affordability', the emergence of informal benevolence, the ambiguous objective of digitalization, the issues related to the inclusivity, informality and transparency surfaced from the ethnographic narratives. In the chapter, I have tried to discuss each of the themes in detail, citing examples from the stakeholders' narratives. The objective was to unpack ethnographic narratives that span numerous levels of inquiry, going deeply into meaning-making methods while also addressing the challenges of interacting with disparate, subjective, and contested perspectives. As a researcher, I tried to participate in events as they unfold in the here and now, exploring the temporal complexities of the digitalization process while thinking about the disruptions and discontinuities in the implementation of the digital addressable system. A dynamic process that is constantly changing in terms of technology, policy, and distribution. Rather than focusing on just one of the elements, my goal in this chapter was to elicit deeper contemplation from all participants on the dispersed, multiple, and at times incomprehensible qualities of implementing the digital addressable system and in the process connecting the shifting industry practices with the broader changes in the political economy of television broadcasting in India.

The changing role of technology accompanied by the shifts in policy related to cable television has brought under scrutiny a newer mode of delivery, over-the-top video streaming services that is gaining popularity in the contemporary digital environment. Chapter 5, *The dispersed terrain of television: Making sense of OTT video streaming services,* focuses on this aspect and seek to figure out how they are changing what we understand as 'television'– technologically, culturally and policy-wise. As the modes of consumption have multiplied, therefore, an attempt to understand television in the digital era becomes crucial in a developing country like India, where broadcast television networks are still popular. However, a gradual shift of consumers to internet-based platforms has been evident, especially during the Covid-19 pandemic. The broadcasters have launched their own video streaming services and have pushed traditional subscribers to navigate the television programmes via digital mode. The MSOs, too have started bringing out android set-top boxes to provide access to video streaming services, while the cable operators have started offering broadband connections to sustain their business. All these changes took place when the digitalization of cable television was still under process. Thus, it becomes imperative to trace the developments and growth of this new distribution pattern where the stakeholders operating cable television in India are

diversifying their business. So, in Chapter 5, I try to explore this changing idea of television by first trying to understand the meaning of the term over-the-top (OTT) and second by tracing the ways in which television can be linked to the idea of platform and OTT in terms of the functions they serve. In order to understand the meaning of the term 'OTT', I closely read several policy documents and available scholarly literature related to it. Parallelly, I seek to understand the term 'platform' as it has been used intrinsically with the term OTT by industry publications as well as by academicians. In the case of India, the term OTT has been used mainly to refer to video-streaming services, but it encompasses all services available through the internet, from voice calls and text messaging to video and broadcast services,[15] while the term platform has been used to refer to intermediaries, facilitating exchange and interaction between customers and businesses. However, in the context of digitalization, the platform has come to imply a space providing streaming media, user-generated content and social computing, along with an opportunity to communicate, interact and sell while staying connected to the devices. Accordingly, I suggest in this chapter that OTT refers to the more technical aspects of software or hardware while the term platform encompasses a more anthropocentric or abstract category. I return my focus to understanding video-streaming services and the scholarly literature surrounding them to understand the impact that platformization will have on the existing concepts of power and control in the television industry. I then trace the growth and development of OTT video-streaming services in India, their rising popularity and the shifting industrial and audience practices. I also look into the prevalent business models of OTT video streaming services, particularly concentrating on their distribution, technology and audiences. With this, I reiterate the point elucidated by Amanda Lotz that the behaviours and practices identified as a part of linear television resulted from the rules created by the broadcast industry to gain advertising and subscriber revenues. Thus, though the affordances offered by broadcast television and OTT video streaming services might be different, the industrial formations and audience practices will be shaped by broadcast industries having a stake in the OTT video-streaming services. Some of these practices might be somewhat similar to linear television and simultaneously, to a certain

[15] TRAI, "Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services," November 12, 2018, 1-38, pt. 2.1.2- 2.1.3, accessed December 2, 2020. https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf.

extent, different considering the non-linear aspect of video streaming services.[16] This way, the industry will retain a viewership for both linear television as well as video streaming services. Thus, a more complex remapping of the modern television landscape will remain helpful. In the concluding section of the chapter, In light of these evolving practices and services, such as the development of over-the-top (OTT) services and current efforts to integrate OTT and video streaming services with set-top boxes, I suggest that mandatory digitalization of cable television programming is the most direct and explicit attempt at platform governmentality in the Indian context. Thus, this chapter argues that streaming services heralding a post-broadcast period are changing what we understand as television as an object of study.

The dissertation concludes with a summarization of the main arguments raised in the course of the chapters. In the concluding section, I affirm that the arguments in the dissertation bring our focus to an understudied facet of the television industry: distribution. It is evident that the roots of transition have been planted in distribution systems and technology of television, and to grasp the present volatility in the television broadcasting industry, it is necessary to pay critical attention to distribution.

[16] Amanda D. Lotz, "The paradigmatic evolution of US television and the emergence of internet-distributed television," *Revista ICONO14 Revista científica de Comunicación y Tecnologías emergentes* 14, no. 2 (2016): 132-141, https://doi.org/10.7195/ri14.v14i2.993.

CHAPTER 1

Perspectives on Digitalization and Television Broadcasting: Outlining the Key Debates

In a neo-liberal developing nation, how can the implementation of the Digital Addressable System (DAS) relate to the nation's cultural projects is a question that needs to be reflected upon. It is necessary to explore the effects that digital technology and multi-platform digital distribution have on non-Western televisual cultures as well as to understand the ways in which people interact with such media. Hence, my aim is to determine the current debates and emerging issues within Indian television studies' scholarship. So, this chapter's primary purpose is to refine and reconfigure the existing questions and find new queries instead of claiming any well-defined inferences. In this chapter, I also try to delve briefly into the history of the development of broadcasting in India and the various distribution technologies related to television content.

Over the years, the trajectory of television studies has expanded, with the onset of digitalization, to include objects that might not be television apparatuses. Still, it is crucial for us to understand television by positing it as an essential element while reframing the contours of the established Western-centric debates on such historical processes. Thus, outlining the ways in which scholars, particularly those studying television cultures, decisively engage with television will help me to understand the intricacies of the discipline theoretically. The theories related to the field of television studies, particularly in American and European contexts, may seem inadequate in understanding the changes occurring in this domain in a developing country like India. Therefore, I have attempted to navigate through the limited critical academic works on television studies that may become useful to understand whether there has been any shift in approaching television studies. The questions that I try to engage with are how the emerging digital culture in a developing country is being shaped through a shift towards the digital platform. If the imaginary of the nation was invoked by broadcast television through the continuous engagement of the subjects to a shared televisual experience, then in today's mediascape of multiple screens, interfaces, and media platforms, what kind of televisual subjects or communities are being constructed? Television's location within the domestic space is being negotiated continuously with the

advent of smart TV, digital set-top boxes, and mobile phones, hence, questions regarding how the viewers are individually and collectively engaging with the digital televisual apparatus are important. These questions provide a trajectory into understanding the effect of digital technologies and new media forms in non-Western televisual culture and the personal connotations and desires that individuals attach and derive from the media.

It is essential to understand how the televisual experiences outside the traditional practices of watching television can be challenging when interpreted as a part of a cultural landscape, including a range of practices from using two remote controls (one for the television and the other for the set-top-box) to navigating the menu design of a digital set-top-box. So, it becomes crucial to interpret and understand the relationships between the idea of network spaces around us, the televisual texts in front of us, and the viewers among us.

One can relate the introduction of the Digital Addressable System to a range of statist policies iterating the Welfare State's developmental goal, starting from the Satellite Instructional Television Experiment (SITE) project in 1975 to the declaration of airwaves as public property in 1995 to the recent Unique Identification Authority of India (UIDAI) or Aadhar project and the Digital India campaign. The launch of the Digital Addressable System offered a range of promises to the viewers in terms of high-definition signals, more choices, niche programming, reduced cost, personalization, and transparency, thus highlighting television as a representational apparatus of liberalization. The broadcast regulations, the television industry, and the distributory practices need to be re-understood along with the television apparatus to understand the implementation of phase-wise mandatory Digital Addressable System in the different regions of India. Thus, studying the Digital Addressable System's rollout can explore the complex relationships among the nation-state, neo-liberal market, and media technologies. Against this backdrop, it is necessary to unearth the ideologies of the Welfare State, which is expropriated within the framework of consumerism. I intend to study that by understanding the implementation of the Digital Addressable System as a site of hegemonic projects embodying promises of modernity and development and the inconsistencies inherent in them.

To address these issues, engaging with the existing scholarly work in this field is necessary. Therefore, in this chapter, I will focus on exploring some of the key academic positions in the fields of digitalization and television studies.

Digitalization and the shifting contours of television studies

The creation of a series of new digital broadcast technologies has led to a 'remediation' of the previous media. As Bolter and Grusin point out, remediation refers to the presence of medium in another and is an important feature of digital media.[1] Compared to television's development in conjunction with radio, the digital technologies' connection to television has been more profound as it has been more than just borrowing the styles and rules of the older but still existing medium. There has been a technological embracement of one medium into the other, which has been termed 'intermedia' by artist Dick Higgins who has stressed on structural homologies and not additive mixtures, "since continuity rather than categorization is the hallmark of our new mentality".[2]

There has been a gradual modification of the communicative orientation between television and its audience due to the rise of new technologies. The televisual form and content is undergoing a transformation due to this convergence. A new television audience, much more decentralized, dynamic and participatory, communicating in an online environment, is being created due to the easy availability of personal computers and portable media devices. This audience is different from the audience of traditional television and in order to tap the economic and cultural possibilities of this emerging audience, television producers have been forced to rerun the television programmes and, sometimes, offer additional content online. One can explore the commitment of the viewer as a broad cultural trend by perhaps using Bourdieu's phrase "the popular aesthetic" that points towards a divergence from the elite/ Modernist values of distance and disinterestedness aiming towards participation, to emphasize and to "enter into the game''.[3] As television viewing becomes more complex, digital, and networked, access and competency, which are based on the formation of new televisual and media separation, become more critical. This is because user customization,

[1] Jay David Bolter and Richard Grusin, *Remediation: Understanding new media* (Cambridge: Mit Press, 2000), 44-48.

[2] Hannah Higgins, "Intermedial perception or fluxing across the sensory," *Convergence* 8, no. 4 (2002): 60.

[3] Pierre Bourdieu, *Distinction: A social critique of the judgement of taste* (Cambridge: Harvard University Press, 1984), 84.

personalization, and control practices can be applied to the interfaces, eventually replacing liveness and flow as the main ideas of current entertainment.[4]

In the age of digitalization, television becomes accessible at least to the urban, upwardly mobile middle-class users based on his/ her taste and availability of time, which again has been made possible due to the availability of television also as an archive or a catalogue. We, therefore, get the impression that these devices act as 'disembedding' appliances in that they interfere with the integration of the contents into the perspective and logic of programming and interrupt the particular non-reversible time slot that has been an inherent feature of a televisual transmission. This way, digital television distribution creates a setting for an elective encounter, being unique at that moment, as the viewer is 'isolated' in his/ her viewing and the programme is 'taken out' of its proper context, thus giving rise to the experience of binge-watching.[5] But the vital thing to remember is that most people who may have this new variant of TV, which scholars call TV 2.0, do not often use those features. Therefore, television's relationship with the audience has always been shifting.

A shift in the symbolic meaning and the central function of the television medium in the 1990s had led Horace Newcomb to suggest the shift from forum to the library. Television in this digital age can also be understood in terms of the old and familiar model of the library. The viewers who are the 'users' will be able to find individual identity and collective affinity when they enter these virtual collections, similar to how they go into a library.[6] The library analogy is even clearer when the intangible and temporary content of TV shows is stored on DVDs or peer-shared video files. This makes TV shows more like books in that they can be bought, shared, and shown at different times. It gives the audience a new way to relate to the medium, based not on how much time they spend with it but on what they own. Digital

[4] Abhijit Roy, "A reflexive turn in television studies? Conjectures from South Asia," *South Asian History and Culture* 3, no. 4 (2012): 639.

[5] Milly Buonanno. *The age of television: Experiences and theories* (Bristol: Intellect Books, 2008), 69-70.

[6] Horace Newcomb, "One hour of prime time. Television negotiations in the 50-Channel world," *Media, culture and social worlds, Liguori, Naples* (2002): 145.

television thus offers control to the viewers, which though empowering, is also surveillant. The new television technologies offer flexibility, portability and personalization to the viewers, along with a feeling of control over technology while at the same time subjecting them to technological networks of control.[7]

In the current digital environment, convergence has led to the creation of participatory culture leading to interactivity between the participants participating in both the production and consumption of content, thus reconfiguring the earlier norms of one-way, hierarchical communication.[8] A few years back, any show created by a television channel or the production house usually had a website devoted to marketing and promotion. On the other hand, many viewer-generated websites have discussions on televised shows that are labelled as unofficial or, as Mark Burnett describes them, "nonsanctioned" sites.[9] These user-generated online spaces are rich in content and have a large number of visitors contributing and commenting on the content.

Thus, we see that there is a changing relationship between television and its audience. The internet provides the viewers with all the information related to a television show, including the characters, the story and the background. Here, we find the internet being used as the secondary medium in order to complement the primary medium. One can also think of this relationship in the form of an extension as the extra footage or deleted scenes released on the internet by television producers is in some way a result of digitalization. This kind of dual

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[7] Daniel Chamberlain, "Media interfaces, networked media spaces, and the mass customization of everyday space,"in*Flow TV. Television in the Age of Media Convergence,*ed. Michael Kackmanet al., (Estados Unidos: Routledge, 2011): 19.

[8] Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2006): 4.

[9]June Deery, "TV. com: Participatory Viewing on the Web," *Journal of Popular Culture* 37, no. 2 (2003): 164.

media use disrupts the spatial and temporal structures of television and, thus, gradually creates a new definition of the televisual form.[10]

As India has the second-largest number of internet users, there has been a steady growth in the maintenance of the online presence of the mainstream television channels and thus, an increasing amount of content available online is viewed through internet-enabled devices. In recent years, there has been a growth of India's online streaming services, which have been streaming the videos of television programmes broadcast on television. Streaming services are gaining popularity among Indian audiences in semi-urban areas as well. Also, there has been a surge in video-streaming services by broadcasters as well as Indian web media entrepreneurs.[11] It is noticeable that a vexing relationship is materializing between the emerging digital distribution with the rising hyper-connected consumers to the easy accessibility of streaming services through the internet and mobile devices in India[12] as it provides them with a sense of agency and choice.

It thus becomes necessary to understand the new developments and their impact on the televisual ecosystem in neo-liberal India and the ways in which mandatory digitalization of cable television can be posited within the course of history to trace the techno-cultural rhetoric of development and also to understand how it contributes to the changing political economy of television in India.

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[10]June Deery, "TV. com: Participatory Viewing on the Web", 167.

[11] According to the website Media India Group, the first Indian web series was "Permanent Roommates" which was launched by the company The Viral Fever (TVF) in 2014. It gained popularity among the Indian youth and attracted huge views on YouTube. See Arachika Kapoor, "Indian Web Series: Striking the right note: The new age entertainment," *Media India Group*, March 6, 2017, https://mediaindia.eu/cinema/indian-web-series-striking-the-right-note

[12] According to a survey conducted by Mint and YouGov conducted in 2018 most of the millennials aged between 22 and 37 years watch entertainment online. See Shuchi Bansal, "Why millennials are ditching TV for online content," *Live Mint*, September 26, 2018. https://www.livemint.com/Consumer/ePS4JiEeb4iVECN7odUu0L/Why-millennials-are-ditching-TV-for-online-content.html.

The multiplicity of television cultures

It is important to study television in the context of a developing country and thus, it becomes necessary to locate a variety of non-western attributes that television possesses. The differences can be located in the production and distribution patterns, economic and policy structures, reception contexts, and the audiovisual configuration of the television screen or the spectatorial engagements.[13] Scholars have also attempted to question whether the phrase 'Global Television Studies' is at all helpful in addressing the complex set of cultural discourses that surfaces out of India's experience with globalization. Kumar[14] points out, "the discipline of global television studies is at once necessary and impossible: necessary because only global studies of television will reveal the multiplicity of television cultures that is critical for fighting the universalizing tendencies in Western discourse; impossible because any global study of television in the current geopolitics of international communication necessarily means an unequal discourse." One needs to engage in a dialogue with the discipline itself to find a solution.

Raymond Williams[15] discussed his idea of 'flow' and the ways in which it develops a relationship with the flow of capital, programmes and channels from one nation-state to another mostly travelling from the West to other countries. In theorizing television, the flow-form is unquestionably essential and in case of India the sense of this relationship is so significant that one cannot deny its influence. The televisual subject in India is oriented into a grid of identity, where the flow-form is similar in both the Indian and Western context. As scholars argue, "it is rather a certain perception of `us', not of `I', that identifies its major expressive conduit in the televisual form here. The drive is more towards a desire to re-member the `self' over and over again in the televisual flow, the immediately available and

[13] However, in my dissertation, I will try to explain the traits of the cable industry especially in the context of West Bengal. See James Curran and Myung-Jin Park, *De-Westernizing Media Studies* (London: Routledge, 2000). 9-11.

[14] Shanti Kumar, "Is There Anything Called Global Television Studies?," in *Planet TV: A Global Television Reader,* ed. Lisa Parks and Shanti Kumar (New York: New York University Press, 2003): 151.

[15] Raymond Williams, *Television: Technology and Cultural Form* (London: Psychology Press, 2003): 88-89.

most coveted domain of `public'".[16] The disempowered section wanted to be recognized by the television apparatus and wanted to visualize them as always present in it. Power and class become crucial factors here. Through a definite formal organization, the image of identity is produced through this presence but not so much through the representative content.

Although one cannot compare television spectatorship with the exercise of democratic rights in a public place like film, as Roy explains, one cannot ignore the fact that television spectatorship focuses on the disempowered viewer in developing nations. The television viewer goes to the market, selects the right television set, looks for loans to buy the TV set, and is thus part of a publicly accepted order and a daily routine at home. His/ her desires thus would be to have a form that would make possible a negotiation between the modernizing institution and the current popular of the actual viewer and this would eventually lead to recognition of "the abstract category of the viewer" whom the television is "supposed to be addressing".[17] People who were previously seen to be negligible in the expansion of capitalism now have a strong identification tie to television in non-Western contexts. Apart from analyzing television apparatus in regard to class, one may also analyze it in terms of geopolitics. The upper-class citizenry of the third world may now build a long-term identity relationship with the television apparatus since television has signalled that the post-colonial bourgeois's passive position concerning the Western equivalent can now be abolished.[18]

It is crucial to note that a non-Western researcher must contend with the general subalternity within history, where one must constantly bargain with European history to place modernity in the local. Also, there is the presence of a second-order negotiation with the global North as it is believed to be where things happen first. The key categories of the modern and the tradition are used in new media studies similar to any other cultural discourse. However, in the domain of television studies, it is helpful to engage with the non-Western sense-making

[16] Abhijit Roy, "The Apparatus and its Constituencies: On India's Encounters with Television," *Journal of the Moving Image*, 4 (2005): 17.

[17] Abhijit Roy. "The Apparatus and its Constituencies," 30.

[18] Abhijit Roy. "The Apparatus and its Constituencies," 30.

of the 'mediatic modernity' rather than confining it within any empirical comparative framework.[19]

In my research, it becomes necessary to identify the rising connection between the television and the digital culture that helps create a remediated cultural production. There is an emergence of network televisuality in non-Western media cultures, related to the growth of the digital delivery system, the reorganization of the television audience into a series of sections, the opportunity for the creation of multiple modes of viewing that are de-synchronized, and the growing intermedia cooperation, which calls for critical interpretation and analysis. So, one of the most important things to figure out right now is how the digitalization of television is changing the way people watch television, which in turn affects the political economy of television for the Indian middle class. However, in my dissertation, I will attempt to look at how the developmentalist-democratic rhetoric combines technology, market and government under neo-liberal imperatives. There is a need to remap the discipline of television studies in a world where television cultures are becoming increasingly powerful and there has been a considerable influence of the 'other' regions. While at the same time, there is also a reasonable degree of difference in the televisual culture, which to a certain aspect, can challenge the Western proclivity of television studies. However, at the onset, it is crucial to outline the different approaches to digitalization.

Digitalization and platform capitalism: Mapping the field

Before delving deeper into understanding the effect of digitalization on Indian television, let us first understand the difference between the terms digitization and digitalization. The practice of changing analog information into digital bits is labeled as digitization.[20] On the

[19]Abhijit Roy. "A reflexive turn in television studies? Conjectures from South Asia," *South Asian History and Culture* 3, no. 4 (2012): 642.

[20] Digitization is a process that has both symbolic and material dimensions. Symbolically, digitization converts analog signals into bits that are represented as 1s and 0s. Digitization therefore produces information that can be expressed in many different ways, on many different types of materials, and in many different systems. At the foundation of digitization in the context of contemporary computing are transistors, devices that amplify and conduct electrical signals. Digitization can proceed through sampling, selecting certain pieces of a signal to represent through binary code. This leaves some scholars to argue that this encoding is a process of "interpretation."

other hand, the means through which the realms of social life are organized around digital exchange and media infrastructures is called digitalization.[21] The majority of scholars have put forward the notion that digitization entails creating information that has some unique and distinct features. Negroponte has emphasized that digitized data can "commingle effortlessly" as they are bits of information and thus are universal in their approach.[22]In digitization, there is an interaction between one bit with the other, irrespective of what the original signal was or the ways in which the user retrieved it.[23] However, any unnecessary

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Ultimately, programmers have written these algorithms, just as engineers have designed and built the machines that carry out digitization processes. In doing so, they have made specific choices about what is important to preserve and what can be discarded during sampling and digitization. See N. Katherine Hayles. "Translating media: Why we should rethink textuality," *The Yale Journal of Criticism* 16, no. 2 (2003): 263-290. 10.1353/yale.2003.0018

[21] For a detailed discussion see J. Scott Brennen and Daniel Kreiss. "Digitalization." *The international encyclopedia of communication theory and philosophy* (2016): 1-11.https://doi.org/10.1002/9781118766804.wbiect111

[22] Nicholas Negroponte, *Being digital* (California: Vintage, 1996), 18.

[23] Perhaps the most developed line of work that captures the replicable, interactive, and distributive affordances of digital media has come from legal scholarship. In particular, a number of scholars have focused on the ways digital media have complicated the enforcement of intellectual property rights. In the quote here, Lessig identifies a central tension of digitized information. On one hand, digitized information is "non rival," meaning that it can be used repeatedly by a number of different people without diminishing or degrading the original digital object. This combined with the low cost of reproduction, permits cheap, faithful, and widespread copies of digitized content. The ease of replicating digital information, the interactive affordances that have resulted in the proliferation of creative re-combinations of cultural content, and the easy distribution of digital creative works have challenged the monetization of copyrightable content and undermined the ability of states to assert an enforceable copyright over cultural goods. On the other hand, industries have responded by creating a host of "digital rights management" technologies that lock down consumer products and even "fair uses" of copyrighted works, and pressure platforms and individuals to remove all potentially copyrighted works, even those that a court might judge to be a fair use of copyrighted content. Indeed, these issues at the intersection of law and the affordances of digital technologies have animated some two decades of work on the regulation of the Internet in addition to struggles over

redundant or repetitive information needs to be discarded so that the character of the universality of digital information is maintained.[24]

In an essay published in the literary magazine, *North American Review* in 1971, the term "digitalization" was used for the first time concerning computerization.[25] In the essay, Robert Wachal talked about the consequences of "digitalization of society" within the background of computer-assisted humanities-research capability. Digitalization has attracted the scholars' interests from the very beginning, thus producing substantial work in this domain that has mainly concerned itself with the influence digital media has on the modern world rather than just focusing on converting analogue information into digital bits. The ways in which people's social lives shape up around digital communication and media infrastructures have broadly been categorized as digitalization. Digitalization of "the new economy, society, and culture" has been identified by Manuel Castells as one of the most important characteristics of the modern period.[26] Scholars have talked about infrastructural convergence at length in their writings on digitalization. All infrastructures related to communication are connected by a physical network which plays a vital role in the convergence of network or infrastructure. Though, scholars have maintained that it would be erroneous to always talk about digitalization and network society as comprising of each other.[27]

Dal Yong Jin's book, *Digital platforms, imperialism and political culture*, tries to quintessentially talk about the shift from the World Wide Web to a semi-closed platform in

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fundamental issues of jurisdiction and governance. See Lawrence Lessig, *Remix: Making art and commerce thrive in the hybrid economy* (London: Bloomsbury Academic, 2008).

[24] Negroponte, *Being digital*, 16

[25] Robert Wachal, "Humanities and computers: A personal view," *The North American Review* 256, no. 1 (1971): 30-33.

[26] Manuel Castells, *The rise of the network society Vol. 1* (New Jersey: John Wiley& Sons, 2010): 5.

[27] Castells, *The rise of the network society*, 5.

the first part.[28] The book, which is divided into three parts, explains the theoretical and methodological formulations in the first part. Digital technologies are being used by people in the scope of both Web and applications in order to extract maximum benefits for them. People participate in both the World Wide Web and applications and thus, it becomes crucial for researchers to understand and deliberate the level of such participation and analyze them as patterns so that the extent of social awareness and subjectivity can be examined. To study the changes occurring in the domain of social awareness and to understand the style of participation, one needs to analyze the chain of patterns so that any changes in attitude can be recognized and compared. The book also engages us in the possibility of a shift towards creating platform imperialism by tracing the growth and development of imperialism theories.[29] Dal Yong Jin has stressed the importance of platforms in his book. He says:

> Platform is a useful term because it is a broad enough category to capture several distinct phenomena, such as social networking, shift from desktop to tablet computing, and smart phone and app-based interfaces, as well as the increasing dominance of centralized cloud-based computing . . . Although it was not long ago when people began to witness the emergence of platforms, platform technologies and politics are suddenly ubiquitous in everyday life. They are deeply woven into contemporary life, politically, economically, culturally, and technologically.[30]

Platforms, according to Jin, can be defined as computational, cultural, and communicational or commercial domains, and the three are interrelated. The computational domains include the hardware architecture; the cultural domains consider the designer's values and preferences while the communicational and commercial domains focus on the public and corporate spheres.[31] An empirical examination of the creation of platform imperialism with the rise of platforms worldwide has been discussed. According to Jin, the subsequent growth of platforms all round the world has been one of the pivotal factors leading to the

[28] Dal Yong Jin, *Digital platforms, imperialism and political culture* (New York: Routledge, 2015): 3.

[29] Yong Jin, *Digital platforms*, 11.

[30] Yong Jin, *Digital platforms*, 4.

[31] Yong Jin, *Digital platforms*, 8.

accumulation of capital in the digital era. In the book, he also talks about Western states' domination in creating and developing platform technologies that have been made available globally. The spirit underlying the uneven relationship between the US and non-western states can be explained in a better way by using platform imperialism.[32] Thus, Dal Yong Jin provides us with insight into digital platforms and their relationship with imperialism, which can help future researchers.

According to Nick Srnicek, digital platforms provide the infrastructure to initiate interaction between two or more groups. He further mentions in his book, *Platform Capitalism* that digital platforms act as a mediator between different users as service providers, producers, customers, advertisers and physical objects. These digital platforms enable users to create their own products and services using a series of tools offered, making it easier for the users to promote and sell their products via their platforms.[33] Platforms make the interaction between different user groups possible as they provide an infrastructure for the groups by designing a basic architecture that helps them to interact and communicate. Not only that, they attract user groups by using cross-subsidization and display monopolistic inclination caused by network effects. The organizations which own the software actually own the platform. Thus, platforms have the power to extract and control the data of its users. The platforms mostly concern themselves with data from natural processes, production practices, and other users and businesses. Srnicek calls digital platforms "extractive apparatus for data."[34]

[32]Yong Jin, *Digital platforms*, 69.

[33] One of the important characteristics of platform is that digital platforms produce and are reliant on 'network effects': the more numerous the users who use a platform, the more valuable that platform becomes for everyone else. Facebook, for example, has become the default social networking platform simply by virtue of the sheer number of people on it. If you want to join a platform for socialising, you join the platform where most of your friends and family already are. See Nick Srnicek, *Platform capitalism*. (New York: John Wiley & Sons, 2017): 30-31.

[34] Srnicek, *Platform capitalism*, 32-33.

The idea pertaining to the exploitative nature of digital platforms has also been discussed in the works of Nick Couldry and Ulises A. Mejias, who argue that the relationship experienced by the user with the data can be understood as 'data colonialism' where the data is continuously extracted from human beings for the sake of profit. Data colonialism is similar to historical colonialism as it usurps human life through quantification. Here, data collection is being justified by framing it under terms like 'connection', 'personalization', and 'democratization' in how historical colonialism justified the 'superiority' of the colonizers and their necessity to extract 'natural' resources from the colonies. Nick Couldry and Ulises A. Mejias find similarities between capitalism and data colonialism as both use their power to shape the world, the former to optimize profits and the latter to create data. Digital platforms trigger the continuation of capitalism through the consolidation of power and money in the hands of a few individuals who extract the maximum value from human life. Thus, human life becomes a commodity of data, just like how capitalism changed human work into a commodity of labor.[35]

The technologically mediated relationship between the state and its citizens has been interpreted in two ways by Itty Abraham and Ashish Rajadhyaksha, first by understanding state power and governmentality as understood by Michel Foucault and second, by finding examples from India to understand the perils associated with digital governance and biopolitics.[36] They stress that the known arrangements of governmentality are no longer valid when we look into the relationship arbitrated by technology between the state and its subjects in India, thus proving that Foucault's understanding needs some significant alteration so that it can be functional in the Asian post-colonial societies. The issue of citizenship has faced new restrictions due to digital technologies and neoliberal governance, thus limiting the periphery of technological citizenship.[37] In their article, they further probe

[35] Nick Couldry and Ulises A. Mejias,*The costs of connection: How data is colonizing human life and appropriating it for capitalism*(Palo Alto: Stanford University Press, 2019): xiii.

[36] Itty Abraham and Ashish Rajadhyaksha, "State Power and Technological Citizenship in India: From the Postcolonial to the Digital Age." *East Asian Science, Technology and Society* 9, no. 1 (2015): 66.

[37] By "technological citizenship" Abraham and Rajadhyaksha mean the technological mediation of state–citizen relations. This concept bears a resemblance to the literature on public participation and

the effect that digitization of governance exercises on citizenship through various case studies. The poor are the most severely affected by this partnership between digitization of governance and privatization of welfare.[38] There are risks like appropriation of benefits and the loss of the prevailing resources that the poor are exposed to once they enter these digital governmental projects. Also, digitization entails costs and impedes the poor from accessing the basic claims of citizenship. Thus, the claims of greater transparency and efficiency associated with digitalization is never fulfilled. However, on the contrary, the benefits instead of reaching the "last mile" make some groups more vulnerable and thus, the already existing social divide is further strengthened. The differences between private power and privilege have been refined by neoliberal biopolitics, making it difficult for the marginal people to access the resources under the garb of digital governance.[39]

In Ashish Rajadhyaksha's seminal work, *In The Wake Of Aadhaar*, he discusses the various facets of digital governance. Rajadhyakshamentions in the introductory note, "Here we define the whole—the digital ecosystem—as nothing less than the public domain of the 21st century. As such, it has several characteristics similar to the original public domain that emerged in the 18th, 19th, or even based on where you were, the 20th centuries, but also it also bears key differences."[40] Internal contradictions are inherent in the digital ecosystem. The rise of the digital ecosystem of governance is local and relies on how matters related to

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engagement in the STS literature. Techno science is assumed, in this perspective, to be an inherent feature of the state: considering citizenship thus permits us to go beyond the discussion of a single project to explore relations between a state that is both founded on and uses techno science to legitimate itself and a subject population that seeks political voice, recognition, and agency.

[38] Abraham and Rajadhyaksha, "State Power," 82.

[39] Abraham and Rajadhyaksha, "State Power," 65-85.

[40] Ashish Rajadhyaksha, *In the Wake of Aadhaar: The Digital Ecosystem of Governance in India* (Bangalore: Centre for Study of Culture and Society, 2013), xv, *http://www. academia. edu/4668710/ In the Wake_of_Aadhaar_The_Digital_Ecosystem_of_Governance_in_India*. The work remains an important one, especially for this research, as I would revisit the text several time in the course of this dissertation.

digitization are locally understood and the methods through which they are used locally. The centralized imagination of the state hinders the citizens' natural growth, and it is this hindrance that acts as a vital element to the last mile problem[41]. Rajadhyaksha further stresses the fact that the Indian state right now is experiencing significant technological challenges that could intimidate its survival in its current form.[42]

Adrian Athique addresses the issue of platform capitalism in India by using the structural analogy of the emporium.[43] The market systems of platform economies may not be genuinely capitalist in the real sense of the term as here rather than the ownership of the means of production or the profit generated from outputs, and more prominence is attached to the means of participation.[44] Hence, the broad scope of the "great integration" imagined

[41] Last Mile problem is the fact that intended beneficiaries of state benefit do not receive what is meant for them: mainly due to distortions in the system at the receiver's end. These days, the term has been widened to include problems that affect most schemes of public policy, from disaster relief to housing and food subsidies, where it is widely assumed that benefits do not percolate to those who need them most; and it today captures a long history of the capacity of developmental schemes to slice through the barriers of reception to both identify and to reach their intended addressees. Often technology is considered as an element of overcoming the Last Mile. Even in the context of Digital Addressable System, the last mile problem is a pressing one. Rajadhyaksha in terms of the Last Mile problem poses the question: how to translate, or scale up, a communications-driven mode of centralised state-addressing remote citizen into a model by which the state could reach benefit to the doorstep of that remote citizen?However, according to Rajadhyaksha "the problem of the last mile is a conceptual hurdle, not a physical one." See Ashish Rajadhyaksha, *In the Wake of Aadhaar,*49.

[42] Rajadhyaksha, *In the Wake of Aadhaar*, xvi.

[43]Adrian Athique asserts that "digital emporium" as a metaphor allows us to challenge the hegemonic metaphors of "platform capitalism." In the colonial metropoles, the emporium was in its day an unabashed metaphor for the expansive conquests of global trade, bringing an expansive range of material and ethnological goods from the far-flung corners of empire. By contrast, the modern-day metaphors associated with the platform economy are slippery and evasive. See Adrian Athique,"Digital Emporiums: Platform Capitalism in India,"*Media Industries Journal* 6, no.2 (2019): 70.https://doi.org/10.3998/mij.15031809.0006.205

[44] Athique, "Digital Emporiums", 79.

by the platform economy model is not quite enunciated in the idea of platform capitalism. Hence, harmonising content, labour, service, airtime, user entry, data assets, indulgence, scrutiny and sociability is essential to capture the platform economy model.[45]

However, for Biswarup Sen, informatics becomes an important area of study in his book, *Digital Politics and Culture in Contemporary India: The Making of an Info-Nation*, where he talks about the ways in which the state, private capital and civic society immersed their understanding to the principles and practices of the information age to create an "info-nation". Informatics historically has played a significant role in national imagination. However, Sen broadens his concept by emphasizing Arvind Rajagopal's notion of "communicative modernity":

> Seen in informational terms, communicative modernity has four consequences of note. First, it implies an increase in the sheer volume of interpersonal communication, thus constructing a sort of proto-network that would anticipate the coming of the internet. Second, the increasing capitalization of the communicative industries meant that the idea of a public communicative space that was independent of the state began to emerge by the early 1990s. Thirdly, the turn to entertainment had an "expressionist" effect in that it allowed fractional discourses to enter the public sphere or fray. What emerges from such expressions is a sociology that transcends the state's vision of unitary society – a perfect example being the rise of Hindutva that accompanied the showing of the epic serials *Ramayana* and *Mahabharat* in the late eighties in spite of the state's secular commitments. Finally, communicative modernity allowed for an alliance between consumerism and individualism that bypassed the concerns and actions of the state, the global dimension of which has been extremely well elaborated by a recent of essays.[46]

With the rise of the informational state, the term "communicative space" has changed. According to Sen, the information revolution has brought transformations in the sphere of politics and has thus been attributed to be the third vector of the info-nation. Digital citizenry

[45] Athique, "Digital Emporiums", 79.

[46] Biswarup Sen, *Digital politics and culture in contemporary India: The making of an info-nation* (New York: Routledge, 2016): 16.

and “info-activism” become the basis of a new kind of politics resulting from the dissemination of information. Sen stresses how the advent of the “info-nation” has resulted from the impact of the digital revolution on all facets of societal arrangements, specifically in relation to India. Informational logic plays a crucial role in negotiating and modifying the means of social action in an info-nation. He further emphasizes the role information has played historically in India and the global South and puts forward the notion that the “info-nation” is perceptible in the areas of political economy, state governance, citizen activism and popular culture and hence people are on the threshold of an unknown future carved by the emergence of an informational age.[47] This brings us to the particular aspect of digital switchover. In the following section, I engage with a number of studies on digital switchover that took place in different countries.

Studying digital switchover in the global context

In his book Digital Television Strategies, Allan Griffiths gives us a compelling introduction to digital television.[48] New viewers are not created by technology; they are the ones who first changed and then adapted their lifestyles around digital television as they found its growth useful. Viewers in the USA were believed not to be interested in paying anything for the new television technology. Griffiths points out that the industry misconstrued the viewers as they are the ones interested in investing $100 a month for watching content on television or for upgrading technological features. So, the viewer becomes the main focus of digital television as television is now adopting its most plastic form. It can indeed be all things to all

[47] Sen, *Digital Politics,* 18.

[48] There is also a strange argument that, by resisting the advance of digital television technology, we will somehow preserve our individual cultures. This argument is strongest in France, where it goes under the name of the 'cultural exception'. It has caused French media giant Vivendi huge problems, as Vivendi realized that digital television in particular simply let people watch exactly what they wanted to watch - much to the detriment of dull subsidized French films. At the heart of this argument is the fear that digital technology advances the spread of American-made programming. It does - but only because people seem to find it superior, in many cases, to their domestic fare. It is not a powerful argument to say to people at the beginning of the twenty-first century that because it is interesting you cannot watch it. The technology is now here to allow them to ignore you see Alan Griffiths, *Digital television strategies: Business challenges and opportunities,* (New York: Palgrave Macmillan, 2003):

people as it is rapidly acquiring the capability to seem to be about you, the viewer. “This has some immediate implications: for politics, for viewers. for investors, for advertisers and broadcasters”.[49]

The digital switchover of UK has been extensively discussed by Michael Starks in his book, *Switching to Digital Television: UK Public Policy and the Market* (2007). Here, he talks about the various hurdles that led to the implementation of the digital system. He looks into the history of television in the United Kingdom and covers issues like the role of subsidies in the rise of pay-tv in the UK, how the digital receiver industry was affected, and the political challenges that the industry faced in making the viewers buy the new equipment. The book also covers issues like the challenges faced by the industry, especially the crisis faced in 2002 with the bankruptcy of ITV Digital and the ways in which the regulator undertook the re-advertising of the digital terrestrial franchise. For Starks, digital television's evolution right from its inception to its planned implementation in the United Kingdom entails a multifaceted relationship between technology, commerce, and politics. The government played an important role in the digital switchover and the decision to carry it out was a political one.[50] In India, too, this “complex interplay between technology, commerce and politics” creates the background for the implementation of the digital addressable system in India.[51] According to Starks, the problems in implementing digital technology in the United Kingdom were mainly related to making people acquire a digital set-top box or a new digital

[49]Griffiths, *Digital television,* 171.

[50] Michael Starks, *Switching to digital television: UK public policy and the market*(Bristol: Intellect Books, 2007): 3.

[51] In the case of UK, the switchover is even more “political” since it involved digitalization of terrestrial television and not only cable television. “For satellite and cable the decisions to switch to digital transmission are essentially commercial: satellite and cable broadcasters can switch at different times of their own choosing. In practice satellite broadcasters have mostly switched, offering their digital customers new receivers, while the cable industry has become a mixed economy of analogue and digital systems. For terrestrial television, since the allocation of spectrum to broadcasters is made either by government or by a regulatory body with powers granted by government, the decision to end analogue terrestrial transmission is ultimately a political one” see Starks. *Switching to digital television,* 10.

TV set so that they may continue watching television even after the switch-off of the analogue signals. However, there would always be a section of the population who would have resented the move as it bore them both cost and trouble.[52] However, the discussion in the book is mostly related to the process of the switchover of analogue terrestrial television to digital in the context of the UK. However, in the case of India, "the digital switchover" is mainly concerned with cable and satellite television broadcasts.

In the background of completion of digital switchover in over thirty countries around the world by the end of 2012, Michael Starks presents a broader study of the digital ecosystem in his book *Digital Television Revolution* (2013). He talks about how people's viewing habits have not changed despite the switchover entailing remarkable changes when viewed in relation to the rise of new platforms and the internet. People have their four or five favourite channels from 50-500 channels offered in the menu. In many countries, like the cabled countries of northern Europe and the countries in the Middle East, satellite outweighs the role of digital terrestrial transmission. Satellite is used to reach every small corner in countries where digital terrestrial transmission plays a major role, as it is found to be more economical and reasonable in comparison to digital terrestrial transmission. The distribution of signals to television will change in due course, and in the future, broadband might become the favoured mode of distribution.[53] So, digital television is not only about technical changes involving better quality of signals, more channels, choice of HD signals etc. but also about the relationships being shaped between communicators, audiences, regulators and governments in the transformation process.[54]

We find countries like the USA too undergoing hardships during their switchover from analogue to broadcast. Jeffrey A. Hart, in his essay, mentions, "The transition to digital television (DTV) was originally scheduled to take place at the end of 2006, but that deadline was set back: first to December 31, 2008, then to February 17, 2009, and then finally to June 12, 2009. The setting back of these deadlines reveals a lot about contemporary American

[52] Starks, *Switching to digital television,* 2.

[53] Michael Starks,*The Digital Television Revolution*(New York: Palgrave Macmillan, 2013): 223.

[54] Starks,*The Digital Television Revolution*, 224.

politics and even more about the politics of broadcasting".[55]Hart, while stressing on the policies of the Federal Communication Commission (FCC) delves into the relationship between the FCC and the US Congress, the FCC and influential private interest groups like the National Association of Broadcasters, the National Cable Television Association, and the Consumer Electronics Association as these interactions played a significant part in shaping the policies and recommendations of FCC. Thus, Hart's essay provides a more in-depth reading of FCC's policies and recommendations in order to understand the digital transition.[56] A number of obstacles faced in the US during the digital transition are underlined in this essay. First, the producers and the consumers both remained confused by the decisions of FCC; second, no proper must-carry rules were given to the cable and satellite operators even when the process of implementation were already being carried out; third, the viewers had to bear additional expenses due to the persistence of the cable companies to provide their own set top boxes with two way capabilities; fourth, the viewers were caught in a puzzling situation due to the differences between the Democrats and the Republicans. The broadcasters and the consumer electronics manufacturers received enhanced support from the Republican nominees to the FCC, whereas the Democrat appointees to the FCC favoured the consumers, the poor and elderly and the minorities. There was a significant dependence on the industry by the FCC, mainly to educate the consumers about the digital transition.

The right time to switch off the analogue signals is one of the significant issues of the digital transition. It depends on various uncertain and unforeseeable parameters like the readiness and capability of the consumers to buy the digital receivers or converter boxes and their interest in subscribing to cable and satellite services. These factors rely on the cost incurred for buying the equipment or for the services demanded, which is difficult to determine due to many variables. The transition occurs within a comprehensive social and political

[55] Jeffrey A. Hart, "The transition to digital television in the United States: The endgame." *International Journal of Digital Television* 1, no. 1 (2010): 8.https://doi.org/10.1386/jdtv.1.1.7/1

[56] The FCC (Federal Communications Commission) was the primary forum for decision making about how to implement the transition. It was responsible for monitoring the performance of other agencies, such as the National Telecommunications and Information Agency (NTIA), who were put in charge of certain aspects of the transition.

background where democratic bias and the prevailing social disparity might further create hurdles to the transition. While on the one hand, in the developed countries having a democratic setup, the governmental decisions would most likely be dependent on a mixture of market and consumer choices, on the other hand, the authority might play a major part in the government thus, ignoring the interests of the consumers and making them pay for the services which they cannot afford.

Mari Castañeda's article offers a glimpse into the early debates and apprehensions related to digital television broadcasts. Her 2007 article on the digital switchover in the USA talks about the similarity between the shift to colour television with the switchover while putting forward the contention that because digital television is an entirely new system, thus, it requires a different set of policy guidelines that the government and the industry both have failed to identify. She also points out that the global political economy is being reformulated in ways that were not present in the earlier changes related to the TV while pointing out the problems of digital transmission, interoperability and compatibility and copyright protection.[57]

Wang Wei's study captures a detailed analysis of China's digital cable TV and how it is the most mature platform compared to terrestrial and satellite television, which are still in their early years. China has adopted a 'cable first' strategy and has made it a free public service rather than dedicating it for commercial operations. Digital TV broadcasting, personalized viewing services, information service, interactive value-added service and telecommunications services are the five service types that have been discussed in this paper. After the digitalization of television, one can see a shift towards consumer-related services. As Wei points out that from the early days of analogue television, cable TV operators in China have been technical service suppliers using their networks only for signal transmission, but now, they have become more careful and thoughtful in providing services to users in order to stand out in competition to IPTV and Mobile TV.[58]

[57] Mari Castañeda, "The complicated transition to broadcast digital television in the United States." *Television & New Media* 8, no. 2 (2007): 92. https://doi.org/10.1177/1527476406297250

[58] Wei Wang, "A Description of China's Digital Cable TV Services." *International Journal of Digital Television* 1, no. 1 (2010): 110.https://doi.org/10.1386/jdtv.1.1.105/7

Another article on China by Zhou Yan discusses the different business models developed by cable, terrestrial and satellite digital television providers after considering the geographical ecosystem, consumers' financial position and the level of economic development.[59] In China, digital cable TV offers a wide range of services to a substantial number of users. Content platforms and transmission and distribution networks in China are separate; thus, there are grave challenges as far as their relationship is concerned. The rule of separation between networks and TV stations has been a part of the policy laid down in the 82nd official document. The responsibility of content is in the TV stations' hands, while the different network companies are accountable for transmission and distribution. In the concluding sections of the article, Yan puts forward how the TV stations have started subscription channels, but most of them have been unable to perform well and make ends meet, thus creating an indifference in TV stations' attitude towards digitalization. Content is one of the key factors in digitalization; thus, the lack of proper content creates a barrier to the growth of digitalization. Thus, it is evident that the content providers are in constant struggle with the platform operators.[60]

Though initiation towards digitalization started early in Korea, Hyunsun Yoon explains how its advancement has been restrained by political disputes, thus leading to the decision to terminate analogue broadcasting all at once rather than region by region.[61] However, about ten million analogue cable TV households nationwide had not been converted when the nationwide digital switchover occurred on December 31, 2012. As the converter boxes to view Korea's DTV on an analogue set were not available in the neighbouring country, North Korea, the Korean government in 2014, retained an analogue system for TV transmission. The reason for the switchover has been more than a consumer focus on "better TV". The free spectrum can be sold to users for services like mobile data. The need to fulfil the business

[59] Zhou Yan, "The positioning and current situation of China's digital TV." *International Journal of Digital Television* 1, no. 1 (2010): 97.https://doi.org/10.1386/jdtv.1.1.95/7

[60] Yan, "The positioning,"103.

[61]Hyunsun Yoon, "Lessons from digital switchover in South Korea," *Television & New Media* 15, no. 6 (2014): 539. https://doi.org/10.1177/1527476413487817

demands for network communication facilities beyond television has been another reason for the switchover. Digital switchover has received criticism, too, due to many factors. One most important factor is that digital television policies are motivated by market forces and political backgrounds rather than looking at the benefit of viewers.[62] The costs incurred by the consumer to buy digital equipment to access signals which will provide them access to better picture quality and other technicalities, might not be enough to justify the additional costs. So, many of them are inclined to holdup their investment in digital equipment until their analogue equipment needs to be updated or replaced.[63] In South Korea, the main problem in 2014 was converting some thousand million households from analogue cable to digital. Government communications regarding this were not effectively placed among the consumers thus, making only 2.6% of households eligible for government support through the support scheme. The challenges the elderly and the disabled in adapting to technology are immense, thus proving that though digital television offers opportunities, it is interlaced with challenges.[64] The challenges faced by the people who are not participants of the electronically mediated networks are important to understand to take note of the "digital divide" and its consequences and prioritize face-to-face communication as a useful method in this regard.[65]

According to the conference report of Commonwealth Broadcasting Association's Asia-Pacific Conference on Digital Television in Developing Countries, the problems faced by the digital switchover are mostly in the countries where the capability of the consumer to spend is less, the ownership of television is limited, and the issues related to development are the primary concern of the government and the public agencies. Developing countries often

[62] Petros Iosifidis, "Growing pains? The transition to digital television in Europe," *European Journal of Communication* 26, no. 1 (2011): 3-17.https://doi.org/10.1177/0267323110394562.

[63] CinziaColapinto and Franco Papandrea. Digital TV policies in the UK, US, Australia and Italy. Sydney: Australia: *Record of the Communications Policy & Research Forum* 2007.

[64] Denise Evans and Leen Petre, "Digital broadcasting: Threat or opportunity?," *International Congress Series*, vol. 1282 (2005): 1002-1003. https://doi.org/10.1016/j.ics.2005.05.087

[65] Yoon, "Lessons," 545.

consider the digital switchover as a sign of "technological leapfrogging, as exemplified by the spread of the mobile phone in countries with limited landline networks."[66]

Like the US in Japan, the digital switchover has primarily been in the domain of terrestrial broadcast. The Japanese Ministry of Internal Affairs and Communications (MIC) started arranging the switchover in 2008. The switchover was initially intended to take place on July 24, 2011.[67] Initially, the spread of DTT receivers were sluggish but by 2012, DTT broadcasts covered nearly 100 percent of households.[68]The Japanese government initiated different kinds of assistance programmes to encourage the sale of DTT receivers and the installation of aerials, making the prices of DTT receivers drop significantly.[69]

In reference to the movement of power in cultural industries which create and distribute cultural products, the concept of digital switchover is discussed in an article titled, *Television's Power Relations in the Transition to Digital: The Case of the United Kingdom*.

[66] Michael Starks, "Digital Television in Developing Countries? Reflections from the Commonwealth Broadcasting Association's Asia-Pacific Conference in Tonga," *International Journal of Digital Television* 1, no. 1 (2010): 115.https://doi.org/10.1386/jdtv.1.1.113/7

[67] Norio Kumabe,"Preparations for digital switchover in Japan: An update," *International Journal of Digital Television* 1, no. 1 (2010): 85-87.https://doi.org/10.1386/jdtv.1.1.85/7

[68] Japanese receiver manufacturers, with their multi-national global businesses, swiftly positioned themselves to manufacture digital receivers for the United States and European markets but Japan was too proud a country to adopt either the American or the European technical standard itself. So, with government encouragement, Japan's broadcasters and manufacturers developed their own set of digital television technical standards, called ISDB, embracing digital satellite, digital cable, digital terrestrial, data-casting, multi-media and mobile services. The Japanese maximized the technical compatibility of their standards for digital satellite (ISDB-S) and digital terrestrial (ISDB-T) television, to facilitate the manufacture of HDTV sets which could handle both forms of reception. Their digital terrestrial technical design also supported mobile television, with reception on hand-held mini-TVs or on mobile telephones. For a detailed discussion see Michael Starks. *The digital television revolution: Origins to outcomes*. New York: Palgrave MacMillain, 2013.

[69] Kumabe, "Preparations for digital switchover," 85-87.

The decision of what the consumers will consume, when and where is decided by the distributors in the UK, as the industry is by and large under the distributors' control.[70] Christopher's argues that the power relationship between the producers and channel distributors was adjusted unsteadily from the beginning. The distributor dominance that started in the UK during the analogue terrestrial broadcast in the 1980s faced competition from several quarters, some trying to shift the power towards the producers while the others vehemently approved the unrelenting dominance of the distributors, which, however, has led to an unsettlement in the distributor dominance but has failed to crumble it away.[71] A range of changes related to the switchover is mentioned in the article, which concerns the technical changes and the modification of the revenue structure and the makeover of the television industry's organization.

The authors of the article, *Not the Apocalypse: Television Futures in the Digital Age* look into an existing study of post-broadcast television essentially in the background of China, Taiwan, Hong Kong and Singapore to confront what they explain as the developing analytical orthodoxy around the growth of digital television. They emphasize understanding how the social practice of television is shifting in highly contingent ways in particular markets. They further argue that this shift shows coherence with past practices while at the same time being affected by the changing economic and cultural arrangements of production and use. The authors stress that television is measured in many different ways in different locations, either by the rating agency, state regulators or by the marketing segments of the television companies. Thus, we encounter difficulties locating extensive and straightforward ways of measuring and mapping what we call 'television'. The actual form of the information measured can be influenced politically or commercially, or culturally and the reasons for which it is collected are always related to issues internal to the nation-state or the local market.[72] So, knowledge about the local culture is essential, along with access to data, not only in order to make the comparative work on digital television more collaborative but

[70] Brett Christophers, "Television's power relations in the transition to digital: the case of the United Kingdom," *Television & New Media* 9, no. 3 (2008): 254.https://doi.org/10.1177/1527476407313822

[71] Christophers,"Television's power relations," 245.

[72] Jinna Tay and Graeme Turner, "Not the apocalypse: Television futures in the digital age," *International Journal of Digital Television* 1, no. 1 (2010): 47.https://doi.org/10.1386/jdtv.1.1.31/1.

also to understand the critical distinctions to create nuances that could make this work useful.

Against the backdrop of these issues and debates related to the digitalization of television broadcasting in the global context, let me bring up a more focused discussion on the Indian scenario in the following two sections.

The following section offers a brief outline of the historical trajectory of television broadcasting from India, mainly highlighting the key technological transformations, and the subsequent section critically discusses some of the critical works related to the digitalization of television broadcasting in India. By providing a brief historical overview of technological development related to television broadcasting in India, I aim to set the frame of reference for discussing the limited and dispersed studies on the digitalization of Indian television, which constitutes the concluding section of this chapter.

The historical trajectory of television technology in India

A broader and more detailed history of television is outside the scope of this section; instead, I aim to provide a historical perspective of technological development related to television broadcasting in India. So, in the beginning, it is crucial to trace the history of the development of television as a technology and cultural form in India.

Early developments: Launch of TV Centres in India

In 1955, after participating in the International Industries fair organized in New Delhi, the company Philips found it expensive to move the television equipment and, thus, sold it at a low price to All India Radio (AIR). Later, on September 15 1959, AIR began an experimental television service after receiving seventy 21-inch TV sets and a portable generator from UNESCO along with a loan of some video cameras and additional equipment from United States Information Services (USIS). Though studio-based programmes were the main focus, outside events were also covered using the outside broadcast van provided by USIS. UNESCO and Ford Foundation provided support for sponsoring educational programmes. UNESCO had actually responded to a request made by the Indian delegation in 1956 at the UNESCO general conference in Delhi to assist them in providing educational

television in India. Agreements were signed between UNESCO and the Indian government within a month of the launch of TV center in 1959.[73]

Television for education and development

Community education became one of AIR's main priorities of AIR and so the money received from UNESCO was spent to make social education programmes and buy TV sets. Private American manufacturers supplied the Indian government with black and white TV sets, which some scholars claim, had become obsolete in Western countries. The social education programmes were telecast from December 1960 to May 1961. Twenty programmes were broadcast during this period. Teleclubs with a membership of 25 people were used to measure the impact of the programmes primarily in the areas of information, attitude and behaviour. The collected results emphasized television's positive role in imparting social education in India.[74] Two years after the first experiments in television, the first school television service was commissioned in New Delhi mainly for the institutions run by the Delhi Municipal Corporation.[75]

The Ford Foundation supported the Indian government's initiatives to organize community development projects by setting up new village institutions. It is important to note that by the time the Foundation took an interest in TV, it had already established its reliability and value with the Indian government. In order to produce effective programmes, the Director General of AIR travelled to USA in 1960 to visit a few educational television centres before agreeing with the Ford Foundation. A Video Tape Recorder was shipped to India, after which the project was initiated in 1961.Until 1965, the development of television in India progressed slowly, mainly due to three reasons: the lack of TV manufacturing industry in India; secondly, the high price of importing TV sets from abroad and finally, due to Indo-China war which affected foreign exchange. After Indira Gandhi became the Minister of

[73] Bharthur Parthasarathy Sanjay, *"The role of institutional relationships in communication technology transfer: a case study of the Indian National Satellite System (INSAT)"* (PhD diss., Simon Fraser University, 1989), 46

[74] Sanjay, "*The role of institutional relationships in communication technology transfer*," 46-47.

[75] Vanita Kohli-Khandekar, *The Indian Media Business* (New Delhi: SAGE Publications India, 2013): 103

Information and Broadcasting in 1964, the focus on the creation of industrial infrastructure for TV was realized. Thus, proposals for collaboration were invited by a committee consisting of representatives of AIR. The Indo-Pak conflict of 1965 played a crucial role in considering the expansion of TV.[76] By 1965, television broadcasting in India had become a one-hour service consisting of a news bulletin.[77]

Development of Indian Television through Satellite Instructional Television Experiment (SITE)

The government initiated a plan for a phased expansion of TV based on a proposal prepared by AIR. However, as the plan emphasized on setting up transmitters only in four cities of Bombay, Calcutta, Madras and Kanpur in the fourth plan, the technical committee of the Ministry of Information & Broadcasting, Bhagavatam Committee, was unhappy as it wanted a robust plan that was flexible in adopting the new technological developments taking place in the field of electronics at a rapid pace.[78] Dr. Vikram Sarabhai played a vital role in the development of television in India. His initiative led to the commencement of the Satellite Instructional Television Experiment (SITE)[79]. Sarabhai identified four reasons due to why

[76] Sanjay, "*The role of institutional relationships in communication technology transfer*," 49-51.

[77] Kohli-Khandekar, *The Indian Media Business,* 103

[78] Sanjay, "*The role of institutional relationships in communication technology transfer*," 52.

[79] A Memorandum of Understanding (MoU) was signed between The United States National Aeronautics and Space Administration (NASA) and the Indian Department of Atomic Energy (DAE) on the 18th of September, 1969 to jointly conduct, an instructional television experiment using the Applications Technology Satellite-6 (ATS-6). The experiment was called the Satellite Instructional Television Experiment (SITE). For a period of one year from August 1, 1975 to July 31, 1976, NASA's ATS-6 satellite was used to broadcast instructional programs. In addition to positioning, maintenance and pointing of the spacecraft from the ground station in Madrid, Spain, an operating time of four hours per day on ATS-6's communications system was under the responsibility of NASA. The design and deployment of ground transmission, reception systems and software materials were under the control of the Indian Government. Two earth stations in India, located at Ahmedabad, and Delhi transmitted the programmes NASA's ATS-6. The amplified version of the signals was then received in earth by a small antenna connected to the community television

the growth of Indian television had been slow- first, television's role in fulfilling the developmental goals has not been given importance; second, the cost of television is higher in comparison to radio; third, in order to create national programmes and broadcast them in the cities broadband communication links were necessary which were nonexistent till the 1960s, fourth, the cost of importing the equipment required for television broadcast was too high. Sarabhai conducted a feasibility study of the satellite technology mainly in response to the recommendations of the Broadcast Committee. Through this study, he tried to understand the cost and importance of using a synchronous satellite for connecting the rural and distant populations of the country using television. A pilot agricultural programme for television, 'Krishi Darshan' was launched on January 26 1967, to understand how television can be used for social development. On the other hand, the Department of Atomic Energy (DAE) and NASA initiated a cost comparison study of providing television to the nation through four alternative systems. The study was conducted around the same time as the launch of the programme, 'Krishi Darshan', and emphasized using a hybrid system using the communications satellite. A memorandum of understanding was formed based on this study which led to collaboration between DAE and NASA.[80]

It is important to point out that though the importance of television for the Indian nation was firmly established, using a proper delivery mechanism to make television available to the public was widely debated by the institutions and the committees formed by the state. Unlike the United States, where the use of satellite technology was delayed due to its conflict with the interests of the parties engaged in terrestrial broadcasting, India's delivery mechanism at that time was terrestrial broadcasting, which was under the control of the government agency, the Post and Telegraphs and hence, the interests of any private parties were not being affected. Also, as the terrestrial system was yet to develop at that time thus, the use of

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receivers located in 2400 villages of the six Indian states of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and Rajasthan. Schools, community halls and local government offices were connected to the television receivers and transmissions were made in morning (for school children) and in evening (for rural adults). The SITE project demonstrated that the instructional messages could be communicated on a national scale even in the remote area. For more details see: Kasturi Deshpande Naganathan, *"An Analytical Study of India's Satellite Instructional Television Experiment"* (PhD diss., Oklahoma State University, 1985)

[80] Sanjay, "*The role of institutional relationships in communication technology transfer*," 53-54.

satellite technology appeared to be a better option. However, a subtle conflict did arise between DAE and the technical committee of the Ministry of Information and Broadcasting concerning the use of the satellite. DAE's position of using a communications satellite was strong enough to put the ideas of the technical committee to rest. Though initially, there was some political opposition prevalent from days of the launch of Voice of America (VOA) and the Krishi Darshan programme, especially in relation to the US control of the programming content, the same issue was raised this time too. However, the issue was soon resolved as the content production part in satellite broadcasting was entirely under the control of the Indian government. Interested TV manufacturers, along with AIR, were involved in the creation of the SITE project.[81] The government had set up transmitters in various cities; most of the transmission during this time was in terrestrial[82] mode.[83]

[81] Sanjay, "*The role of institutional relationships in communication technology transfer*," 56-58.

[82] The traditional method of television broadcast signal delivery is Terrestrial television. This broadcasting dates back to the first long distance public television broadcast from Washington, DC on April 7, 1927. Till the advent of cable television or community antenna TV (CATV) in the 1950s, there was no other mode of TV broadcasting other than terrestrial. The use of communications satellites during the 1960s and 1970s were the first non-terrestrial method of delivering TV signals. In India, terrestrial broadcasting is under the domain of the public service broadcaster, Doordarshan (DD) under Prasar Bharati. DD has the world's largest terrestrial television network. DD National and DD News are the two channels that provide TV services through a network of 1412 analog transmitters. Many regional TV channels are also broadcast over the terrestrial network in a time-sharing mode to meet the local and regional needs of people. The TV channels provided by DD are all free-to-air. TRAI initiated a consultation paper in 2005 to privatize terrestrial TV broadcasting in India. The Consultation Paper covered the following issues: i) Participation of private sector in Broadcasting ii) Broadcast Television Systems iii) Licensing iv) Alternative Technologies. On 24th June, 2016, TRAI issued another consultation paper titled "Issues related to Digital Terrestrial Broadcasting in India" seeking to digitalize the analogue terrestrial network with the help of private entities. In the "Recommendations On Issues Relating to Issues related to Digital Terrestrial Broadcasting in India" made available on TRAI's website on 31 August, 2017, viewed that plurality and competition will be maintained by allowing private players in terrestrial TV broadcasting space which will eventually benefit the consumers. See more: TRAI, Recommendations On Issues related to Digital Terrestrial Broadcasting in India, January 31, 2017, 1-60, Accessed December 3, 2020. https://www.trai.gov.in/sites/default/files/Recommendation_DTT_31Jan2017_2.pdf

However, the ATS-6 satellite was put in orbit by the USA, making SITE a reality on August 1, 1975. The SITE project continued till July 31 1976. The Indian government planned the content for the TV programmes and made the necessary arrangement to make these programmes available to the 2400 villages of six Indian states. In order to make it accessible to the villagers, a direct reception set was placed in a public building of each village.[84]

Launch of Indian National Satellite System (INSAT)

The launch of the satellite INSAT 1A by the Indian Space Research Organization (ISRO), was a significant landmark in India's history of television broadcasting. After only four months of the completion of SITE, the decision to execute INSAT was undertaken. It is important to mention here that there was much scepticism among some governmental institutions to accord television a place in the planned developmental and social justice programmes, which was in contrast to ISRO's vision of the communication revolution in the 1970s. ISRO's plan for nationwide television development faced stiff competition from AIR's plan of phased television development. Critics thought television to be a luxury unaffordable for a state like India, where the physical necessities of life were yet to be met. Debates regarding the feasibility of television to support developmental goals were raised as there was a huge cost involved in developing the required infrastructure for its growth. However, the government made the plan to go ahead with the expansion, which was supported by the launch of INSAT 1A.[85]

Ford Aerospace and Communications Corporation (FACC) received the tender to build INSAT 1A. The Indian Department of Space supported INSAT, the Indian Department of Telecommunications, the Indian Meteorological Department, AIR and Doordarshan in order to look into the socio-economic issues related to health, education, agriculture and rural development. However, the satellites INTELSAT and Stationer (USSR) were used after the breakdown of INSAT 1A, which was launched in 1982. Later, INSAT 1B satellite was launched in 1983.[86] In 1982, two crucial developments in the field of Indian television took

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[83] Kohli-Khandekar, *The Indian Media Business,* 104.

[84] Sanjay, "*The role of institutional relationships in communication technology transfer*," 61-64.

[85]Sanjay, "*The role of institutional relationships in communication technology transfer*," 61-64.

[86]Sanjay, "*The role of institutional relationships in communication technology transfer*," 65.

place; firstly, the national telecast was initiated and second, colour television was introduced. Around this time, there was a growth of cable television in India.

Cable Business in India: Initial Developments

Media commentators say that cable television began in the early 1980s in Mumbai to fulfil the viewers' longing for better reception. A master antenna was set with a cable connecting the antenna to the buildings. This was the beginning of the cable business in India. An investment of around Rs 20,000 was needed to rent some videotapes, hire a person to collect money from the customers, and own a Video Cassette Recorder (VCR). This investment catered to around 100-150 subscribers who paid around Rs. 50-80. This way, each operator made about Rs 50,000 to 75,000 per month, which was lucrative at that time, thus, encouraging many others to join the business. It was only in the late 1980s and early 1990s that cable television spread to other parts of India. The reason behind this is the ease of convenience of operating in Bombay as it was only here that one building could be wired up and many households connected simultaneously. This was not possible at that time in other parts of the country. However, the cable business became congested with many operators who then got into fights to retain customers. The cable business got a massive boost with the coming of satellite broadcasting. Some five-star hotels bought dish antennas to provide their guests with the private channel CNN during the early 1990s, broadcasting the Gulf War live. Cable operators took this opportunity to broadcast CNN by investing in dish antennas and buying amplifiers to boost the signal. Satellite dishes became a rage all over the country.[87]

Launch of private satellite channels

Another significant development occurred in 1990 when the only geostationary satellite over the Indian Ocean, ASIASAT 1 was bought by Hong Kong-based billionaire Li Ka Shing's Hutchison Whampoa Group. His son, Richard Li, in August 1991 launched Star (Satellite Television Asian Region). Li Ka Shing was also trying to sell space on his satellite. During this time Subhash Chandra won the slot and started broadcasting Zee TV in October 1992. Star and Zee's joint venture led to the formation of Asia Today Limited. Later, Li Ka Shing sold 63.6 per cent of his stake at Star to Rupert Murdoch's News Corporation.[88] Thus, with the launch of satellite television by foreign broadcasters like CNN, Star followed by Indian

[87] Kohli-Khandekar, *The Indian Media Business,* 109.

[88] Kohli-Khandekar, *The Indian Media Business,* 109.

channels like Zee TV and Sun TV, a significant boost in the cable business occurred in India.[89] Thus, Zee Tv became the first Indian-owned private channel. Satellite television provided the Indian audience with a new way of thinking by disseminating ideas and providing a forum for discussion.[90]

Licensing the cable operators

Around the 1990s, problems occurred between film producers, video rights owners and cable operators regarding the broadcast of films on cable. A lot of legal cases were filed during this time. However, in 1989, Justice Sujata Manohar of the Mumbai High Court gave a verdict stating that cable operators needed copyright clearance to show films as the films were broadcast for public viewing.[91] Before the advent of cable television broadcasting in India was state-controlled, the government did not anticipate the mushrooming of cable operators within a short period of time. Thus, the government felt the necessity to regulate the sector, and steps regarding this direction were undertaken. The Rajasthan High Court mentioned the first direction of obtaining a license in order to operate in India in the case of Shiv Cable TV System v. the State of Rajasthan. When the District Magistrate ordered a ban on cable networks operating without a license, it was challenged in the high court on the grounds of violating the fundamental right to trade and profession. Here the high court stated that cable networks fall within the definition of "wireless telegraph apparatus" under the Indian Wireless Telegraphy Act, and hence a license was necessary to operate the network. So, a need to formulate a regulation for cable networks operating in India was felt, culminating in the enactment of the Cable Television Networks (Regulation) Act, of 1995. Apart from regulating the uneven growth of the cable business in India, the Act also aimed

[89] Sanjay Kachot, "Journey of Television Revolution," *Press Information Bureau*, August 6, 2017, https://archive.pib.gov.in/newsite/printrelease.aspx?relid=169686.

[90] Nalin Mehta, "Introduction: Satellite Television, Identity and Globalisation in Contemporary India," in *Television in India Satellite Politics and Cultural Change*, ed. Nalin Mehta (Oxon: Routledge, 2008), 2.

[91] Kohli-Khandekar, *The Indian Media Business,* 109.

to regulate the content and operation of cable networks by putting down the responsibilities of maintaining the quality of service both technically and content-wise.[92]

Entry of the Multi-System Operators (MSOs)

Discussions related to the encryption of signals were raised in 1994. Encryption of analogue signals was necessary for the broadcasters as they had to ensure that the right holders who had the right to beam a movie in a particular country or region could not show it in another non-authorized region. Also, the small cable operators found it difficult to invest more in dish antennas, amplifiers and cables as the number of channels kept increasing. The broadcasters also started charging cable operators, which made the cable operators pay Rs. 2 to 30 for the bouquet of channels and second, the cable operators also needed to invest in decoders as the channels were encrypted. For a small cable operator, this cost was difficult to bear. This marked the entry of the Multi-System Operators (MSOs). Major broadcasters and a consortium of cable operators came together to set up large control rooms or 'headends'. The control rooms were equipped with devices to receive more channels. These signals were then offered to the small cable operator, who distributed them to his subscriber base. The cable operator paid a fee to the MSO in place of the signal received. So, by the middle of 1995-96, the industry got a new stakeholder, the MSOs. They acted as wholesalers of signals, while the LCOs were the retailers distributing the signals to the subscribers. However, disputes arose among the stakeholders in relation to under declaration of the subscriber base by the LCOs and the yearly contracts between the broadcasters and the MSOs. The encryption of the signals without addressability led to the operator paying the distribution network and the broadcaster money for all his subscribers regardless of whether they were watching that TV channel. This led to frequent fights between the stakeholders resulting in switching off of the channels. Another significant development concerning the cable industry that needs to be mentioned is the carriage fee charged by the MSOs in the analogue system. Since, at one point of time, there were more than 800 channels that could be broadcast in India, whereas there was a restriction in the capacity of a TV set to broadcast only 56-106 of them, it was during this time that the MSOs and the operators started

[92] Snehashish, "Cable Television Networks (Regulation) Act, 1995," The Centre for Internet & Society, accessed March 10, 2020, https://cis-india.org/telecom/resources/cable-television-networks-regulation-act.

charging carriage fee for carrying the channels of the broadcasters. Apart from the carriage fee, a placement fee was also demanded by the MSOs.[93]

Introduction of Conditional Access System (CAS)

The Indian uplinking policy was liberalized in 2000, lifting the ban on the Ku band, especially for Direct to Home (DTH)[94] television.[95] With the lifting of the ban a new type of broadcasting, besides cable and terrestrial was launched for the Indian audience.[96] Vanita

[93] Kohli-Khandekar, *The Indian Media Business,* 114-17.

[94] According to TRAI, In a DTH service large number of channels can be digitally compressed, encrypted and beamed from very high power satellites and then beamed directly at homes. A small dish antenna needs to be installed at convenient location of the subscriber's house. A set top box then receives the signals from the dish antenna and then links them to the TV set. No commercial intermediary is required as the individual user is directly connected to the DTH operator and so, it is easier to monitor and control the signals and there is a greater transparency in comparison to the non-addressable cable system. See: TRAI, Consultation Paper on Issues relating to DTH, March 2, 2007, 1-40, Accessed December 10, 2020. https://www.trai.gov.in/sites/default/files/cpaperDTH.pdf

[95] The first Direct To Home (DTH) Satellite television service, 'Dish TV' (a part of Essel group which owns the subsidiary companies Zee Media Corporation, Zee Entertainment Enterprises, Dish TV and Siti Networks) was launched on 2October, 2003. Dish TV merged with Videocon's d2h in 2018 making the combined entity one of the largest DTH service provider of India (29.46% of the market) after Tata Sky (32.33% of the market). India's first free direct-to-home broadcast service, 'DD Direct Plus' was launched by the then PM, Manmohan Singh on 16 December, 2004. As per FICCI-EY report, 2021, DD Freedish hosts 161 TV channels including 91 Doordarshan channels and 70 private channels as well as 48 satellite radio channels of All India Radio. According to the website, Statista in the financial year 2020 to 2021, it had about 34 million subscribers. As of March, 2020, there are 70 million active subscribers of DTH television in India. For detailed analysis see FICCI-EY, Playing by new rules, March 2021, 1-332, Accessed January, 2021. https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/media-and-entertainment/2021/ey-india-media-and-entertainment-sector-reboots.pdf?download.

[96] exchange4media Staff, "Government examining the proposal to allow KU Band for broadcast," *exchange4media*, August 8, 2019, https://www.exchange4media.com/media-tv-news/government-examining-the-proposal-to-allow-ku-band-for-broadcast-6711.html.

Kohli Khandekar points out that the digitalization of cable was the consequence of DTH and so, the government also pushed for digitalizing the last mile in order to make the cable industry transparent and robust. However, in most markets outside India, the industry initiative has been taken by the industry itself instead of being mandated by the government, so it was important for the industry to understand who would bear the cost of the technology needed to initiate change. It mainly was the subscribers who had to foot the bill. The MSOs, too invested money in procuring the set-top boxes. The industry is rooted in digitalizing the last mile as it would offer them more mileage. Most of the TV sets in India were analogue during that time, so it was difficult to tap in on the customers. So, installing a set-top box (STB) in their homes would make the cable system more transparent. The cable system is also capable of offering interactive services like voice or access to the internet. Again, the digitalization of cable services increased the capacity of carrying channels about ten to fourteen times compared to analogue signals.[97] Though initially Conditional Access System (CAS) started in a few areas of the four metro cities of India, allowing both digital and analogue broadcast, later, however, the government decided on the complete digitalization of cable services. The government tried to bring transparency in the industry through an amendment in the Cable Act in 2002 on the recommendations of a task force (consisting of representatives from the Indian Broadcasting Federation (IBF), Multi System Operators (MSOs), Content Creators, Cable operators, Broadcasters, Infrastructure Providers, Ministry of Consumer Affairs, representatives of Consumer Activities and technical Experts) headed by the Joint Secretary (Broadcasting), Ministry of Information and Broadcasting which was submitted on February 27 2002. There was fear about the cost involved in buying the set-top boxes, and the required hardware and software necessary to run the business.[98] However, a task force was constituted on the suggestion of which an amendment was made to the Act in 2003. In that amendment, Section 4A was included allowing the operators to transmit signals of pay channels through an addressable system. Also, the Central Government in the public interest, may decide the free-to-air channels to be included in the basic service tier as well as decide on the maximum amount that the MSOs and the cable operators can charge from the consumers for the broadcast of the channels in the basic service tier. However, the local cable operators and the consumers were unhappy with the amendment believing Conditional

[97] Kohli-Khandekar, *The Indian Media Business,* 118.

[98] Kohli-Khandekar, *The Indian Media Business,* 114-17.

Access System (CAS) affected their revenue structure. However, on August 25 2003, the government decided to delay CAS implementation after the Assembly Elections in Delhi. However, in the case Jay Polychem v. Union of India (2004), the Delhi High Court criticized the government's decision as arbitrary and in violation of Article 14 of the Constitution and quashed the government notification to implement CAS after the elections.[99]In 2004, the government decided that the Telecom Regulatory Authority of India (TRAI) will make recommendations on CAS.[100] In February 2004 on TRAI's recommendation, the Central Government suspended the notification of the CAS framework. However, the Madras High Court stayed the government's notification in March 2004, followed by a Delhi High Court ruling to reintroduce CAS framework within four weeks. The Central Government then initiated amendments to the Cable Network Rules for the metro areas, which finally led to amendments establishing a detailed regulatory scheme to re-introduce CAS. TRAI released a comprehensive set of broadcasting and cable services recommendations in October 2004.[101] In the CAS system, all the pay channels needed to be routed via a set-top box, whereas the free-to-air channels were available as a part of the basic cable TV fee without any set-top box. CAS is a mixture of scrambling and encryption technology to prevent unauthorized reception.[102]

In the CAS system, the cable is directly connected to the RF port of the TV receiver set. The analogue content is then taken channel by channel by the TV. In this system, the TV tuner

[99] "Jay Polychem India Ltd Others v. Union Of India Delhi High Court (Dec 4, 2003)," Casemine, Accessed March 3, 2021, https://www.casemine.com/judgement/in/56ea848f607dba371ebca3f7.

[100]Snehashish, "Cable Television Networks (Regulation) Act, 1995."

[101] Siddharth Narrain, A Broad Overview of Broadcasting Legislation In India, 2008, 1-41, Accessed March 5, 2021, http://indiatogether.org/uploads/document/document_upload/2139/blawbackgrounder.pdf.

[102] Archana Raghuvanshi and Richa Saxena, "Conditional Access System- Conflicting Interests," Legal Service India, accessed March 10, 2020, http://www.legalserviceindia.com/articles/cas001.htm#:~:text=ConditionalAccessSystem(CAS)is,towatchandpayfor.&text=Morethan65FTAchannels,TVfee%2CwhichareRs.

cannot decode the digital channels. For these channels and the pay channels, the cable from the LCO is connected to the subscriber's set-top-box. A loop cable from this STB is connected to the RF port of the TV for viewing the analogue channels, while the digital channels are decoded by the STB and then viewed through the Audio/Video port of the TV receiver set.[103]

Introduction of Digital Addressable System (DAS)

All channels (both FTA and Pay) are to be delivered in a digital format via the set-top box in the DAS system. All channels were encrypted and can be decoded via the STB available at the consumer's home. The set-top box can also be used for the reception of other value-added services as well as for interactive services like broadband. Thus a set-top box is mandatory to view the TV channels in this system.[104] In August 2010, TRAI recommended the complete digitalization of cable services in India[105] , which the Indian government accepted and issued an Ordinance in October 2011 and a Notification in November 2011.[106] The Cable Television Networks (Regulation) Amendment Bill, 2011, was then passed in the

[103] TRAI, Implementation of Digital Addressable Cable TV Systems in India, August 05, 2010, 1-101, pt. 1.57, https://www.trai.gov.in/sites/default/files/finalreom5agust.pdf.

[104] TRAI, Implementation of Digital Addressable Cable TV Systems in India, August 05, 2010, 1-101, pt. 1.59-60, https://www.trai.gov.in/sites/default/files/finalreom5agust.pdf.

[105] TNN, "Bill on digitization of cable TV introduced in LS," *The Times of India*, November 29, 2011, https://timesofindia.indiatimes.com/india/bill-on-digitization-of-cable-tv-introduced-in-ls/articleshow/10911703.cms.

[106] TRAI, Consultation Paper on Issues related to Implementation of Addressable Cable TV Systems, December 22, 2011, 1-93, pt. iii-vi, Accessed December 2, 2020. https://www.trai.gov.in/sites/default/files/CP_DAS22-12-2011_0.pdf.

Rajya Sabha on December 19 2011, mandating the complete digitalization of cable services all over India.[107] The digitalization process was proposed to be completed in four phases. The metropolitan cities of Mumbai, Delhi, Kolkata, and Chennai were the first cities of India to be digitalized in Phase I. The initial deadline for Phase I was June 30, 2012, which was extended to October 31 2012. Though in cities like Kolkata and Chennai, the deadline was further extended to January 15, 2013[108] and January 19 2012. However, in Phase II, cities with a population of more than one million were to be digitalized. The deadline set for 38 cities was March 31 2013, which was extended to January 1 2014. In Phase III, all other urban areas (Municipal Corp./ Municipalities) except cities/ towns/ areas specified in Phase –I and Phase-II were to be digitalized; the deadline was set to September 30 2014 but was later extended to December 31 2015. In Phase IV, the remaining areas of India were to be digitalized, the deadline was initially set to December 31 2014 but was later extended to December 31 2016.[109] However, the dates were further extended for the Phase III areas to January 31, 2017,[110] and for the Phase IV areas to March 31 2017.[111] The government, the broadcasters, and the MSOs initiated comprehensive media campaigns in print and television

[107]Harsimran Kalra, "The Cable Television Networks (Regulation) Amendment Bill, 2011," *PRS Legislative Research*, November 29, 2011, https://prsindia.org/billtrack/the-cable-television-networks-regulation-amendment-bill-2011.

[108] Anuradha Shetty, "Digitisation Deadline For Kolkata Extended To January 15," *Tech2*, December 31, 2012, https://www.firstpost.com/tech/news-analysis/digitisation-deadline-for-kolkata-extended-to-january-15-3616733.html.

[109] ANI, "Centre warns cable operators to switch off analog signals in Phase III urban areas or face seizure of equipment," *india.com*, January 25, 2017, https://www.india.com/news/india/centre-warns-cable-operators-to-switch-off-analog-signals-in-phase-iii-urban-areas-or-face-seizure-of-equipment-1782382/.

[110] Press Trust of India, "Cut-Off Date For Phase IV Of Cable TV Digitisation Extended," *NDTV*, December 23, 2016, https://www.ndtv.com/india-news/cut-off-date-for-phase-iv-of-cable-tv-digitisation-extended-1641105.

[111] TNN, "Timeline for Phase IV of Cable TV Digitisation revised," *The Times of India*, December 23, 2016, http://timesofindia.indiatimes.com/articleshow/56135605.cms.

to make the consumers aware of the shift to digital television. However, the campaigns primarily focused on shutting down of channels if STBs were not installed.

In India, presently, there are five major distribution platform operators (DPO) for delivering TV signals- terrestrial, cable, DTH, HITS[112] and IPTV[113]. According to the website Statista,

[112] The full form of HITS is Headend-in-the-Sky. HITS was originally a satellite multiplex technology providing cable channels to cable television in the US, developed by Comcast. It has now been renamed as Managed Satellite Distribution by Comcast. There are three ways through which HITS services can be provided, first, by working like an MSO for the cable operators by buying the content from the broadcasters and aggregating them at an earth station and up linking them with encryption to a hired satellite. The channels can then be downlinked by the cable operators using a dish antenna after which it will reach the consumers' home. The only difference between the MSO and the HITS operator is that the headend here is located in the sky instead of ground. Secondly, one or more MSOs or a group of cable operators can use the infrastructure services of the HITS provider for uplinking and downlinking the TV channels Facilities like transponder space in satellite, earth station facilities and simulcrypting/ multicrypting of channels aggregated by different MSOs with different encryption systems can be provided by the HITS operator and thus, there won't be any need to enter into a contract with the broadcaster for content. Thirdly, the HITS operator can provide both the above mentioned services, that is, use the satellite transponder capacity for transmitting content aggregated by it as well as provide infrastructure to the MSOs for uplinking/downlinking aggregated by them. This model has been labelled as the hybrid model. In India, TRAI released its "Recommendations on Headend-In-The-Sky" on 17 October, 2007 on the basis of the stakeholders' view in relation to the "Consultation Paper on Headend-In-The-Sky (HITS)" released on 24 July, 2007 and suggested the use of the hybrid model "for faster digitalization of cable service" in India. The license for starting HITS services in India were granted to ASC Enterprises (at present Dish TV) and Noida Software Technology Park Limited (NSTPL) were granted permission in 2003. Dish TV started its HITS operations on August, 2003 but as the implementation of CAS was deferred so, the satellite transponder capacity was surrendered by the company. On January, 2014 Jain Group's company Noida Software Technology Park Limited (NSTPL) launched JAIN HITS, the first HITS service in India, and then on 14 July, 2015, NXT DIGITAL, a company owned by Hinduja Group launched its services. Attempts to enter HITS business were also undertaken by The Zee Group but it did not make much headway. For more information see NripendraMisra, Letter to Asha Swarup, February 15, 2008, https://www.trai.gov.in/sites/default/files/chairmanletter.pdf. and TRAI, Recommendations on Headend-In-The-Sky (HITS), 1-37. https://www.trai.gov.in/sites/default/files/rec17oct07.pdf.

Cable has the most extensive consumer base of 103 million television households[114] followed by 70 million DTH subscribers.[115]

The emergence of over-the-top (OTT) services

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[113] The full form of IPTV is Internet Protocol Television. In this technology television content and video is made available over the internet either live or in demand. For this, a strong broadband connection and router is required. Multiple TV sets in a home can use a single subscription to watch content. The content delivered by an IPTV service provider uses a packet switched network that uses the IP protocol to transport the audio, video and control signals. In comparison to video over the public Internet, in IPTV, network security and performance are closely managed to guarantee a better entertainment experience, resulting in a convincing business environment for content providers, advertisers and customers alike. The issue of IPTV first came up in TRAI's consultation paper on "Convergence and Competition in Broadcasting and Telecommunication" in January 2006. Later, a position paper was initiated on 6 September, 2007. Based on the comments of the stakeholders, draft recommendations were put out in TRAI's website on 28 November, 2007. The final recommendations on provision of IPTV services were made available on TRAI's website on 4 January, 2008. While it was mentioned that the cable operators can provide IPTV services if they want, TRAI also clearly put forward the point that IPTV services provided by the telecom operators are not same as cable services and hence, will not be governed by the Cable Television Network (Regulation) Act, 1995.
Thus, a cable operator willing to start IPTV services in India has to apply separately for a telecom license under Indian Telegraph Act 1885. On October 2006, the first IPTV service in India was launched by the Mahanagar Telephone Nigam Limited (MTNL). The Union Cabinet understood the wide opportunities of growth in this sector and so, in order to enable consumers to have access to television content over broadband, approved guidelines on August 21, 2008 for allowing broadcasters to share their content with IPTV service providers. For more details see: TRAI, Recommendations on Provision of IPTV Services, January 4, 2008, Accessed December 27, 2020. https://www.trai.gov.in/sites/default/files/recom4jan08.pdf.

[114] Statista Research Department, "Number of cable television subscribers in India from financial year 2016 to 2020," *Statista*, March 31, 2021, https://www.statista.com/statistics/713056/india-number-of-cable-subscribers/.

[115] Statista Research Department, "Number of active direct-to-home (DTH) TV subscribers in India from December 2018 to March 2020," *Statista*, March 19, 2021, https://www.statista.com/statistics/495670/number-dth-subscribers-india/

Another mode of delivery, which is gaining prominence in recent times, is Over-the-top (OTT)[116] services. However, the Consultation Paper on Regulatory framework for OTT Communication services, 2018, mentions that the International Telecommunication Union (ITU) is yet to come up with a proper definition of OTT. However, through the discussions and deliberations, it considers "OTT to be any Internet application that may substitute or supplement traditional telecommunication services, from voice calls and text messaging to video and broadcast services." According to TRAI's consultation paper on Regulatory Framework for OTT services, 2015, an OTT provider "is a service provider which offers Information and Communication Technology (ICT) services, but neither operates a network nor leases network capacity from a network operator. Instead, OTT providers rely on the global internet and access network speeds (ranging from 256 kilobits for messaging to speeds in the range of Megabits (0.5 to 3) for video streaming) to reach the user, hence going over - the - top" of a TSP's (Telecom Service Provider) network". Also, TRAI states that there are three types of services provided by the OTT apps: "Messaging and voice services (communication services); Application ecosystems (mainly non-real-time), linked to social networks, e-commerce; and Video/audio content."[117] However, for my dissertation, I will look into the emergence of the video services provided by the OTT content providers as the rise of OTT platforms have questioned the viability of traditional broadcasting. TRAI in its 'Recommendations on Regulatory Framework for Over-The-Top (OTT) Communication Services', 2020 recommended not implementing a comprehensive regulatory framework for OTT services in India as International Telecommunication Union (ITU) is still examining

[116] For the purpose of my dissertation, I would discuss the emergence and growth of OTT platforms as well as their future in the Indian streaming industry in Chapter 5. The main purpose behind this is the threat it poses to traditional broadcasting with the growing internet penetration in India. See more: Bavadharini KS, "Can OTT platforms displace cable TV and DTH?," *Business Line*, September 26, 2019, https://www.thehindubusinessline.com/info-tech/can-ott-platforms-displace-cable-tv-and-dth/article29516596.ece.

[117] TRAI, Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services, November 12, 2018, 1-38, pt. 2.1.2- 2.1.3, Accessed December 2, 2020. https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf.

the various aspects of OTTs. So, the authority will be able to suggest a framework only after the ongoing deliberations at ITU are completed.[118]

However, video-based OTT services have changed the Indian landscape, especially with the launch of Netflix in January 2016. However, other platforms like YouTube (launched in September 2008), dittoTV (launched in March 2012), SonyLIV (launched in January 2013), Hotstar (launched in February 2015), TVF Play (launched in June 2015), and Eros Now (launched on July 2015) existed and by 2016 the number of OTT platforms rose to thirty. Initially, some channels that later became OTT platforms were part of YouTube and were four of the top ten YouTube channels in India by the end of 2013. They were the Hindi General Entertainment Channels (GEC) like StarPlus, Colors TV, Zee TV, and SET India.[119]

With the launch of Reliance Jio's 4G telecom services on September 5 2016, the data and voice prices went down, allowing consumers to use more bandwidth for watching video content. The data usage per customer has risen from 500 MB per month in 2016 to 10.6 GB per month in 2019.[120] It is important to note that these developments took place at a time when the cable digitalization process was going on and at a time when TRAI was bringing in changes in the policy through The Telecommunication (Broadcasting And Cable) Services (Eighth) (Addressable Systems) Tariff Order, 2017 also known as the New Tariff Order (NTO 1.0) which was implemented by the industry in 2019 after a long struggle in courts. An amendment to this order was made by TRAI citing consumer interests, and on January 2020, The Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable Systems) Tariff (Second Amendment) Order, 2020 (popularly known as NTO 2.0) was introduced. However, this order is yet to be implemented as the broadcasters have moved to

[118] TRAI, Recommendations on Regulatory Framework for Over-The-Top (OTT) Communication Services, September 14, 2020, 1-12, pt.2.4 (iii), Accessed December 14, 2020. trai.gov.in/sites/default/files/Recommendation_14092020.pdf

[119] Scott Fitzgerald, "Over-the-Top Video Services in India: Media Imperialism after Globalization," *Media Industries* 6, 2 (2019): 94-95. https://doi.org/10.3998/mij.15031809.0006.206

[120] Mobis Philipose, "How Reliance Jio transformed India's telecom industry, in five charts," *Live Mint*, January 16, 2020, https://www.livemint.com/market/mark-to-market/five-charts-that-show-how-india-s-telecom-industry-has-fared-post-reliance-jio-11579082872199.html.

the court and the Covid-19 pandemic delayed the hearings. However, the irony is that television as technology is changing, as we can see in recent developments. So, it becomes important to discuss the rules and regulations being enacted by TRAI for the traditional broadcasting industry, even after the cable digitalization process has been completed.

The objective of the section was to give a brief outline of the growth of television in India. I have focused on the growth of television technology and some policies governing their growth. I have not dealt with the content of the programmes, as my objective in this section is to provide an overview of the development of Indian television. It is important to discuss these historical changes at the onset to probe deep into the inherent conflicts and challenges of the digitalization of cable television in India. However, it is essential to acknowledge that the policies continuously keep changing as I write. I will discuss more on these policies in chapter two of my dissertation, but for the moment, it would be worth examining the limited and scattered studies on the issues related to the digitalization of Indian television.

Digitalization of television: Perspectives from India

In India, a significant policy decision was undertaken in 2011, which mandated analogue cable networks to switch over to Digital Addressable System by 2014. Shanti Kumar has discussed this in his essay, *Digital Television in Digital India*. Kumar tries to include policy and industry dialogues surrounding this decision to address how digital addressability was being promoted as the data-oriented solution that would cure most of the television industry's problems related to audience metrics and advertising. Kumar tries to locate further television's digital transition within the conversation on "Digital India," which has been one of the most pioneering strategies of the right-wing Bharatiya Janata Party government. He thus moves past the prevailing critiques regarding the change in the policy helping the television industry to consolidate its power in a capitalist media economy. He also points out that a historically situated television studies approach will further help in understanding the ways the emergent digital platforms work and their affordances.

The changes which took place from the inception of neoliberalization in India have been covered in Veena Naregal's essay on the corporatization of the cable industry in the context of Mumbai. To understand the changing nature of the relationship between the state and society in India in relation to the post-economic reforms period, an analysis of the constant struggle to control the new electronic media might be useful. The field-level connections

between the political leaders, local business people and big enterprises in Mumbai and other places were significantly modified due to the entry of indigenous and Non-Resident Indian (NRI) corporate houses like Essel's Siti Cable, the Hinduja owned IN Cablenet and the Rahejas-promoted Hathway Datacom Ltd., into the cable business. The political leaders were attracted to the cable business due to the presence of minimum regulation and their potential to provide direct access to the local populations. Hence, the cash-rich nature of the cable business made them realize the opportunity to strengthen their local influence.[121] To establish their 'territorial rights', the large Multi-System Operators (MSOs) have been eager even to take the underworld strongmen's help. The high returns of the business and the growing rivalry between the MSOs do not make such interventions exceptional, as the big capitalist interests mostly follow these patterns to secure their interests. However, the shifts related to the introduction of cable in India are similar to the changes that saw print, railways and telegraph being first established in the sub-continent in the 19th century. However, the only change is in the fact that at the present moment, it is far more challenging to connect the position of prevailing capitalist interests with any kind of fixed geographical parameters or even implementing distinctions such as foreign/native or imperialist/nationalist in any final sort of way.[122] The essay provides an in-depth understanding of the effects of post-liberalization reforms on the cable operation business in India. Nevertheless, since it was written in early 2000, the issue of digitalization has not been covered.

Krishna Jayakar provides us with a case study-driven essay on conditional access systems (CAS) or addressable cable, which in many ways demonstrates the ways in which governments can fail while implementing policies and programmes. In early 2000, the introduction of CAS was one of the most controversial issues in cable regulation in India, and thus, Jayakar's essay, covering the initiation of the CAS proposal in 2001 to the deliberations that took place till 2007, provides a vital trajectory to understand the industry and government nexus in media policymaking. The Ministry of Information and Broadcasting (MIB) lacked any well-defined consultation mechanism which led to a hurried decision on CAS implementation in India. At that time, MIB did not have any proper process

[121] Veena Naregal, "Cable communications in Mumbai: integrating corporate interests with local and media networks," *Contemporary South Asia* 9, no. 3 (2000): 291, https://doi.org/10.1080/713658750

[122] Naregal, "Cable communications in Mumbai," 309.

for conducting regular consultations with the industry stakeholders.[123] The role of public communication and awareness building in policymaking initiatives has been highlighted in the article by making us aware of the confusion that prevailed among the viewers due to the media's inconsistent reports and lack of proper communication by the government. The government had not even predicted the consumers' questions and taken steps accordingly to address their concerns. So, what was projected as a consumer-friendly initiative, in fact, turned the subscribers away due to hasty decision-making and long periods of inactivity on the part of the government.[124] The arrival of new technology brought about changes in the policy systems as the government understood that a linear approach to adapting to the policies, leaving the policymaking process intact, will not succeed. Any new technology brings transformations at multiple levels of the policy system. Therefore, the policies have to be shaped in such a way to include the new technology and thus, it becomes essential to include the new interest groups in the decision-making process along with the established entities. So, we see that the notion of decision-making in policy is undergoing a change. Thus, the stakeholders have to make compromises and adjustments within the limits of the policy system to bring about inevitable changes, but the outcome of these discussions might be different and challenging to predict at the onset. This somehow helps us to understand why countries facing technological changes act differently.[125]

Shanti Kumar's essay in Aswin Punathambekar and Sriram Mohan's edited book *Global Digital Cultures: Perspectives from South Asia* talk about how the rise of digital addressable system in television and the related industries gives us informative insights into the promising consensus of how the advantages of digitalization can be acquired through the harmonization of telecommunication policies at supranational organizations like The International Telecommunication Union (ITU) and within its member states like India. Thus, for Kumar harmonization becomes a new mode of digital interoperability narrowed to the earlier debates surrounding standardization versus diversification, homogenization versus

[123] Krishna Jayakar, "The Conditional Access System: The Dynamics of A La Carte Pricing for Cable Television in India," *International Journal of Communication* 5 (2011): 1516.

[124] Jayakar, "The Conditional Access System," 1516.

[125] Jayakar, "The Conditional Access System," 1515.

heterogenization, globalization, and localization in global media studies. A new means of understanding emerging digital technologies is required as the new technologies like DAS, Aadhaar, and India stack in Digital India are nationally and internationally harmonized systems. One also needs to understand that surrounding the debates around digital addressable systems cannot be restricted only to decide the positive and negative effects of the new technology. The consumers of such technologies are becoming aware of the possible threats digitalization brings to their privacy. Nevertheless, there is also recognition of the day-to-day comforts of better programming services, effective delivery systems, and more security and flexibility inside and outside their homes. These depend on harmonising their digital addressable systems like television, mobile phones, computers, and other personal devices. Hence, a new set of questions emerge in understanding the connections between public and private spaces, privacy and surveillance, and the state and its subjects as the uniqueness of digital addressable systems to address each viewer as consumer and citizen is realized by the big players of the media industry like Dish TV and Reliance Industries. They are, thus, trying to integrate the DAS platform with the India Stack and Aadhaar systems. So, along with addressing these questions, one also needs to present their understanding of the television industries and culture while linking their thoughts to study the rising harmonization of digital infrastructures like DAS, BharatNet, and Aadhaar with open application processing interfaces being created through programmes like India Stack.[126]

The case of digital switchover in India has also been discussed in the unpublished thesis of Arun Kumar Kapoor, former CEO of Dish TV. His thesis tries to look into India's digital switchover from an economic or trade perspective while discussing issues, like subscription revenue, revenue differences in pre- and post-digitalization periods and Fixed Fee (FF) deals vs. cost per subscriber (CPS) deals. His thesis surrounds itself with discussions on the initial two phases of digitalization- DAS I and DAS II while claiming that issues related to carriage, average revenue per user (ARPU) monetization, last-mile ownership by LCOs, stakeholder's revenue share, and even quality of service remained unfulfilled.[127] The

[126] Shanti Kumar. "Digital television in Digital India," in *Global Digital Cultures: Perspectives from South Asia*. ed. Aswin Punathabekar and Sriram Mohan (Ann Arbor: University of Michigan Press, 2019): 70.

dissertation, however, does not critically engage with the political economy of the digital addressable system.

A detailed outline of the growth of various broadcast systems and technologies adopted in India since post-liberalization has been provided by Ramnath Bhat in his essay *Television in India: The starting point for digital switchover.* In the concluding section of the article, he addresses the issue of digital switchover and mentions: "There seems to be a consensus in TRAI consultation papers, recommendations and government policy documents that digitalization is inevitable, and the stakeholders involved have almost universally suggested that the government undertake a phased conversion from analogue to digital services, as the potential advantages of digitalization are numerous."[128] The paper published in 2012 points to the Telecom Regulatory Authority of India's (TRAI) recommendations to the government to consider a concession on entertainment and service tax so that the cost of digital switchover and the pressure on the consumers could be reduced. A reduced rate or a waiver for a fixed period of time was suggested for consideration by TRAI. At that time, the license fee for the DTH platforms was 10%, while the state governments further levied an entertainment tax of 25% on them. Customs duty of 5% was further added to this. So, the regulator, TRAI, and the industry leaders kept pestering to the government to reduce the import duty of intermediate and finished products like Set-Top Boxes (STB) and digital decoders.[129]

Vibodh Parthasarathi and Alam Srinivas' essay on the evolution of television distribution networks in India provides a critical look at one of the least explored areas of television studies: TV distribution business. As they mention at the very beginning that the business of TV distribution continued to be empirically ignored and analytically unappreciated, except

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[127] Subhashish Mitra and Arun Kumar Kapoor. "Digital addressable System in India Evolution Status and Way Forward," PhD diss., (Chitkara University, 2017): 63, 93.

[128] Ramnath Bhat. "Television in India: The starting point for digital switchover." *International Journal of Digital Television* 3, no. 1 (2012): 81.

[129] Ramnath Bhat. "Television in India": 81

for a few notable exceptions.[130] For them, distribution is important in creating new business agreements among the different stakeholders in the cable and satellite broadcasting value chain. Distribution in cable and satellite broadcasting has been instrumental in shaping the regulatory system, impacting how the information was circulated, thus contributing to the entire television business. Distribution did not only dictate the content the viewers saw on TV but also the construction of viewership commercially. The authors further stress the role of political ownership in cable and satellite broadcasting businesses, especially concerning specific language markets and state markets. They provide examples of politicians of Maharashtra and Punjab having business links with Hathway Cable like in Maharashtra, 51 percent stake is with Hathway Dattray Cable Network, while the remaining 49 percent is in the hands of Anil Parab Dattatray, a politician, former member of the Maharashtra Legislative Assembly and also the former president of Mumbai's Cable Operators and Distributors Association.[131] Similar political connections were also found in the case of DEN Networks.[132] Instances suggesting the expansion of the businesses of the MSOs into print media and broadcasting is also mentioned in the essay. Thus, there has been a rising concern about cross-media ownership and what is more problematic is the fact that most of the information has been either kept under wraps or provided in an unclear manner by the MSOs. As the minority shareholders in most of these companies had a forty-nine percent stake, there was a fear of them upturning the 'equity' control structure and hence exercising control over them became important. So, in an effort to retain control and increase market shares, DEN and Hathway Cable devised strategies to include minority shareholders in their regular operations.[133]

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[130] Vibodh Parthasarathi and Alam Srinivas. "Problematic ownership patterns: the evolution of the television distribution networks in India." *Economic & Political Weekly* 54, no. 12 (2019): 2

[131] Parthasarathi and Srinivas, "Problematic ownership patterns," 5.

[132] They note it is not surprising that politicians would be linked so closely with cable distribution since politicians have often used their power to set up businesses. In the early days, a successful cable operator required local muscle power. Expensive wires had to be strung from home to home, which required often illegal right of way and, hence, involvement with local bureaucracies, police and judiciaries. Local politicians had the power to influence these sections. See Parthasarathi and Srinivas, "Problematic ownership patterns," 6.

[133] Parthasarathi and Srinivas, "Problematic ownership patterns," 6.

The essay, *digitalization as formalization: A view from below* takes Patna as a case study to show the ways in which digitalization has played a role in the formalization of large parts of the cable business. The mandatory digitalization led to a change in the commercial and organizational practices of the local cable operators' business, whose business had remained fragmented and informal for a long time. Digitalization determines the speed of formalization and helps in understanding its personality and this notion has been put forward in this essay through qualitative research and policy analysis. The paper concerns itself with the shift of power in television distribution's value chain resulting from mandatory digitalization. [134] Patna's case study points to how the role of the cable *wallah* has changed from an independent actor to a franchisee agent of the MSO. The freedom enjoyed by the cable operators in the earlier days is no longer present in the present circumstances as they have lost their independent commercial status, especially in their relationship with the subscribers.[135]

The objective of this chapter was to offer an overview of the research available on various issues related to digitalization and/of television broadcasting both in the Indian and global context while situating the key developments within a historical trajectory. To understand the finer nuances of digitalization in general and digital switchover in particular, it was important to locate them in relation to the available scholarly framework. The next chapters would critically engage with various aspects of the digitalization of television broadcasting in India and various forms of technologically mediated relationships between the state, market and its citizens.

[134] Vibodh Parthasarathi, Arshad Amanullah, and Susan Koshy, "Digitalization as formalization: a view from below," *International Journal of Digital Television* 7, no. 2 (2016): 158.

[135] Parthasarathi, Amanullah and Koshy, "Digitalization as formalization," 168.

CHAPTER 2

The Consumer-Centric Approach in Policy Documents

In the world of rapid digitalization, governments all over the world are laying emphasis on creating policies for regulating the digital space. In comparison to other public policies like education or migration, media and communication policies have been largely ignored but over the years, it has become a key area of deliberation due to the rapid growth of the digital space. Since the digital space has blurred the boundaries between telecommunications and information technology, media policies are becoming interlinked with other policies governing technology and infrastructure. Hence, the earlier distinction between media policies for legacy mass media like print, broadcasting and cinema with telecommunications policy does not exist. Scholars like van Cuilenburg & McQuailtrace the rise of media policy-making to the emergence of telecommunications in the mid-nineteenth century.[1]Due to ad-hoc decision-making in the early years of media policy-making, different regulatory regimes were developed for press, broadcasting and distribution technology. A structured study of policy-making in western countries took place around the time of the formation of bureaucratic welfare states.[2] Research related to the study of media policy prospered after the Second World War.[3]The field of communication policy as an area of study became more critical for scholars after the 1970s with the rise of national media and communication policy-making, which corresponded with the popularity of communication sciences and political sciences.[4] Research in the field of media policy gained more importance with the

[1]Hilde Van den Bulck, Manuel Puppis, Karen Donders and Leo Van Audenhove, eds. *The Palgrave Handbook of Methods for Media Policy Research* (London: Palgrave Macmillan, 2019), 11.

[2]Sandra Braman, ed. *Communication researchers and policy-making*. (Cambridge: MIT Press, 2003).

[3]Willard D. Rowland Jr, "Deconstructing American communications policy literature." *Critical Studies in Media Communication*, 1(4), (1984): 423.

[4]L. S Harms, "Towards a Shared Paradigm for Communication: An Emerging Foundation for the New Communication Policy and Communication Planning Sciences." in *Perspectives*

rapid digitalization and convergence of technologies forcing scholars to look into other linked fields like telecommunications and information systems, which owing to their connection with media policies in today's world, became highly relevant.[5]

The field of media policy research

The constant changes in the media landscape over the world have not been the only result of globalization but of a range of interconnected components. The involvement of new institutional actors and regulatory schemes has impacted media policy-making. However, the changes are not homogeneous worldwide as cultural, social and political contexts play an important role in such transformations.[6] Though the study of global structures and patterns of change is essential, one also needs to study the national and local contexts to make sense of the policy issues. Policy-making has been influenced by a range of political, economic and social factors making neutrality in the decision-making process a contested claim. Though in the early days of media policy, there had been an argument of separation of politics from policy to offer a more neutral approach while dealing with policy matters, this approach has rarely been accurate.

There have been differences between scholars on deciding which term might be more appropriate for defining the field of policy in media. Some have preferred the term 'communication policy' as it involves both mass and individual communication, while others have stressed the use of the term 'media policy' as it offers an understanding of media

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in Communication Policy and Planning, ed. S. A. Rahim and J. Middleton, (Honolulu: East West Communication Institute, 1977), 78.

Also see: Herbert I. Schiller, "The appearance of national-communications policies; A new arena for social struggle." *Gazette Leiden, Netherlands* 21, no. 2 (1975): 82-94, https://doi.org/10.1177/001654927502100202

[5]Milton Mueller, "Why Communications Policy Is Passing" Mass Communication" By: Political Economy as the Missing Link (Review and Criticism)." *Critical Studies in Mass Communication* 12, no. 4 (1995): 459.

[6]Paula Chakravartty and Katharine Sarikakis, *Media policy and globalization*. (Edinburgh: Edinburgh University Press, 2006), 3, https://doi.org/10.1515/9780748627219.

organizations and mediated communication.[7] For Braman (2004), however, media policy is distinct from information policy as media policy mainly looks at the mediation of the public through the use of technology, processes and content, while information policy, on the other hand, caters to the understanding of information production involving the processes, use and flow of information.[8] There has been the use of terms like 'media regulation' to describe and make sense of media policies worldwide, in addition to the usage of terms like 'media governance'.

Media policy research as a distinct academic discipline has emerged relatively lately. The policies that are implemented by businesses and organizations in their interactions with the media have come to be associated with the phrase media policy. To put it another way, as part of an organization's public relations operations and its interaction with the media, the organization develops, what is known as a media policy.[9]

Policy paradigms provide a set of ideas through which policies can be implemented in order to attain the required goals. The corporate owners and operators of media enterprises, as well as the general public who consume media, are all governed by the media policies that are put into place. However, any policy related to media emerges from the abstract ideological level of policy paradigms that, to some extent, trace the relationship between the state, society and media and, thus, try to make the execution more meaningful for the stakeholders.

Van Cuilenburg and McQuail have identified three phases of the media policy paradigm. The first phase continued till World War II and was largely dominated by emerging communications industry policy; the second phase involved the public service media policy

[7]Manuel Puppis, "Media governance: A new concept for the analysis of media policy and regulation." *Communication, Culture & Critique* 3, no. 2 (2010): 134-149, https://doi.org/10.1111/j.1753-9137.2010.01063.x.

[8] Sandra Braman, *Biotechnology and Communication: The Meta-Technologies of Information* (London: Routledge, 2004), 3-5.

[9] Preeti Raghunath, *Community radio policies in South Asia: A Deliberative Policy Ecology Approach* (Singapore: Springer, 2020), 4, https://doi.org/10.1007/978-981-15-5629-6.

paradigm that continued till the 1990s; and the constant changes in technology characterized the third phase.[10] However, though a particular approach in policy formation might dominate a particular period, other paradigms might prevail in relation to other related media policies developing at a specific period of time. Media policy thus incorporates the process of understanding the output of a particular policy and taking into account the policy-making process within specific institutional structures involving several actors having varied objectives.[11]

Media policy is a "deeply political phenomenon".[12] The process of policy-making involves political inclinations, ideological perspectives and power play, where some viewpoints might get preference over others. Therefore, it is vital to uncover those marginalized viewpoints.[13]Chakravartty and Sarikakis point out that separating 'politics' from 'policy' is a problematic assumption as policy-making cannot be neutral and it is laden with intrinsic values and motives. Thus, one needs to engage in a critical understanding of the processes and the contexts that shape policy in order to make a better analysis. Understanding both the conformist and dissenting views regarding a particular policy is crucial in understanding media policy.[14] Also, the coming of the 'Information Society' has led to the creation of policies that is rooted in multilateral politics and the debates surrounding it.[15] The policy landscape is also moving beyond formal locations and registers and, thus, demands an

[10] Van Cuilenburg, Jan, and Denis McQuail. "Media policy paradigm shifts: Towards a new communications policy paradigm." *European journal of communication* 18, no. 2 (2003): 183.

[11]Des Freedman, *The politics of media policy* (Cambridge: Polity, 2008), 1-3.

[12]Freedman, *The politics of media policy*, 1.

[13]Freedman, *The politics of media policy*, 5-6.

[14] Chakravartty and Sarikakis, *Media policy and globalization*, 3-7.

[15] Marc Raboy and Claudia Padovani, "Mapping global media policy: Concepts, frameworks, methods." *Communication, Culture & Critique* 3, no. 2 (2010): 150-169, https://doi.org/10.1111/j.1753-9137.2010.01064.x.

approach that transcends the 'venue-based approach' in studying media policy as actors from different organizational setups influence the framing of policies.[16]At the present time, policy decisions cannot be made by a single ministry alone but through the deliberations of a range of ministries and bureaus implicated in the policy-making process. Thus, a range of non-formal mechanisms play an essential role in drafting and implementing media policy.

In order to achieve particular policy goals, specific tools are used by governments and other bodies. These regulatory tools form an important part of the policy-making process. Statutory regulation encompasses state influence and control for industrial or social behaviour as well as economic incentives and supply of information.[17] In countries like India, regulatory powers are deployed to specialized public bodies like the Telecom Regulatory Authority of India (TRAI) that enjoy some autonomy from the government. Thus, in the organization of media systems, different types of rules are initiated and deployed and all these fall within the broad ambit of media governance. [18]

The field of media policy is laden with peculiarities[19], mainly in relation to the understanding of media as a subject or the specific nature of its politics. Media and communication technologies play an important role in people's life as they not only create content but organize and distribute it among people, allowing the readers/ viewers to make sense of the world around them and contributing to public debate.[20] In today's digital world,

[16] Braman, *Biotechnology and Communication*, 8.

[17] Robert Baldwin, Martin Cave, and Martin Lodge, *Understanding regulation: theory, strategy, and practice*. (Oxford university press, 2011), 145, https://doi.org/10.1093/acprof:osobl/9780199576081.001.0001.

[18] Puppis, "Media governance: A new concept for the analysis of media policy and regulation.", 138.

[19] Manuel Puppis and Natascha Just, eds. *Trends in communication policy research: New theories, methods and subjects* (Bristol: Intellect Books, 2012), 11.

[20] Stuart Allan, *News Culture* (London: McGraw-Hill Education, 2010)
Also see: Stuart Allan, ed. *The Routledge companion to news and journalism*. (London: Routledge, 2009), https://doi.org/10.4324/9780203869468. and Peter Dahlgren, *Television*

connections are created among people through digital platforms[21], which might endanger the public through personal data collection and dissemination of fake news. However, this platform innovation has been touted to be positive by some scholars belonging to the discipline of management and business as they believe technological developments to be 'innovative disruptions'.[22] Communication policies worldwide are being shaped by the political, economic and technological transformations taking place the world over, where along with the government, industry players and transnational bodies are playing an important role in enacting policy regulations.

Media industries arein a way similar to other industries since they have economic value, at the same time, they are different from other industries as theyalso serve as socio-cultural and political entities.[23] Again, since media organizations are themselves affected by regulation rather than being simply neutral intermediaries, which makes them different from other policy fields, thus, important questions relating to the coverage of media policy have been

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and the public sphere: Citizenship, democracy and the media. (London: Sage, 1995), https://dx.doi.org/10.4135/9781446250617.

[21] Victoria Nash , Jonathan Bright, Helen Margetts, and Vili Lehdonvirta. "Public policy in the platform society." *Policy & Internet* 9, no. 4 (2017): 369, https://doi.org/10.1002/poi3.165.

[22]José Van Dijck, Thomas Poell, and Martijn De Waal, *The platform society: Public values in a connective world* (Oxford: Oxford University Press, 2018), 1.

[23] For related discussions see: Peter Golding and Graham Murdock. "Culture, communications and political economy." in *Mass media and society*, ed. James Curran & Michael Gurevitch (London: Hodder Arnold, 2005), 60-83.; Manuel Puppis, Seamus Simpson, and Hilde Van den Bulck. "Contextualising European media policy in the twenty-first century." in *European media policy for the twenty-first century*, edited by Seamus Simpson, Manuel Puppis, & Hilde Van den Bulck (New York: Routledge, 2016), 1-20.

raised by scholars.[24] Thus, to understand media policy, one should focus on gaining a deeper insight into the various political, technological, economic and cultural issues related to media which makes the field interdisciplinary.[25]

Media policy research involves a range of topics which include identifying the goals of the policy, the values or criteria defining the goals, the study of content and communication services to which the policy applies, and studying the distribution services and the appropriate policy measures and means of implementation.[26] So, media policy research aims to study the decision making process with respect to a particular policy and the regulatory instruments embedded in the policy process. It also involves understanding the role of stakeholders in influencing the policy outcomes, the formal and informal settings where deliberations happen, and the steps leading to negotiations and discussions on the policy-making process.

In media and communication policy research, scholars have repeatedly debated between administrative research and critical research. Paul Lazarsfeld used the terms in his research, and according to him, administrative research is funded mainly by the government and corporate in order to understand how the use of the media can be better facilitated. In contrast, critical research primarily looked into media's broader role in the current social system.[27] Media scholars later identified administrative research as more empirical and critical research as more normative. However, both perspectives are equally important to

[24]Christopher Ali, and Manuel Puppis, "When the watchdog neither barks nor bites: Communication as a power resource in media policy and regulation." *Communication Theory* 28, no. 3 (2018): 279, https://doi.org/10.1093/ct/qtx003.

[25]Puppis and Just, *Trends in communication policy research*, 14-22.

[26]Jan Van Cuilenburg and Denis McQuail, "Media policy paradigm shifts: Towards a new communications policy paradigm", *European journal of communication* 18, no. 2 (2003):185, https://doi.org/10.1177/0267323103018002002

[27]Paul F. Lazarsfeld, "Remarks on administrative and critical communication research." *Studies in Philosophy and Science* 9, (1941): 12, https://doi.org/10.5840/zfs1941912.

study media policy. As Melody and Mansell point out, the validation and growth of already prevailing systems and power structures are what administrative research aims for, while critical research is more concerned with interrogating the prevailing systems and power structures and the part that media plays in maintaining the existing conditions.[28] As studied by Van den Bulck, Hilde, Manuel Puppis, Karen Donders, and Leo Van Audenhove, media policy research seeks to understand the various aspects of policy-making from a critical perspective.At the same time,it is crucial to understand the conceptualization of media policy by gathering empirical evidence, which can take various forms of methodological approaches, thus, going beyond the parochial positivistic interpretation.[29] This way, both the administrative and critical aspects can be incorporated while researching media policy.

Media policy has evolved to place greater emphasis on self- and co-regulation as a result of the market's influence. New clarifications are being sought for changing issues through policy initiatives.[30] Policy initiatives for media have been divided into two types: Firstly, policies for legacy media which already exist and secondly, policies which are interested in looking into the best practices, codes of conduct and self-regulatory tools.[31] Most governments try to keep regulating the legacy media while paying restricted attention to the changes brought about by new media. Television broadcasters and newspaper publishers have time and again argued about the ignorance of the government in policy matters related

[28]William H. Melody, and Robin E. Mansell, "The debate over critical vs. administrative research: Circularity or challenge." *Journal of Communication* 33, no. 3 (1983): 103-116, https://doi.org/10.1111/j.1460-2466.1983.tb02412.x

[29]Hilde Van den Bulck, Manuel Puppis, Karen Donders, and Leo Van Audenhove, eds. *The Palgrave Handbook of Methods for Media Policy Research* (London: Palgrave Macmillan, 2019), 13, https://doi.org/10.1007/978-3-030-16065-4

[30]Van Cuilenburg and McQuail. "Media policy paradigm shifts: Towards a new communications policy paradigm," 196.

[31]Van den Bulck, Puppis, Donders and Leo Van Audenhove, *The Palgrave Handbook of Methods for Media Policy Research*, 53.

to the regulation of mediated spaces. However, acknowledging the increased importance of convergence in the field of technology and media seems to be the only way governments and international bodies can create efficient policy guidelines.[32] Though documents can be studied to understand policy matters, the influence of advocacy groups, civic society members, stakeholders, lobbying and non-formal members should also be studied to understand policy matters.[33] There has been a growing reliance on multi-stakeholder negotiations in the digital age.[34] The policy process has become more and more complex and, therefore, demands a deeper analysis and understanding.

The history of media policy in India

Before moving into the particularities of policy concerning the digitalization of cable television, it would be helpful to understand the importance of media policy in a developing country like India. A brief discussion on the historical development and the context in which such policies developed can help us further complicate the matter. However, in order to understand the history of communication policies in a particular region, it is not always necessary to trace the policies in a linear way but to look into the contexts that led to their development.

In India, policies related to broadcasting were initiated before independence by the British government. The Indian Telegraph Act of 1885 can be considered the first media policy that

[32]Van den Bulck, Puppis, Donders and Leo Van Audenhove, *The Palgrave Handbook of Methods for Media Policy Research*, 53-54.

[33]For a detailed discussion see: Des Freedman, *The contradictions of media power* (London: Bloomsbury Publishing, 2014); Hilde Van den Bulck and Karen Donders, "Of discourses, stakeholders and advocacy coalitions in media policy: Tracing negotiations towards the new management contract of Flemish public broadcaster VRT." *European Journal of Communication* 29, no. 1 (2014): 83-99, https://doi.org/10.1177/0267323113509362.

[34]Caroline Pauwels and Karen Donders. "From Television without Frontiers to the Digital Big Bang: The EU's Continuous Efforts to Create a Future-Proof Internal Media Market." in *The handbook of global media and communication policy* ed. Robin Mansell and Marc Raboy (New York: Wiley-Blackwell, 2011): 525-542.

governed the Indian sub-continent. While initially, the Act intended to establish and maintain and govern telegraph lines but later, with the rapid development of information and communication technologies, it included telephones, radio communications, broadcasting and other communication devices. This Act has been one of the pillars on which all the other Acts associated with broadcasting rest.

Sosale (2014) explains the early efforts in building the communication infrastructure:

> [B]etween the 1850s and the 1940s or so, a series of actors, including colonial governments (most notably the British) and international communication corporations established vast and complex networks of the telegraph and wireless lines. The intention was to link all nodes to Britain (or the headquarters in the home countries of the corporations involved in operating these lines, such as the United States and Germany), but this was achieved through the laying of lines that crossed other territories as well. From the Red Sea and the Ottoman-controlled region to lines between numerous islands in the Indian Ocean and port cities in India, and lines connecting among India, Mauritius, Zanzibar and Aden (in present-day Yemen), the networks served the British administration and corporations on several levels for pricing and speed of message transmission. Both states and corporations were involved in this vast enterprise, including (but not limited to) the Indo-European Telegraph Department (IETD) of the British colonial administration, the Ottoman rulers and corporations such as Siemens and the Eastern Telegraph Company (ETC), to name a few.[35]

The British colonial administration established the telegraph and the wireless technologies due to a variety of reasons ranging from political, economic technological, as well, as for modernization and developmental purposes and in order to create an 'information order' where India acted as an important node in the networking of British empire in the Indian Ocean Pacific Rim region. The metropolitan state took up the responsibility of establishing communication technology networks during the colonial period. British government

[35]Sujatha Sosale, "Mapping and modernizing the Indian Ocean Rim: Communication technologies under colonial Britain." *Global Media and Communication* 10, no. 2 (2014): 159. https://doi.org/10.1177/1742766514540071.

considered building communication networks as a responsibility of the state for governing the subjects and providing access. Britain also engaged with the governments of other territories from where the telecommunication lines were supposed to pass. Collaboration between state and private corporations helped establish telegraph networks in colonial times.[36] Media industries developed due to the development of the telegraph and wireless services and there was a gradual collaboration of these industries with the colonial government during the World War. The policies around communication were also built to retain control over the region in the colonial period.[37] In the post-colonial period, autonomous national development took precedence and at this moment, regional trade agreements and global institutions started regulating the commercial aspects, a process termed 'internationalization' by Vincent Mosco.[38]

The media policy during the colonial era was shaped by deliberations held in international conventions and negotiations with private entities to create the required communication infrastructure.[39] Britain had a near monopoly over telegraph lines and wireless telegraphy due to the presence of the Marconi Wireless Telegraph Company in Great Britain. The International Radio-telegraph Union was born due to the deliberations held at the Berlin

[36]Sosale, "Mapping and modernizing the Indian Ocean Rim: Communication technologies under colonial Britain.", 161-162.

[37]Sosale, "Mapping and modernizing the Indian Ocean Rim: Communication technologies under colonial Britain.", 172.

[38]Vincent Mosco and David O. Lavin. "The labouring of international communication." in *Internationalizing media studies* edited by Daya Kishan Thussu, (London: Routledge, 2009), 162-63.

[39]Sosale, "Mapping and modernizing the Indian Ocean Rim: Communication technologies under colonial Britain.", 162.

Conference on Wireless Telegraphy in 1906. Later, registrations were mandated for those stations interested in broadcasting across national borders.[40]

Another Act that influenced the broadcasting policy field in India, even after independence, was the Indian Wireless Telegraphy Act of 1933, which dealt with issuing licenses and regulating the possession of wireless telegraphy apparatus in India. The Indian Telegraph Act of 1885 and the Indian Wireless Telegraphy Act of 1933 laid the foundation of broadcasting in India.

Radio broadcasting started in India in 1923 with the help of the Radio Club of Bombay. However, the effort was limited to private entities. The first regular radio service began in the month of July 1927 with the opening of a Bombay station by the Indian Broadcasting Company (IBC). The programming pattern and the philosophy of the IBC were heavily influenced by the British Broadcasting Corporation (BBC), which began roughly seven months before the launch of IBC.[41]The Indian Wireless Telegraphy Act was enacted in 1933 to ensure that without a license, all radio receivers and wireless equipment possessed by any individual or company would be labelled as an offence. This was largerly done to stop the people from evading the payment of license fee and also to keep a record of the possession of wireless gear. The broadcasting sector came under the aegis of the British government in April 1930 when IBC was liquidated in March 1930.

The Department of Industries and Labour was assigned to look after radio broadcasting under the name "Indian State Broadcasting Service (ISBS)."[42] Radio broadcasting became profitable in 1934 and it was during this time, Lionel Fielden, the first broadcasting controller, showed interest in looking forward to creating a policy targeting development by making broadcasting available in rural areas. While transmitters were being laid down to

[40]Daya Kishan Thussu, *International communication: Continuity and change*. (London: Bloomsbury Publishing, 2018),18.

[41]Kanchan Kumar, "Mixed signals: Radio broadcasting policy in India." *Economic and political weekly* (2003): 2173.

[42]Kumar, "Mixed signals: Radio broadcasting policy in India." 2174.

form the Delhi Station in 1936, the name of ISBS was changed officially to All India Radio (AIR) on June 8, 1936.[43]After taking the reigns of broadcast, the British government allowed the Indian princely states to collect fees for receiving sets alongwith the right to create and use transmitters based on the provisions of the Government of India Act, of 1935. Finally, in 1937, AIR became a part of the Department of communications. The expansion plans of broadcasting received a blow due to the start of the Second World War, though the hours of transmission increased to counter Nazi propaganda.[44]

Even after independence, the Indian government adopted John Reith's[45] legacy to provide the masses with the information they needed to hear instead of the stories they wanted to hear. The primary purpose of broadcasting was to serve people and to 'inform, educate and entertain' them. Also, efforts to increase and improve the coverage of the broadcasting network were initiated by the Indian government. In January 1950, broadcasting was placed in the Union List of the Seventh Schedule alongwith post, telegraphs, telephones and wireless. [46]

The primary purpose of broadcasting was to cater to fulfilling developmental initiatives by carrying valuable information to the villagers and promoting national ideals. However, efforts to understand the response of the audience were hardly there. So, while the Indian government was interested in expanding the radio and television network with the support of international entities and bodies like UNESCO, there was a limited effort to understand the audiences' perspectives of the programmes.[47] This was a time when the majority of the post-colonial nation-states were in the process of national integration, and using mass media to

[43]Kumar, "Mixed signals: Radio broadcasting policy in India." 2175.

[44] Kumar, "Mixed signals: Radio broadcasting policy in India.", 2174.

[45] John Reith was the first Director General of BBC.

[46] Kumar, "Mixed signals: Radio broadcasting policy in India.", 2175.

[47] Kumar, "Mixed signals: Radio broadcasting policy in India.", 2176.

achieve this goal was considered significant. Multilateral bodies like UNESCO, World Bank, IMF provided support to achieve this goal. So, the Fordist notion of national integration and economic expansion became necessary for the states. As Lerner pointed out in his book, *The Passing of Traditional Society*, a series of non-economic factors like urbanization, literacy, and exposure to the media acted crucial for development, eventually creating subjects for the modern market- someone who would be both a citizen and a consumer.[48]

The Indian government had retained control over both radio and television for a very long time, using them as instruments for development and also serving their propaganda, as evident during the national emergency declared by the Congress government in 1975. In order to grant more autonomy to the electronic media after the culmination of the emergency, a working group under B.G. Verghese was constituted in August 1977 in order to look into the functional, financial and legal aspects of the proposal to give autonomy to Doordarshan and Akashvani. An autonomous National Broadcasting Trust, 'Akash Bharati', was proposed to monitor radio and television content. Akash Bharati Bill lapsed after the dissolution of Lok Sabha in 1979 during the fall of the government and did not gain much importance during the return of the Congress government in 1980.

The Akash Bharati Bill resurfaced in Parliament during the reign of the coalition government led by the Janata Dal. The bill presented in the Parliament in 1989 was called Prasar Bharati Bill. The bill was eventually passed in 1990, but due to the fall of the government, the Act was not implemented until 1997. However, meanwhile, foreign satellite channels started operating in India in the 1990s and the immediacy of implementing the Prasar Bharati Act to create a competitive and commercially viable market was put forward. The government, nonetheless, implemented an Act known as the Cable Television Networks (Regulation) Act in March 1995 to regulate the haphazard growth of cable operators in the country. A high power committee under the leadership of Nitish Sengupta was appointed in 1995 to look into the organization and role of Prasar Bharati during the rise of foreign satellite channels in

[48] Umaru Bah, "Rereading The passing of traditional society: Empathy, orthodoxy and the Americanization of the Middle East," *Cultural Studies* 22, no. 6 (2008): 795-819, https://doi.org/10.1080/09502380701702599.

India. The committee, in its report, vouched for an independent Radio and Television Authority of India, which will grant licenses to domestic and foreign satellite channels allowing them to uplink from India. However, the Prasar Bharati Act became effective on September 15, 1997, and the Prasar Bharati (Broadcasting Corporation of India) was established on November 23, 1997.

Broadcast, however, had uneven growth in India due to the lack of a proper national communication policy during the early days. Under P.C. Joshi, a working group on software for Doordarshan was prepared in December 1982 to look into the ways in which television can act as an effective medium for social and economic development. The report pointed to a need to create our version of the communication revolution by taking into account the prospects and challenges offered by the technology-led communication revolution. The main focus in this period was on looking at the affordance of mass media to carry developmental messages and create a participatory model of development involving the rural community.[49] Thus, developmental rhetoric was a crucial aspect of the policy developed during this period.

The opening of the markets in India during the 1990s gave a new dimension to broadcasting. The rising popularity of cable and the beaming of satellite channels in India brought competition for state-owned channels. In this neo-liberal governance, states lost their autonomy and went into partnerships with non-governmental bodies and private entities.[50] While the government passed the Cable Television Networks (Regulation) Act in 1995 to regulate the cable business, in the same year,the Supreme Court delivered a historic judgement in the Ministry of Information and Broadcasting vs Cricket Association of Bengal case in which airwaves were ruled to be public property and hence must be used to advance the public good. However, in some related judgements, the court claimed that the right to freedom of speech and expression guaranteed by Article 19 (1) (a) of the Constitution does not give any individual the right to receive and impart information by using public property. An individual can use airwaves to impart information only when the statute allows him/ her to do so. The court had put the broadcasting media under the control of the public rather than

[49]Kumar, "Mixed signals: Radio broadcasting policy in India.", 2178 -79.

[50]Chakravartty and Sarikakis, *Media policy and globalization*. 36-37.

the government; hence, a public statutory corporation should look into the matter. The ministry decided to set up a broadcasting authority of information and broadcasting and in this regard, broadcasting legislation was drafted to look into the matter of opening up the airwaves to private parties and individuals.

Meanwhile, in March 1996, a working paper on national media policy was drafted around the same time. One of the aspects put forward in the draft was to set up non-commercial broadcasting stations to be run by educational institutions, panchayats and local bodies. The Broadcasting Bill was introduced in Parliament on May 1997 to create the Broadcasting Authority of India. The bill was an amalgamation of different committee reports, judgements and policy statements related to broadcasting in India. However, due to the fall of the government, the bill lapsed[51] but was re-introduced again in 2006 as Broadcasting Services Regulation Bill (BSRB).[52] The bill insisted on setting up an independent authority named Broadcast Regulatory Authority of India (BRAI) to look into matters of media ownership, content and subscription issues for both radio and television. The broadcasters heavily criticized the bill for impinging on their right to freedom of speech, after which the then-UPA government decided to review it. It has been pending ever since then.[53]

It was not until the late 1990s that the convergence of media and technologies was recognized by The New Telecom Policy (1999). At that time, the Ministry of Communications and the Ministry of Information And Broadcasting were merged to form the Ministry of Communications and Information Technology in 2001. The government also tried to bring out a Communications Convergence Bill at this point of time and set up the

[51]Kumar, "Mixed signals: Radio broadcasting policy in India.", 2180.

[52]Anubhuti Vishnoi, "What is the Broadcasting Bill?" *The Indian Express*, September 22, 2007, http://archive.indianexpress.com/news/what-is-the-broadcasting-bill--/219641.

[53]Amrita Nayak Dutta, "Try, try and then put in cold storage: Fate of I&B ministry's bills to shackle the media." *The Print*, June 21, 2018 https://theprint.in/india/governance/try-try-b-ministrys-bills-to-shackle-media/72984/.

Communications Commission of India.[54] This bill tried to address the convergence issue in telecommunications, media and information technology all over the world. The bill was supposed to look into and manage the spectrum for non-strategic and commercial usage of communication infrastructure. The bill was supposed to repeal a number of existing legislations like the Indian Telegraph Act (1885), the Indian Wireless Telegraphy Act (1933), the Cable Television Networks (Regulation) Act (1995) and the Telecom Regulatory Authority of India Act (1997). it was expected that this bill would be able to cope with the changes brought by technology and cope with any problems faced by the industry.[55] However, the bill lapsed with the dissolution of Lok Sabha but was introduced again with some changes in the year 2014 but it again expired eventually.

At present, the Cable Television Networks Regulation Act 1995 is the regulation that governs the television industry and the Telecom Regulatory Authority of India (TRAI) is the only body regulating broadcast media.[56] The Ministry Of Information And Broadcasting in a notification issued on June 17, 2021 stated that the central government will amend the Cable Television Networks Rules, 1994 and the Cable Television Networks (Amendment) Rules, 2021 will come into force on the date of their publication in the Official Gazette.[57] Here it is important to note that the deregularization of the Indian economy has led to the privatization of the media sectors, and the gradual changes in technology have brought about a series of transformations in the broadcasting sector which has led to significant shifts in policy.

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[54]Deepak Maheshwari, "Monitoring the new communication space." *Business Line*, June 26, 2020, https://www.thehindubusinessline.com/opinion/monitoring-the-new-communication-space/article31916690.ece.

[55]Ashish Pathak, "The Communications Convergence Bill: India´s Tryst with Destiny." *Mondaq*, July 11, 2002, https://www.mondaq.com/india/broadcasting-film-tv--radio/16955/the-communications-convergence-bill-india%C2%B4s-tryst-with-destiny.

[56] Amrita Nayak Dutta, "Try, try and then put in cold storage".

[57] MIB, Cable Television Networks (Amendment) Rules, 2021, June 17, 2021, https://mib.gov.in/sites/default/files/25-6%20CTN%20Appl%205.5X8.5inch%281%29_0.pdf

No doubt, these are familiar historical accounts that have been discussed extensively,but I need to invoke them nevertheless as crucial background for understanding the policy decisions related to mandatory digitalization of broadcasting.

TRAI's effort in regulating the field of cable broadcasting

One of the formative constituents within the domain of broadcasting policy in India is the Telecom Regulatory Authority of India (TRAI), established in 1997 through the Telecom Regulatory Authority of India Act, 1997. Its objective was to regulate telecom services. Over the years, TRAI has also been entrusted with the responsibility of working for the broadcasting sector. The main objective of TRAI has been to "provide a fair and transparent policy environment which promotes a level playing field and facilitates fair competition."[58] From January 2004, broadcasting and cable services were also brought under the purview of TRAI through the TRAI Act.[59] The Indian government held its monopoly over broadcasting till the emergence of satellite television in the 1990s. While this monopoly over broadcasting came from the Indian Telegraph Act of 1885, allowing the government to establish and maintain telegraphs in the country, later, with technological developments, the Act included most modern communication devices. Later judicial decisions also contributed to broadening the understanding of the term to include telephone, television, radio, mobile, wireless and video. [60]

Before TRAI was entrusted with making regulations for broadcasting, the Parliament had amended the Cable Television Networks (Regulation) Act in 2002 to include the phrase 'addressable systems'. These addressable systems were supposed to help the consumers gain access to premium and pay channels at that point, and the system was widely known as

[58]TRAI. "History." *The Telecom Regulatory Authority of India (TRAI).* April 21, 2017, https://www.trai.gov.in/sites/default/files/A_TwentyYear_Odyssey_1997_2017.pdf.

[59]Vikas Asawat, "Consumer and Telecommunication Service: Role of Telecom Regulatory Authority of India in Policy Making and Regulations." (June, 2011), http://dx.doi.org/10.2139/ssrn.1873525, 2.

[60]Siddharth Narrain, "A Broad Overview of Broadcasting Legislation in India." in *Alternative Law Forum, Bangalore, Karnataka State, India*. 2008, 3.

Conditional Access System (CAS).[61] This system came into force in some specific regions of four metropolitan cities of India- Mumbai, Delhi, Kolkata and Chennai in 2003. However, the customers who wanted to watch the pay channels had to invest in the set-top box while other channels were available via the regular cable connection. It was after a year, on January 9, 2004, through a notification published in the Ministry of Communication and Information Technology Gazette, broadcasting and cable services were brought under the purview of telecommunications services under Section 2(k) of the TRAI Act, 1997, thereby allowing TRAI to regulate the broadcasting and cable industry.[62] Also, under Section 11 (d) of the Act, TRAI was instructed to make recommendations regarding the terms and conditions for the availability of addressable systems to the consumers and other norms and provisions related to the rates of pay channels and the periodicity of revisions.[63] TRAI also started issuing consultation notes to stakeholders in the broadcasting and cable industry, seeking their inputs and comments to develop a more detailed consultation paper which might ultimately lead to a particular policy decision. Issues related to fixing and revising rates of revenue, the choice available to consumers, terms and conditions of set-top boxes (STB), the principle of sharing compensation among the stakeholders, ensuring the quality of service, regulation of advertising and measures needed to develop the industry and increase competition and efficiency were laid out for consultation. Apart from these, TRAI started meeting with various stakeholders within the cable industry.[64] However, while fixing

[61]Narrain, "A Broad Overview of Broadcasting Legislation in India.", 20.

[62]TRAI, "Consultation Note on Issues relating to Broadcasting and Cable Services," January 15, 2004, 1-14, pt 5, 6, accessed May 10, 2020.
https://www.trai.gov.in/sites/default/files/Consultation%20note.pdf.
Also see: TRAI. "Standards of Quality of Service (Duration of Advertisements in Television Channels) (Amendment) Regulations, 2013." March 22, 2013, 1-12, accessed June 22, 2021, https://trai.gov.in/sites/default/files/StdofQoS_DurationOfAdvtTVChannels_Reg_Amends_22032013.pdf.

[63] TRAI. "Interim Recommendation on Conditional Access System (CAS)." February 23, 2003, 1-49, 1, accessed May 10, 2020.
https://trai.gov.in/sites/default/files/Recommendation_CAS_23022004.pdf.

[64]TRAI. "Interim Recommendation on Conditional Access System (CAS)", 2-4.

the Tariff rates and regulating advertisements for the cable and broadcasting industry, the stakeholders did raise the issue of TRAI interfering with their freedom of speech and expression[65], which TRAI dismissed by citing instances from countries like the USA, Canada, Australia, European Union, Hong Kong, Philippines and South Africa. As cable TV was regulated in most countries across the world, so TRAI insisted on creating a regulatory structure in India to monitor the activities of the cable operators.[66] Though Conditional Access System (CAS) was already operational in four metros, but TRAI felt that without the presence of a regulatory structure monitoring the tariff rate, under-reporting of subscribers, constant friction between the stakeholders could not be avoided resulting in ambiguity for the subscribers who turned out to be victims of black-outs, poor signals, reduced choices and higher payments. Thus, in August 2010, TRAI recommended the complete digitalization of cable services in India in a phased manner, which was accepted by the government and the Cable Television Networks (Regulation) Amendment Bill 2011, was passed.[67]

When the digitalization of cable was in its final stages, TRAI introduced The Telecommunication (Broadcasting And Cable) Services (Eighth) (Addressable Systems) Tariff Order 2017, popularly known as (NTO 1.0) to create a regulatory framework for the stakeholders in order to bring more transparency in the system. Though there have been enough debates and controversies regarding the Tariff Order, TRAI has sometimes revised

[65]In India, Article 19(1)(a) of the Indian constitution guarantees Freedom of Speech and Expression to its citizens. This is a fundamental right. Indian media derives its right to expression from this Section. In Romesh Thappar vs State of Madras case the importance of media being the fundamental basis of all democratic organizations was recognized and its right to circulate and propagate ideas was upheld.

[66]TRAI. "Interim Recommendation on Conditional Access System (CAS)", 16-19.

[67] PRS India. "The Cable Television Networks (Regulation) Amendment Bill, 2011" *PRS Legislative Research*, November 29, 2011, https://prsindia.org/files/bills_acts/bills_parliament/2011/Cable_TV.pdf.

the same to ensure consumer interests.[68] Time and again, TRAI has brought consultation papers to determine whether there is sufficient competition in the cable broadcasting industry and to understand stakeholders'perceptions on various issues, such as the interoperability of set-top boxes.

While this discussion focuses on TRAI's role only in the context of cable broadcasting, TRAI has also been issuing recommendations and guidelines concerning the technical standards, ownership patterns, and monetary structures of radio, telecom, internet and broadband. In other words, though TRAI has primarily been looking into the technical and economic viability of media industries in India, it is also performing a social role in understanding the ownership patterns of the industries and ways in which they can be monitored.

The objectives behind the digital switchover of cable services

If we try to understand the logic behind digital switchover in India, then we need to look back at the policies that led to such a switchover. It is important to note that digital switchover in television has been a Western import. Though the government, broadcasters and the MSOs believe in the inevitability of digital technology, the market has played an important role in shaping policies conducive to the switchover. Governments all over the world have identified technology as a determining force for initiating policy directives related to television. However, scholars have noted technology to be an instrument used by human beings to achieve certain goals and thus, it has broader social and economic implications.[69]Therefore, it would not be an overstatement that the digital switchover of television has been a policy initiative influenced primarily by market interests.

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[68]Nawal Ahuja. "NTO 2.0: Why TRAI's attempt at overregulation is bad for consumers." *Exchange4Media*, October 25, 2021, https://www.exchange4media.com/media-radio-news/nto-20-why-trais-attempt-at-overregulation-is-bad-for-consumers-116469.html.

[69] Michael Curtin, Jennifer Holt and Kevin Sanson, *Distribution revolution: Conversations about the digital future of film and television*. (Berkeley: University of California Press, 2014), 5, https://www.jstor.org/stable/10.1525/j.ctt6wqc5w

The constant conflicts among the broadcasters, MSOs and cable operators in addition to black-out of specific channels and the technological changes occurring worldwide, led to the implementation of a policy mandating digital switchover of analogue cable television. It is important to mention that India did not mandate the digitalization of analogue terrestrial television based on the worldwide developments in technology but exclusively focused on analogue cable broadcasting in the country due to the pressure from industry stakeholders demanding to bring transparency in the cable business. Digital switchover worldwide has been projected as inevitable due to technological changes, but market and politics have played an important role. In the United States, this prevented Japanese manufacturers from establishing their analogue version of the United States' High Definition (HDTV) called Hi-Vision as the global market leader, whereas in Europe, as the technical standard MAC (multiplexed analogue components) designed for both high and standard definition analogue satellite transmissions failed commercially, they began putting more emphasis on consumer demands, despite there being a market for expansion of multi-channel transmissions. If we take the case of the UK, for example, we see that though UK had no existing British owned TV set manufacturers, the industry realized that entering into the production of high-tech components like software for set-top boxes will bring economic benefit to the country. This revelation mostly came about as a result of the United Kingdom having professionals who were highly skilled in technology. Additionally, because of the high quality of the television content that is produced in the UK and its recognition on a worldwide scale, the potential of digital was investigated.[70]

It was assumed that improved signal quality, additional programming options, and the ability to reschedule shows would emerge from India's cable digitalization strategy, but the reality has been very different. The audience members paid the price for this change. Even though it is the government's responsibility to address concerns about the switchover's social acceptability, viewers have shown consistent opposition across the world.[71] India’s approach to digital switchover has been different in comparison to Western countries as India has

[70]Michael Starks, *Switching to digital television: UK public policy and the market* (London: Intellect Books, 2007), 22.

[71]Petros Iosifidis, "Digital switchover in Europe." *International Communication Gazette* 68, no. 3 (2006): 250. https://doi.org/10.1177/1748048506063764.

digitized the analogue cable systems, unlike the implementation of digital terrestrial television (DTT) in western developed countries. Thus, while public policy debates in most of countries revolve around terrestrial television, India and China offer a different perspective as they have sought to digitize the analogue cable system instead of the terrestrial transmission system. In the case of India, this happened as the cable was the predominant mode of distribution, offering both free-to-air and pay channels, while China was interested in developing its own technical standard regarding digital terrestrial transmission and providing support for its television receiver manufacturing industry.[72] In order to reduce expenditure, the majority of countries worldwide have initiated a public policy framework whereby consumers will switch to digital receivers under the pressure of market forces reducing political compulsion.[73] In India, the analogue terrestrial television transmission was (and still is) under the supervision of India's public service broadcaster, Prasar Bharati and all the private channels during the analogue period operated through satellites and entered the living room through cable operators. As the cable industry had expanded in an unregulated manner, it was imperative that the industry be regulated. In contrast, the digitalization of terrestrial broadcast was not considered lucrative by the industry and hence, unlike the majority of the countries worldwide, it was not the first choice for digital switchover.

TRAI issued the guidelines for digitalization of cable television in 2005. TRAI viewed digitalization as a growth driver and stated, "digital technology in cable television in the above background is inevitable and has to happen if the cable medium as a platform for distribution of signals has to compete with other delivery platforms."[74]

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[72]Michael Starks, "Digital television switchover: China goes its own way," *Westminster papers in Communication and Culture* 7, no. 1 (2017), 27. https://doi.org/10.16997/wpcc.193.

[73]Starks, "Digital television switchover: China goes its own way," 29.

[74] TRAI, "Recommendations on Digitalisation of Cable Television," September 14, 2005, 1-49, pt. 1.1.2, 1, accessed July 11, 2021, https://www.trai.gov.in/sites/default/files/Recom14sep05.pdf.

By reading the policy documents related to cable television digitalization, it is possible to compile a set of objectives that led TRAI to initiate the digitalization of cable services:

a) As carriage fees rise, broadcasters are concerned that cable companies may be unable to keep up with the demand for bandwidth to carry additional channels.

b) Digitalization will offer "better reception quality, increased channel carrying capacity, new features such as programme guides, multi-view and interactive services as well as potential to provide triple play: voice, video and data."

c) To safeguard cable's continued viability as a distribution medium in the face of competition from digital TV production and alternative distribution methods, such as DTH (Direct to Home) and IPTV via broadband (Internet Protocol Television).

d)To bring addressability in the cable system in order to make the subscriber base auditable and verifiable for the MSOs and the broadcasters. This way, disputes between the service providers can be solved, and transparency ensured. The verifiability of the consumers will also improve the revenue collection of the government in the form of taxes.

e) Most of the content produced by the broadcasters is targeted towards the affluent urban population mainly residing in large industrial states, as this category of the audience is attractive to the advertisers. Thus, there have been limited content offerings and marginalization of consumers residing in less developed states as broadcasters have been unable to create content for them due to high distribution costs. By removing the capacity constraint, digitalization will help provide visibility to marginalized consumers.

f) Digitalization will provide visibility to niche content by introducing subscription-driven special interest channels that will explore the paying potential of the subscribers.

g) Lack of standardization on the pricing of services to consumers during the analogue period has led to fragmentation leading to non-payment of dues, limited consumer choices, and differential payment structures. Digitalization of cable will solve these issues.

h) Since broadcasters depend largely on advertisement revenue to run their channels, television audience measurement systems or ratings are very significant. However, in the analogue period,the measurement numbers were disproportionate due to the lack

of addressability to monitor viewership. Digitalization was supposed to solve the addressability issue.

i) The spread of channels across urban and rural areas was not uniform during the analogue period, so the channels with predominant viewership in the rural areas were ignored in the ratings as the urban viewership received much prominence. Digitalization of cable services was expected to address this gap.

j) Since the broadcasters depended on the reach to generate revenue from advertisers, they depended on the MSOs to carry their channels. For this, the broadcasters paid carriage and placement for access to the MSOs' network but due to bandwidth constraints during the analogue period the frequencies were allocated to the highest-paying channels by the MSO. This led to a demand-supply mismatch leading to an entry barrier for the broadcasters.

k) The MSOs planned the bouquet of channels during the analogue period based on the market demand for the channels. It was felt that often this did not match the choice of individual subscribers as each of them belonged to different socio-cultural backgrounds and might have varied tastes. Therefore, it was believed that users were being forced to pay for channels they were not interested in watching and maybe were being prevented from accessing channels of their choice.

l) Digital cable television networks can be used to deliver broadband services and other value-added and interactive services like VoD, PVR, video gaming, music and teleshopping, which was impossible in the analogue system.[75]

m) The transition to digital was meant to improve picture and sound quality over the analogue system and provide viewers with more programming options via the Electronic Programming Guide (EPG). The introduction of High Definition

[75] TRAI. "Implementation of Digital Addressable Cable TV Systems in India." August 5, 2010, 1-101, accessed July 11, 2021, https://www.trai.gov.in/sites/default/files/finalreom5agust.pdf.

Also see: TRAI. "Recommendations on Digitalisation of Cable Television," September 14, 2005, 1-43, accessed July 11, 2021, https://www.trai.gov.in/sites/default/files/Recom14sep05.pdf.

Television (HDTV) programming was meant to 'revolutionize' the way people enjoy their television.[76]

n) Digitalization will have the ability to create a two-way link with the subscribers based on the addition of a modem which will provide interactive services like email, games, shopping, information and internet access. Advanced set-top boxes could also provide personalized television services or personal video recorders (PVRs), enabling subscribers to store, archive and manipulate video content.[77]

o) Since digital networks help in providing internet and broadband services, it was assumed that they could converge with telecom networks in the future and compete with them by offering voice and internet services.[78]

Thus, digitalization was cited to be a technological necessity offering solutions to all the existing problems in the cable industry by providing "superior quality, flexibility, the ability to transmit multiple channels within the same spectrum, power efficiency and capacity to carry voice data."[79]

Understanding public policy critically

Public policy has been widely understood as a combination of laws, regulations and guidelines undertaken by the government to benefit the public. However, a policy can also refer to "a statement of intent, an aim, a decision, or an outcome. It may refer to issues that policymakers do not to address"[80]. As the scope of the state extends to all aspects of an

[76] TRAI. "Consultation Paper on Digitalisation of Cable Television." January 3, 2005, 1-46, 4-5, https://trai.gov.in/sites/default/files/consulpaper3jan05.pdf .

[77]TRAI. "Consultation Paper on Digitalisation of Cable Television," 5.

[78]TRAI. "Consultation Paper on Digitalisation of Cable Television," 5.

[79]Ramnath Bhat,. "Television in India: The starting point for digital switchover." *International Journal of Digital Television* 3, no. 1 (2012): 81. https://doi.org/10.1386/jdtv.3.1.73_7.

[80]Paul Cairney, *Understanding public policy: theories and issues*. (London: Bloomsbury Publishing, 2019), 53.

individual's life, thus public policy plays a vital role in shaping the need of the individual. So, a policy is supposed to look into the larger interests of the public. While understanding policy, three dimensions are to be understood: scope, means and distribution.[81]

'Scope' includes choices made by the government in policy matters influenced by individuals, market or non-market groups. Governmental authority may cover monetary expenditures, symbolic gestures, regulations impacting organizations and individuals, and guidelines for regulatory bodies. When considering the digital switchover of cable television in India, it is important to keep in mind that the government developed a policy in scope to market needs and that this policy's scope encompassed everyone from broadcasters to MSOs to LCOs to equipment vendors to consumers to the government, which stands to gain from the increased tax revenue generated by the transition.

'Means' occupy the second dimension of governmental policy. Here, the means through which government enforces policy is important. As Lowi has pointed out, means includes an element of compulsion since everyone is supposed to obey the policy decisions made by the government. The government may use either persuasion, by reminding citizens of their responsibilities to the state, or inducement by providing benefits in exchange for specific actions. Aside from this, the government can utilize the tactics of coercion by punishing individuals who do not cooperate. Governments also direct governmental agencies or other groups to implement a particular policy. In the case of India's cable digitalization, we see that the means of achieving this task was left to the industry while the government supported the industry in persuading the people to accept the change by investing in set-top boxes.

The third dimension, 'distribution' involves the ability of the government to equally distribute the resources among its citizens. Though it is somewhat easier to measure the distributive effects in government programmes involving direct spending or transfers, it is difficult to measure in cases of rules governing people's behavior and symbolic and intangible benefits. However, perceptions of benefits and costs are important in analyzing the effectiveness of a policy, and this should include an understanding of the context of policy development, the stakeholders associated with it and the political implications of a

[81]Richard Simeon, "Studying public policy." *Canadian Journal of Political Science/Revue canadienne de science politique* 9, no. 4 (1976): 559. https://www.jstor.org/stable/3231089.

policy initiative.[82] The policy initiatives undertaken by TRAI concerning any technical parameters and standards are based on the standards recognized by the International Telegraph Union (ITU). The ITU was established in 1865, and in 1947 it became a specialized agency within the United Nations.[83]

Finding the 'public' in public policy

The notion of 'public interest' is crucial for the planning and implementation of any policy. At one point in time, it was believed that telecommunication networks worked best as monopolies as there were costs involved in fixing and upgrading networks. In order to achieve growth and equity, centralization of operations was considered essential. So, most countries relied upon state ownership and operation of networks to provide standardized services throughout the country. The government also offered cross-subsidies whereby urban areas subsidized rural areas, large corporate users subsidized residential users and telecommunications revenues subsidized the postal system. During this period, equitable distribution of service at reasonable prices for the sake of national public interest was considered important by the regulators and policymakers.[84] The public interest notion in India has been linked to the public services notion, where State-owned television and radio tried to serve the public through programmes on development and education. As Nicholas Garnham and Mansell (1991) have pointed out, public interest became indistinguishable from the interests of the state.[85] In terms of tracing the public interest in media policy, especially in the context of India, values like access, diversity and autonomy have been

[82]Simeon, "Studying public policy," 559-566.

[83]Susanne K. Schmidt, Raymund Werle, K. Susanne, Wiebe E. Bijker and Trevor Pinch. *Coordinating technology: Studies in the international standardization of telecommunications*. MIT press, 1998.

[84] Chakravartty and Sarikakis. *Media policy and globalization*, 60.

[85] Nicholas Garnham and Robin Mansell, "*Universal service and rate restructuring in telecommunications*," OECD/ICCP Report No. 23. 1991, 1-198, http://eprints.lse.ac.uk/id/eprint/89823.

discussed by scholars.[86]Due to pressure from multilateral organizations and private capital, the legitimacy of the state as a mediator of public-interest has been in jeopardy.[87] It is important to point out that in a developing country like India, public interest has gained a pro-industry meaning in the neo-liberal age. Public interest issues in the context of communication policy might include the concept of serving the public, a logic which has been crucial for the development of early broadcast policies in the United States. Here, the belief is that unless the provider is economically stable, it cannot serve the public as it might not have made enough incentives to invest in new technologies and services,hence, hampering the public interest.

Second was the logic that diversity in programming would help represent different interests and voices in the media, offering scope for niche programming that might not be the dominant norm in the competitive market.[88] The deregulation of markets brought changes in policy areas whereby multilateral organizations like ITU and World Bank, supported by developed countries like the USA and UK, eventually put forward the logic of cost-based tariffs to replace cross-subsidy. This was also a time when global telecommunications firms were trying to enter other national markets, so a global consensus of state regulation developed. So, after the end of the Cold War, policy-makers around the world adopted the discourse of free markets. This way, traditional concerns related to the establishment of fair prices and maximum access to services were replaced by the evaluation of the performance of home-based corporations in the global market and safeguarding consumer sovereignty in a competitive market.[89]

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[86] Vibodh Parthasarathi and Supriya Chotani. "The digital switchover of Doordarshan: Intriguing dynamics of policy options." *Medijskestudije* 6, no. 12 (2015): 65.

[87] Chakravartty and Sarikakis. *Media policy and globalization*, 36.

[88]Willard D Rowland Jr., "The meaning of "the public interest" in communications policy—Part II: Its implementation in early broadcast law and regulation." *Communication law and policy* 2, no. 4 (1997):365. https://doi.org/10.1080/10811689709368631.

[89] Chakravartty and Sarikakis. *Media policy and globalization*, 61-63.

In the case of India, the logic behind the shift to a digital addressable system has been projected to improve the viewers' experience by offering them plenty of choices and providing them with better signals and quality content. However, as it is apparent most of the developments were intended to protect the interests of the industry. This an emblematic instance of neo-liberal development, where government and markets work together to support each other. What remains ignored are the interests of the public; in the case of DAS, it is the consumers or subscribers who remain somewhat unheeded. If we look closely at the policy documents, there has been a constant mention of the terms 'consumers' and 'subscriber' instead of the 'public', which underlines the neoliberal logic of turning the public into consumers of products. For example, in India, broadcasters and MSOs had vested interests in cable digitization, so they provided the funds for the necessary infrastructure upgrades and received government backing, while customers footed the bill for set-top boxes. Despite the fact that the MSOs subsidized set top boxes for the subscribers' benefit and even let them pay in instalments and lease units for a certain period of time, the government did not invest in the infrastructure or supply set-top boxes at a discounted rate to the underprivileged households.[90]The government of other countries like the USA and UK had provided loans and offered subsidies for the procurement of boxes in the interest of the subscribers.[91] It is important to mention here that in the early days of radio and television broadcasts, the state distributed free radio and television sets among the people to make them a part of the state's developmental initiatives. However, in case of the digital switchover of cable television in India, that sense of purpose was absent as the market was considered important since it promised to increase the state's benefit through taxes and by building the digital infrastructure.

Locating inclusivity in policy

Public policy demands representation from all stakeholders affected by a particular legislation. Though TRAI brings out consultation papers seeking the comments and counter-comments of all the stakeholders involved, it becomes necessary to understand who represents the demands of the public. If we look at the policy documents, we will see that

[90] Parthasarathi and Chotani, "The digital switchover of Doordarshan," 71.

[91] Parthasarathi and Chotani, "The digital switchover of Doordarshan," 72.

some consumer forums and individuals did send their views and suggestions regarding the consultation papers, but the numbers were limited.

Though TRAI organized Open House Discussions and Consumer education Workshop in different regions of the country to create awareness but adequate awareness was not created as people lacking proper education and financial means were largely ignored. These people were the ones who did not have the money to buy a set-top box but television formed an essential part of their daily lives as it provided them with information and entertainment. The switchover made them lose access to a device which had become a part of their daily lives.

In the making and implementation of a policy, inclusivity is an essential factor. India is a diverse country consisting of people from different languages, religions, cultures, caste and class. Paying attention to the needs and desires of each sector is important in the making of a policy. In a welfare state like India, an inclusive approach in policy is essential to ensure that every person has access to the resources. Though inclusivity has been an important aspect of welfare schemes related to education and health, media policies in neoliberal India have rarely tried to mitigate structural inequalities. It is crucial here to mention that during the Covid-19 pandemic, broadcasting and cable services were included as essential services in the order issued by the Ministry of Home Affairs, proving that it is indispensable for the general public.[92]Nevertheless, customers with limited income were not considered during the digital transition. While consumers have been called "the essential stakeholder in the supply chain" in policy documents related to India's transition to digital cable television, their financial capabilities have been largely disregarded.[93] However, in the policy document,the 'paying capacities' of the consumers are negotiated with the idea of 'flexible pricing':

> Although there could be a view that the lack of standardized pricing negatively affects consumer interest as some pay more than others for the same product, this can

[92]MOHFW. "Annexure to Ministry of Home affairs order No .40-3/2020 –D" March 24, 2020, 1-6, accessed July 11, 2021 https://www.mohfw.gov.in/pdf/Annexure_MHA.pdf.

[93] TRAI. "Implementation of Digital Addressable Cable TV Systems in India," August 5, 2010, 1-101, 36, accessed July 11, 2021, https://trai.gov.in/sites/default/files/finalreom5agust.pdf.

be counterbalanced by the argument that it enables a flexible pricing to accommodate the paying capacities of different strata of consumers.[94]

However, no separate initiative to include the marginalized segment of the population in the distribution of free boxes or any other government scheme was taken into consideration. The policy documents stressed on bringing standardization in the digital cable ecosystem by reducing fragmentation of operations from the LCO's end and doing away with differential pricing to protect the consumer's interests. The emphasis on the consumer interest was validated in the policy documents with the mention that in the analogue system, the consumer was forced to watch a bouquet of channels carried by the LCOs based on their socio-cultural background and thus, choices for the consumer were limited as he/she could not individually pick the channels based on his/ her socio-cultural background.[95] However, though the exercise of this choice depended on access to the set-top box, TRAI had left it entirely upon the MSOs and the LCOs to make the resources available to the consumers therefore, ignoring the interests of an extensive segment of consumers belonging to the peripheral group. Here, it is important to note that the public service broadcaster Doordarshan introduced its own Direct-to-Home (DTH) service, DD Direct Plus (later renamed as DD Free Dish), in 2004 to offer programmes free of any monthly subscription cost to the Indian population but in this case, too, the set-top boxes had to be bought by the consumers, and the price can go up two thousand rupees.[96]

Incremental strategies of decision making

While the phase-wise implementation of the DAS was in its final stages, TRAI came out with The Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable

[94] TRAI. "Recommendations on Digitalisation of Cable Television." September 14, 2005, 1-43, pt. 1.51, 25, accessed July 11, 2021, https://www.trai.gov.in/sites/default/files/Recom14sep05.pdf.

[95] TRAI. "Implementation of Digital Addressable Cable TV Systems in India," August 5, 2010, 1-101, 51, accessed July 11, 2021, https://trai.gov.in/sites/default/files/finalreom5agust.pdf.

[96] Parthasarathi and Chotani, "The digital switchover of Doordarshan,"66-71.

Systems) Tariff Order, 2017, popularly known as New Tariff Order (NTO). This order sought to bring more transparency in the system by specifying the conditions of the bouquet, the maximum retail price of channels, declaration of the Network Capacity Fee (NCF). Reference Interconnection Agreements were addressed in the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems), 2017 regulations, as were the monthly publication of subscription reports and annual audit reports by television channel distributors, EPG listings, and the designation of compliance officers. This was done to increase transparency in the system and prevent ambiguous and unequal contracts between distributors and LCOs by making broadcasters, MSOs, and LCOs accountable to each other.

However, this order was challenged in the Madras High Court by the broadcasters like Star India. They argued that TRAI lacked the authority to issue such regulations under the TRAI Act 1996. The case was then brought before the Supreme Court, which ruled in favour of TRAI, stating that the purpose of the TRAI Act included protecting the interests of both service providers and consumers and that the terms and conditions of carriage as well as interconnectivity between participants had to be dealt with by the authority to ensure that all parties received a fair deal.[97] So, finally, the Tariff Order was implemented in February 2019.[98]

However, when the credit rating agency, CRISIL, revealed a marked increase in the monthly average cable television bills of the consumers and an upsurge in revenue for the broadcasters, as well as, the MSOs, then questions about consumers choice and affordability became crucial for TRAI. Hence, in January 2020, TRAI brought some changes in the Tariff Order, focusing on Network Capacity Fee (NCF) and broadcaster pricing. This order came to be known as NTO 2.0. As an effect, the number of Free to Air (FTA) channels were increased from 100 to 200, MRP of each channel was reduced from Rs 19 to Rs 12. These

[97] Namita Viswanath, "The Supreme Court Upholds TRAI's Tariff Order," *Mondaq*, November 15, 2018, https://www.mondaq.com/india/broadcasting-film-tv--radio/755336/the-supreme-court-upholds-trais-tariff-order.

[98]Archana Khatri Das, "NTO 2.0 to backfire on consumers?," *Impact*, Jan 12, 2021, https://www.impactonnet.com/amp/cover-story/nto-20-to-backfire-on-consumers-7675.html.

twin conditions were introduced to cap the prices of bouquets in order to make the *à la carte* channels accessible to the consumers.[99]

Nonetheless, the Indian Broadcasting Federation (IBF), Zee Entertainment Ltd. and Sony Pictures Network India filed a petition against NTO 2.0 in the Bombay High Court. IBF claimed the new regulations to be "arbitrary, unreasonable and violative of their fundamental right".[100] However, on June 30, 2021, the Bombay High Court upheld the validity of NTO 2.0 order issued by TRAI. Though the broadcasters moved to the Supreme Court, the Supreme Court refused to grant them any interim relief and thus, many broadcasters started publishing the RIO on their websites in accordance with the NTO 2.0 regulations before the deadline of April 2022.[101] The deadline was further extended to June 2022 and then November 30, 2022, and a consultation paper was issued by TRAI asking for further comments from the stakeholders regarding NTO 2.0.[102]This series of events happened after the Indian Broadcasting and Digital Foundation (IBDF) withdrew their petition against NTO 2.0 from the Supreme Court.[103]

After seeking the consultation of the stakeholders, the NTO 2.0 was further amended on November 22, 2022, to fulfill the demand of the broadcasters by increasing the prices of the

[99] Das, "NTO 2.0 to backfire on consumers?"

[100] CNBCTV18, "Explained: What is NTO and why broadcasters are opposing it?," *CNBC TV18*, August 12, 2021, https://www.cnbctv18.com/telecom/explained-what-is-nto-and-why-broadcasters-are-opposing-it-10346111.htm.

[101] Javed Farooqui, "TRAI extends NTO 2.0 implementation deadline to 1st April 2022," *Exchange4Media*, November 11, 2021, https://www.exchange4media.com/media-tv-news/trai-extends-nto-20-implementation-deadline-to-1st-april-2022-116800.html.

[102] FE Bureau, "Trai defers implementation of new tariff order for broadcasters to November 30," *Financial Express*, June 4, 2022, https://www.financialexpress.com/industry/trai-defers-implementation-of-new-tariff-order-for-broadcasters-to-november-30/2548179.

[103] Lata Jha, "TV broadcasters withdraw petition challenging TRAI's NTO 2.0," *Mint*, Feb 16, 2022, https://www.livemint.com/industry/media/broadcasters-withdraw-petitions-challenging-nto-20-11644920645455.html.

à la carte channels to Rs 19 and replacing the twin conditions capping bouquet prices to 45 per cent of the sum of *à la carte* rates of all channels in the bouquet[104] suggesting a strong collaboration between the industry and TRAI. This new order, NTO 3.0, which is supposed to be implemented in February 2023, has shifted the focus back on the interests of the broadcasters. It is important to remind that the initial order, NTO 2.0 was introduced by TRAI to "usher in better consumer offerings, more flexible tariff schemes and more choices for consumers."[105]

This series of events reminds us of what American political scientist Charles Lindblom referred to as disjointed incrementalism, in which judgements are made incrementally as a situation develops. The many iterative stages of decision-making are not tightly connected with those that came before.[106] Although this is in stark contrast to the rational-deductive decision-making ideal, where an issue is identified in its whole at the onset, all pertinent information is gathered, and then a set of reasonable methods is employed to determine the best course of action. As a result of the disjunctures, decision making is unpredictable, and there is a tendency for sudden shifts in policy on occasion that we witness in the context of the digitalization of cable broadcasting.[107]

So, we see that the television digitalization policy is in constant flux even when urban viewership is gradually being challenged by internet-based Video-on-demand services, popularly known as OTT. Thus, this constant friction and collaboration between the industry and the regulator is an ongoing issue that keeps happening to suit their mutual interests, while the consumers are the ones who are affected in the process.

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[104] Javed Farooqui, "NTO 2.0 amendment: Beginning of a new friendship between TRAI & broadcasters?," *Exchange4Media*, Nov 23, 2022, https://www.exchange4media.com/media-tv-news/nto-amendment-beginning-of-a-new-friendship-between-trai-broadcasters-123842.html.

[105] Bala Yogesh,"3 Major Changes Brought by Trai NTO 2.0 for Consumers," *Telecom Talk*, March 26, 2020, https://telecomtalk.info/major-changes-trai-tariff-regime/256221.

[106] Charles E. Lindblom, "Still muddling, not yet through," *Public administration review* 39, no. 6 (1979): 517-526. https://doi.org/10.2307/976178.

[107]Peter John, *Analyzing public policy*. (New York: Routledge, 2013).

The issue of affordability in policy

Internationally, affordability has been an essential part of a policy, particularly in relation to the digital economy. Affordability in telecommunications and the digital economy seems to be in conflict.[108] As explained by Goggin (2014),

> On the one hand, the dynamism of technological developments, and the socio-cultural innovations that accompany them, promise new ways to deal with affordability issues — building on the industry changes, underlying economics and pricing movements, and products and services that have provided consumers with an unparalleled range of communication and media options. On the other hand, social exclusion remains a reality and in many places has worsened with economic conditions and restructuring. Ironically, the new place of digital technologies in everyday life means that lack of access to these poses real barriers for social participation.[109]

A liberal market with an open and competitive environment might not lead to making things affordable for people unless and until the concerns of all people belonging to a different classes are addressed. Addressing the issue of affordability as a part of government welfare benefits is essential in order to provide access to even the marginalized community. So, in the case of technology, the concerns surrounding affordability needs to be incorporated within policy to make sense of the complex realities around us to provide access to disadvantaged people. Since television is an important part of people's everyday lives, it was crucial for the government to keep the viewers' interests in mind and offer them incentives for the same. In the case of digitalization of cable television in India, affordability simply refers to the capacity of the viewer to buy a set-top box and his/ her ability to pay for the subscription each month. The issue of affordability must find a place in the policy documents. However, the matter of affordability in the policy documents is only linked to the choice of channels and how set-top boxes will become affordable in future. As stated in the Recommendations on Implementation of Digital Addressable Cable TV Systems in

[108] Gerard Goggin, "New ideas for digital affordability: Is a paradigm shift possible?." *Journal of Telecommunications and the Digital Economy* 2, no. 2 (2014): 1.

[109] Gerard Goggin, "New ideas for digital affordability: Is a paradigm shift possible?," 1-2.

India, 2010 "As the use of set-top boxes increases, set-top boxes would be available at more affordable prices."[110]

In an even earlier recommendation on the digitalization of cable television (2005) the term 'affordability' has been used in the context of incentives for producing digital decoders to make black and white television more affordable and keeping the cost of inputs like license fees bare minimum. So the final product is available at an affordable price.[111]

Moreover, in TRAI's 2005 recommendations, the digitalization process was kept voluntary for the consumers, who were supposed to shift only when they perceived it to be advantageous. Nonetheless, digitalization was considered inevitable in the future, so preparations for the same were underway. It is important to note that during this period, the government planned on using entertainment tax paid by the consumer for having a consumer education programme for a period of four years (2006-2010) to educate them about the advantages of digitalization.[112]Although offering any tax concession to the consumers for acquiring the set-top box was not encouraged.[113]However, the government initiated lowering the custom duties on set-top boxes from 15 percent to 10 percent and, over time, concentrated on bringing the import duties to zero and excise duty to 16 percent on all components to create a single-duty regime, which benefited the MSOs in their acquisition of the boxes.[114]In a subsequent recommendation dated August 5, 2010, TRAI reduced the

[110] For more see: TRAI. "Implementation of Digital Addressable Cable TV Systems in India," August 5, 2010, 1-101, accessed July 11, 2021, https://trai.gov.in/sites/default/files/finalreom5agust.pdf.

[111] TRAI. "Recommendations on Digitalisation of Cable Television." September 14, 2005, 1-43, 3-18, accessed July 11, 2021, https://www.trai.gov.in/sites/default/files/Recom14sep05.pdf.

[112] TRAI. "Implementation of Digital Addressable Cable TV Systems in India." *The Telecom Regulatory Authority of India (TRAI).*(New Delhi: August 5, 2010), 8.

[113] TRAI. "Implementation of Digital Addressable Cable TV Systems in India." 9.

[114] TRAI. "Implementation of Digital Addressable Cable TV Systems in India." 35.

custom duty on digital head-end equipment and set-top boxes (STBs) to zero in order to boost the conversion of the broadcast distribution network to digital. In addition, service providers establishing a digital addressable distribution network before July 27, 2010 were also eligible for income tax benefits from the date of network establishment until March 31, 2019. In addition, taxes and fees were to be reduced, since the government at the time wanted to introduce GST.[115]

In this manner, all the initiatives ultimately benefited the MSOs and the broadcasters, who were at the forefront of changing the cable infrastructure in India. The concern over affordability raised in the policy papers was interpreted only with regard to their interests, and the effects of the policy were measured through industry reports and audits of the digital addressable system conducted by auditors empanelled by TRAI.[116]

The policy of mandatory digitalization of cable services promised to bring openness, transparency, increased revenues, better signals and more choices in terms of channels and content for all the stakeholders. The logic of digitalization being a growth driver, providing people easy access to resources is not quite true as people need training, economic capability and an understanding of the interface to access digital technologies. In order to ensure universal access, one also needs to make digital devices interoperable. Interoperability refers to using the set-top boxes to receive signals from any Distribution Platform Operator (DPO). It is possible to switch between many MSOs with a single set-top box, so if I am unhappy with the signal my current MSO is sending me, I may switch to another MSO's signal. TRAI has not yet enforced the option of interoperability of set-top boxes. However, the Interim Recommendations on Conditional Access Systems (2004), made it mandatory to declare the

[115] TRAI. "Recommendations on Implementation of Digital Addressable Cable TV Systems in India," 74.

[116] Exchange4Media, "TRAI picks nine agencies to audit Digital Addressable Systems," *Exchange4Media*, September 30, 2019, https://www.exchange4media.com/media-tv-news/trai-picks-nine-agencies-to-audit-digital-addressable-systems-99279.html.

capacity of set-top boxes and its interoperability with other networks.[117] Though TRAI brought out a consultation paper in 2019 stating that "interoperability can be implemented only on a prospective basis for new installations."[118], it has not yet been made mandatory. So, the question of how the public has profited from the digitalization of cable television broadcasting remains elusive.

Democratic leaders, as Dipankar Sinha reminds us, always seek more subtle methods of implementing policy changes with minimal public participation. They would rather have the populace act as 'silent bystanders,' observing events unfold without offering any constructive criticism. The underlying principle is that the act of government is too "complex" for ordinary people to understand, yet the rulers may be too afraid to make this public. "This is a process of technocratic organisation of governance behind the democratic façade".[119]

Any discussion on policy would invariably bring into discussion the notion of governmentality. It is essential not to lose sight of the fact that, in the context of the digitalization of cable television, the major actors and their decisions are thought to be policymakers and mutually reinforcing components of the neo-liberal policy agenda. In other words, it is vital to consider these policy decisions within the context of the larger field of neoliberal policy, which is in effect at every stage. The governmentality literature has inspired innovative analyses of the restructuring of the welfare state and shows that social policy reform is linked to a new specification of the object of governance. Government policy documents are often the essential testimonials where the emphasis has been on neoliberal projects.

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[117] TRAI, "Interim recommendations on Conditional Access System(CAS)," February 23, 2004, 1-49, 7, accessed May27, 2020 https://trai.gov.in/sites/default/files/Recommendation_CAS_23022004.pdf .

[118] TRAI, "Consultation paper on Interoperability of Set Top Box," November 11, 2019, 1-70, accessed June15, 2022, https://trai.gov.in/sites/default/files/CP_STB_Interoperable_11112019.pdf.

[119] Dipankar Sinha, *The Information Game in Democracy* (New York: Routledge, 2018), 23-24.

It is commonly acknowledged that policymaking has a 'problem-solution' aspect that is approached in different ways and with varied emphasis. Drawing from the critical policy studies framework, it is reasonable to ask, which individual and collective actors participate in the policy discursive networks that generate objects of economic governance. How do these modes of thought discipline and governmentalize the organization of places, practices, and varied populations? How do they form part of hegemonic logic and are contested by diverse social forces? How are they questioned and negotiated in order to sustain unstable negotiations?[120]

By reading the different policy documents, press releases, and consultation papers, this chapter attempted to answer some of these queries and sought to demonstrate how particular readings, and subsequently particular policy responses, determine the mandatory digitalization of cable television broadcasting in India.

[120] Norman Fairclough, "Critical discourse analysis and critical policy studies." *Critical policy studies* 7, no. 2 (2013): 177-197. https://doi.org/10.1080/19460171.2013.798239.

CHAPTER 3

Technology, neoliberal state and the politics of DAS deadline in West Bengal

The introduction of a mandatory Digital Addressable System (DAS) with strict, phase-wise deadlines for different provinces within India has compelled us to reconsider not only the television apparatus itself but also broadcast policies, the television industry, content and reception within the neoliberal conditions. The introduction of DAS can be located within a series of similar public policies starting from the Satellite Instructional Television Experiment (SITE) project in 1975 to the more recent Unique Identification Authority of India (UIDAI) or Aadhaar project and Digital India campaign, all folded into the developmental rhetoric of the welfare state. The rollout of DAS provides the site to explore the relationship between the government, neoliberal market and digital technologies that underscores the contradictions which are constitutive of modernity and invests in the study of the neoliberal cultural sites of statist intervention. Within this conceptual framework, this chapter will focus on West Bengal as a case in point to read the implementation of mandatory DAS both as a site of hegemonic projects embodying promises of neoliberal development and of the incongruities that are inherent in them.

While the Union Government claimed that any cable television service provider who does not switch to digital signal within the deadline can be penalized and the equipment confiscated, the West Bengal state government said that they would launch an agitation if analogue cable signals were blacked out after the deadline for cable digitalization and thus, the deadline was extended for several months. The confrontation over cable digitalization in West Bengal offers a site to explore in what way, contrary to its typical image of a fully automated digital ecosystem of governance, as the modern States would like to conceive, it is loaded with internal contradiction. My inquiry moves across a range of discursive locations and registers, aiming to explore in what way various local stakeholders negotiate in this policy implementation. How does DAS help theorization of a changing relationship between the market, digital technology and the developmental modern? While raising these questions, this chapter would try to explore in what way DAS can be located within the historical trajectory of techno-cultural rhetoric of public policy and how it invests in the shifting political economy of broadcasting in neoliberal India.

Therefore, this study seeks to address this gap by looking at the Indian television industry from a critical perspective. I specifically try to understand the transformation from an analogue to digital broadcasting system, focusing on the relationship between the various stakeholders, which was shaped during this period. Since television studies in India have not received much scholarly attention, this often-overlooked area needs to be studied more critically to find out how the television industry and the political economy of a nation-state work together and how the nation-state responds to the debates and issues brought up by the industry.In making my argument, I will draw attention to how the deadline of the digital switchover in West Bengal becomes a point of contention between the central government and the state.

Before moving to the case in point of the politics around the digital deadline for exploring the relationship between the government, neoliberal market and digital technologies, it will be helpful to discuss the specificity of the neoliberal condition within which these developments are taking place. In the following sections, I attempt to comprehend how the conceptual category of neoliberalism is structured in relation to a theoretical division between political economy, cultural studies, and governmentality-based studies. How have communication and media studies researchers questioned the critical investment of neoliberalism as a theoretical framework and a conceptual category? I contend that abandoning the notion would be erroneous; rather, we should examine its conventional formulation and attempt to apply it in a more constructive manner.

Neoliberalism as a key signifier

Generally, neoliberalism is considered as an economic ideology and framework of philosophy. However, within the broader framework of media and communication studies neoliberalism is commonly associated with political economy. If we consider political economy as the study that focuses on power relations and social practices are impacted by the relations of distribution production and consumption of resources, including communication resources, then neoliberalism as an ideology is one of the key aspects of that intervention.

Broadly it is possible to identify specific trajectories through which the conceptual category of neoliberalism can be discussed in the wider field of communication and media studies. One of the approaches is to think of it as a critical lens to understand how market logic shapes and dominates the prevalent social order. This has specific applications in media and communication research. For example, studies on media ownership multi-cultural communication, political communication, media and copyright issues, cultural politics and infotainment have used the conceptual category of neoliberalism as a descriptive and explanatory framework. A number of studies have also used the idea of neoliberalism without explicitly using the term rather than preferring to use the notion of free market as a theoretical framework. Nevertheless, the ideological framework of neoliberalism within media and communication practices is pivotal in a number of studies.

In the broader literature, the involvement of media and communication activities in the ideological structure of neoliberalism is emphasized.[1] Nonetheless, the legitimacy of neoliberalism as a key signifier has been called into question by a second discourse. Those separating themselves from critical research approaches have sometimes voiced this critique, in certain instances defending their work against the allegation of ideological participation with neoliberalism. Those who maintain a strong commitment to deconstructing what could normally be referred to as neoliberal standards, however, have expressed displeasure with the term's open-ended breadth. Grossberg believes, for instance, that an obsession with neoliberalism and neoliberalization might hinder critical thinking. Grossberg pointedly remarks that often the scenario is just defined by the tension between the global and the local, or even in terms of the neoliberalization of nearly everything.[2] This is a particularly problematic approach, whether it is interpreted economically or politically. These, according to Grossberg, are overly facile and

[1] For a detailed analysis see Kean Birch and Vlad Mykhnenko. *The rise and fall of neoliberalism: the collapse of an economic order?*, (London: Bloomsbury Publishing, 2010), 10.5040/9781350223486. David Harvey, *A brief history of neoliberalism*. (New York: Oxford University Press, 2007), https://doi.org/10.1093/oso/9780199283262.001.0001.

[2] Lawrence Grossberg, *Cultural Studies in the Future Tense*, (Durham: Duke University Press, 2010). https://doi.org/10.2307/j.ctv11hpn5w.

simple and researchers must create more effective approaches to discuss regional, international, and even global settings. While it may be necessary to examine all of them, but we must certainly determine how to chart the relationships and discourses.[3]

Neoliberalism and political economy of communication

Scholars engaged in the critical political economy of communication focus primarily on the capitalist system. Within the logic and trajectory of the broader capitalist economy, studies of the consequences of neoliberalism on the organization of media, communications, and data management are positioned. Neoliberalism is understood as a capitalist development relying on effective communication and ever-increasing data flows.[4] In addition, the labour theory of value is expanded to comprehend the work performed by consumers in the digital and social media ecosystem.[5] Ever since 1970s and 1980s, critique of neoliberal reforms has underlined how media and communication institutions in liberal democratic capitalist economies have become more and more profit driven over the years.[6]

As in other domains, the word "neoliberalism" is frequently used in the literature on the political economy of communication as a narrative technique rather than a properly explained idea. The dominating narrative is based on a traditional Marxist analysis of the link between the media and capitalism. The significance of media institutions in intellectually justifying the capitalist economy and their functional incorporation into the capitalist mode of production are

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[3] Grossberg, *Cultural studies in the future tense*.

[4] Jodi Dean, *Democracy and Other Neoliberal Fantasies* (Durham: Duke University Press, 2009), https://doi.org/10.1215/9780822390923.

[5] Nicole S Cohen, "The valorization of surveillance: Towards a political economy of Facebook," *Democratic Communiqué* 22, no. 1 (2008): 5-22.

[6] Nicholas Garnham, "The political economy of communication revisited." in *The handbook of political economy of communications*, eds. Janet Wasko, Graham Murdock & H. Sousa (New Jersey: Blackwell publishing Ltd., 2011): 41-61. 10.1002/9781444395402.

investigated by academics. Several scholars underline how, in the neoliberal period, the commercial nature of public communication has become more pronounced.

Critical assessments of the detrimental impacts of neoliberalism on the media and the public sphere are intertwined with terms such as "corporatization," "commodification," "reforms," "liberalisation," and "globalisation." These themes are prevalent in media and communication studies. Herman and McChesney investigate how neoliberal policies justified by the "free market" have fostered the advent of a media ecosystem controlled by global corporations, establishing a "political and cultural system"[7] that McChesney explains somewhere else as oppressive of "non-market forces."[8] Miller emphasizes the erosion of democracy under neoliberal conditions, which is exemplified by a media system that caters to the objectives of businesses and media owners exclusively.[9] "Neoliberalism, according to Freedman, is a project dedicated to etching "market dynamics" in all fields of media engagement legitimising policies that reinterpret the market as a vehicle of democratization.[10] Dean contends that the "technical infrastructure of neoliberalism has tarnished the fundamental concept of democracy," a regime of "communicative capitalism" in which all public communication is absorbed into the informational architecture of capitalist systems.[11] Neoliberalism arguments are dominated by three major issues: media ownership and control, media practice, and media representations. Corporate media elites – have been fostered by state regulatory regimes that prioritize the

[7] Edward S. Herman and Robert W. McChesney, *The global media: The new missionaries of corporate capitalism* (London: Bloomsbury Academic, 1997), 10.5040/9781472596772.

[8] Robert W. McChesney, "Introduction" in *Profit over people: Neoliberalism and global order*, ed. N. Chomsky (New York: Seven Stories Press, 1998), 9.

[9] David Miller, "System failure: it's not just the media—the whole political system has failed," *Journal of Public Affairs* 4, no. 4 (2004): 374-382.

[10] Des Freedman, *The politics of media policy* (Cambridge: Polity Press, 2008), 53.

[11] Dean, *Democracy and Other Neoliberal Fantasies*, 23.

interests of multinational capital.[12] Critiques of a "state-capital connection" are expanded to supranational governmental organisations such as the European Union and World Trade Organization, which frequently claim the juridical and political power to govern how national communications and media policies are established.[13]

Victor Pickard outlines four crucial facets of the neoliberalization of media systems: privatization, deregulation, liberalisation, and globalization of markets.[14] Collectively, they constitute a well-known account of how the nature of media systems has altered throughout the neoliberal period. Formerly state-owned media and telecommunications assets were methodically privatized, while media that ostensibly continued in public control were reconstructed as competitive and entrepreneurial companies to diverse extent. In the guise of "liberalisation" and "light touch regulation," legislation restricting cross-media holding and foreign ownership was abolished or changed.[15] In television and radio industries, alternative processes were introduced, liberalising the conditions of entrance to what in several nations had been uncompetitive, state-controlled media. And purportedly "national" media institutions were

[12]Marko Ampuja, "Globalization theory, media-centrism and neoliberalism: A critique of recent intellectual trends," *Critical Sociology* 38, no. 2 (2012): 281-301, https://doi.org/10.1177/0896920510398018.
Wayne Hope, "New thoughts on the public sphere in Aotearoa New Zealand." In *Scooped: The politics and power of journalism in Aotearoa New Zealand*, ed. Martin Hirst, Sean Phelan & Verica Rupar, (Auckland: AUT Media, 2012): 27-47.

[13]David Hesmondhalgh and Jason Toynbee, *The media and social theory* (Oxfordshire: Routledge, 2008).

[14] Victor Pickard, "Neoliberal visions and revisions in global communications policy from NWICO to WSIS," *Journal of Communication Inquiry* 31, no. 2 (2007): 121, https://doi.org/10.1177/0196859906298162.

[15] Robin Mansell, "New visions, old practices: Policy and regulation in the Internet era," *Continuum* 25, no. 1 (2011): 22, 10.1080/10304312.2011.538369.

steadily globalised, organically incorporated into more international management systems and distribution channels.[16]

These policies have been heavily criticized, although it would be simple to assert that all that is associated with the concept of neoliberalism has been perceived unfavorably. Policy guided by the neoliberal ideology in the instance of telecommunication proved undoubtedly useful in removing the dominance of incumbents – both public and private, argues Mansell.[17] Furthermore, in the context of the European Union, administrative measures that favoured neoliberal policies contributed in protecting public service goals when the idea of equal accessibility was endangered by the economic negotiating strength of media houses.[18] However, it is important to note here, that political economy of communication specialists underline the disparity among professed neoliberal philosophy and existing neoliberal media systems. Policies devised in the name of openness, plurality, and variety ultimately generated media ecosystems controlled by commercial objectives, resulting in oligarchic economic systems in a number of the economies which have accepted neoliberalism more wholeheartedly.[19]

Another trajectory of studies within political economics investigates whether neoliberalism had also affected the organizational circumstances controlling the creation of various forms of media output. Anyone having oversight for the creation of media and new media have accepted the notion that they must increase earnings and viewership numbers regardless of any other objectives they may accomplish. There have always been conflicts among professional journalism and profit-driven aims. In the neoliberal age, nonetheless, the proportional

[16] Hope, "New thoughts on the public sphere in Aotearoa New Zealand," 27-47.

[17] Mansell, "New visions, old practices: Policy and regulation in the Internet era," 21.

[18] Roddy Flynn, "Republic of Ireland PLC–testing the limits of marketisation." in *Transforming Ireland: Challenges, critiques, resources,* ed. Debbie Ging, Micheal Cronin & Peadar Kirby (Manchester: Manchester University Press, 2009), 89-106.

[19] Hope, "New thoughts on the public sphere in Aotearoa New Zealand," 29.

significance of monetary considerations has steadily evolved, fostered by corporate practices that expect more out of media employees and disregard other ethical qualms.[20] Strongly suggestive is Natalie Fenton's critique of the situation of news reporting in the United Kingdom. Budget assessments have commercialized journalism at the cost of desirable democratic priorities.[21] ; competitive demands have led to a uniformity of press coverage under which everybody hunts down the very same narrative; and reporters have indeed been compelled to acclimatize to a corporate ecosystem in which they are progressively relying on public relations reference content, a system of "news PR".[22] These occurrences are indicative of a neoliberalized news environment. Reporters and other professionals are fundamentally compelled to function under "the brutal logic of a socioeconomic system that requires ever-increasing revenue gains.[23] And all these dynamics take on an increasingly harsh character in the digital ecosystem, as analytical metrics of public engagement constitute crucial monitoring tools for judging news value and the worth of editorial labour.

Thirdly, researchers have looked into how neoliberal economic processes affect the type and character of media production. Lifestyle journalism and credulous celebrity news formats have evolved into a type of functional lexicon in the neoliberal period, with news programs, panel discussions and current affairs continuing to be an additional possible revenue stream.[24]Thussu

[20] Stephen Cushion, *Television journalism* (California: Sage Publications, 2011).

[21] Natalie Fenton,"Deregulation or democracy? New media, news, neoliberalism and the public interest," *Continuum* 25, no. 1 (2011): 64, https://doi.org/10.1080/10304312.2011.539159.

[22] Fenton, Natalie. "Deregulation or democracy?," 64.

[23] Fenton, Natalie. "Deregulation or democracy?," 65.

[24] Eric Louw, *The media and political process*. (London: Sage publishing, 2005).

links the development of a "neoliberal global media policy regime" to the emergence of a "worldwide market for entertainment".[25]

The consequence has led to the internationalization of a viewership broadcast journalism mimicking the United States that encourages ratings driven news – about public figures, violence, crimes – and provides as a version of the narrative, at the cost of reports about important electoral issues, community development and government affairs.[26] The rationale of television formats has also been interwoven into journalistic ethics framework that internalize a sensational and market-driven demeanour.[27] In a capitalist media environment, which prioritizes the interests of the wealthy audiences and projects the aspirations of middleclass populations, working-class voices are becoming largely unheard.[28] In addition, a tradition of media frenzy allows a more politicized reporting, which is guided by that of the political-economic interests of the news outlets.

Cultural studies approach to neoliberalism

It may be helpful to reflect on the distinction that cultural studies approach on neoliberalism and subsequently, governmentality studies offer. In one-way, separating cultural studies approaches of neoliberalism from political economics interpretations is unhelpful. It re-establishes a conceptual contradiction frequently predicated on dubious conceptual frameworks and oversimplified interpretations of the "Other" perspective;[29] and it tends to disregard work

[25] Daya Kishan Thussu, *News as entertainment: The rise of global infotainment* (London: Sage Publications, 2008), 48, https://dx.doi.org/10.4135/9781446220337.

[26] Thussu, *News as entertainment*, 8.

[27] Tony Harcup and Deirdre O'neill, "What is news? Galtung and Ruge revisited," *Journalism studies* 2, no. 2 (2001): 261-280, 10.1080/14616700118449.

[28]Paula Chakravartty and Dan Schiller, "Global Financial crisis| neoliberal newspeak and digital capitalism in Crisis," *International Journal of Communication* 4 (2011): 23.

associated with both strategies.[30] In addition, regardless of the varied theoretical formulations, it conceals the unifying emphasis of critical studies on neoliberalism as a synonym for forceful political economic structure, prevalent ideology, and hegemonic form of governmentality. McChesney's examination of the influence of economic forces on U.S. journalism is unlikely to be challenged by academics of critical cultural studies.[31] Similarly, Marxist analysis is not ignorant to the significance of discourse, culture, and concepts in the formation of neoliberalism. Nevertheless, the conceptual contrasts between political economy and cultural studies are socially relevant as well as a component of the discipline's layered legacy of critical media and communication study. They are institutionalized in the scholarly publications, seminars, and books that researchers study and write in. They are also assimilated in diverse conceptual suppositions, methodological objectives, and sociopolitical orientations.

One may also trace the historical contradictions of political economy and cultural studies onto the historiography of neoliberalism. The creation of an archetypal cultural studies character may be traced to the Birmingham School's attempt to comprehend the 1970s UK predicament. This turmoil gave rise to Thatcherism. And it sparked a conceptual controversy within Socialist theory concerning the new political organization, wherein Stuart Hall, the most prominent member of the Birmingham School, had a significant part. Hall (1988) emphasised the

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[29] Janice Peck, "Why we shouldn't be bored with the political economy versus cultural studies debate." *Cultural Critique* 64 (2006): 92-126. https://www.jstor.org/stable/4489259.

[30] For a detailed analysis see Peter Berglez, "The materiality of media discourse: on capitalism and journalistic modes of writing" (PhD thesis, Örebro University, 2006), http://www.diva-portal.org/smash/get/diva2:136846/FULLTEXT01.pdf.
Alison Hearn, "Meat, Mask, Burden: Probing the contours of the brandedself," *Journal of consumer culture* 8, no. 2 (2008): 197-217, https://doi.org/10.1177/1469540508090086.
David Miller, "How neoliberalism got where it is: Elite planning, corporate lobbying and the release of the free market," In *The rise and fall of neoliberalism: the collapse of an economic order?*, ed. Kean Birch & Vlad Mykhnenko, (London: Bloomsbury Publishing, 2010), 23-41, 10.5040/9781350223486.

[31] Robert W. McChesney, "Farewell to journalism? Time for a rethinking," *Journalism Practice* 6, no. 5-6 (2012): 614-626, https://doi.org/10.1080/17512786.2012.683273.

significance of Thatcherism as an intellectual and political development that combined "neoliberal theory with conservative philosophy".[32] Multiple ideologies have been articulated under Marxist philosophy.[33] Nonetheless, in its hegemonic political use, ideology was often linked with a comparatively surface level realm of "ideas" that concealed the "true" underlying functioning of capitalism. This view was encapsulated in Marxists' traditional appeal to a base-superstructure model of capitalist societies. Thoughts, diplomacy, culture, and communication are viewed as regional areas of a capitalist social "superstructure" that is "ultimately" defined by the dynamics and physicality of the economic "base".[34] The critique of Thatcherism by Hall directly contradicts this viewpoint. Using Gramsci's notion of hegemony, Althusser's theory of articulation, and, subsequently, the poststructuralist rethinking of these notions by Laclau and Mouffe, he accomplished this within the realm of Marxist theory.[35] It interpreted the creation of the Thatcherism "superstructure" as a secondary phenomenon of capitalist dynamics, attaching little weight to its distinctive intellectual, sociopolitical, and cultural foundations. Hall describes his unremitting concentration on politics and ideology as a purposeful approach, choosing to develop "a theoretical and political vocabulary on the left that rigorously avoids the temptations of economism, reductionism, and teleological forms of argument".[36]

Thatcherism's ability to win over the political establishment was not just based on rhetoric; instead, it was founded on logical and material foundation that built on preexisting social practices and lived ideas. And central to this hegemonic activity were media organizations, that Hall acknowledged had a significant influence in establishing "the common sense of the

[32] Stuart Hall, *The hard road to renewal: Thatcherism and the crisis of the left* (Brooklyn: Verso Books, 2021), 46.

[33] Terry Eagleton, *Ideology: an introduction* (Brooklyn: Verso Books, 2007).

[34] Hall, *The hard road to renewal*, 3.

[35] David Morley and Kuan-hsing Chen, *Stuart Hall: Critical dialogues in cultural studies* (London: Routledge, 1996).

[36] Hall, *The hard road to renewal*, 3.

times".[37] Hall's attention to the intellectual, political, and cultural processes of Thatcherism had a foundational effect on the development of a cultural studies perspective that criticized the efficacy of classic Marxist theory. The repositioning of ideas, culture, and language as formative components in the building of social and political configurations led to a renewed focus upon that significance of popular culture and the media "representations", "discourses", and "texts" in the development of ideological and political social identities. The work initiated by Hall and colleagues has pointed to several avenues. Critical cultural studies scholars maintain Hall's concentration on studying the wider social context, transcribing the framework of his critique of Thatcherism to modern neoliberal developments.[38] In 2011, Hall reinforced the need of opposing neoliberalism by publishing a scathing critique of the UK coalition government of the Conservatives and Liberal Democrats.[39] Other branches of cultural studies concentrate on very restricted interpretations of contemporary cultural materials and behaviours, which are frequently only tenuously related to an examination of the larger social setting. Hall's examination of media messages through the lens of semiotics[40] was also one of the forerunners of the beginnings of a critical discourse analysis approach, which, was later most notably developed in the research of Norman Fairclough, who engaged with strongly mediated vocabulary of neoliberal capitalism as a key object of explanation.[41]

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[37] Hall, *The hard road to renewal*, 48.

[38] Paul Bowman, *Post-Marxism versus cultural studies: Theory, politics and intervention* (Edinburgh: Edinburgh University Press, 2007), https://doi.org/10.3366/edinburgh/9780748617623.001.0001. Jeremy Gilbert, *Anticapitalism and culture: Radical theory and popular politics* (London: Routledge, 2008).

[39] Stuart Hall, "The neo-liberal revolution," *Cultural studies* 25, no. 6 (2011): 705-728, https://doi.org/10.1080/09502386.2011.619886.

[40] Stuart Hall, "Encoding/decoding," in *Culture, media, language*, ed. Stuart Hall, Dorothy Hobson, Andrew Lowe and Paul Willis, (London: Routledge, 2003), 127-137

[41] Norman Fairclough, "Language in new capitalism," *Discourse & Society* 13, no. 2 (2002): 163-166, https://doi.org/10.1177/0957926502013002404.

Neoliberalism and governmentality studies

Hall's questioning of Marxist theory foresaw the advent of Foucauldian governmentality study as the principal conceptual alternative to a Marxist critique of neoliberalism in several domains. For reasons that are essentially in line with Hall's criticism of Marxism, governmentality studies have been characterized by the analytical apparatus of Foucault's ideas applied to the examination of modern social imaginaries.[42] In his 1977–1978 lecture series "Security, Territory and Population," which he recognized might have been more correctly titled a "history of 'governmentality'," Foucault maintained a cautious detachment from Marxist analysis.[43] He offered a view of liberal "political economy" which diverged from the orthodox Marxism of the late 1960s France.[44] It was less bound to the notion of a centralizing system of power that controls all other power mechanisms. In explaining the connection of individuals with a specific social construction, he also separated the individual from the idea of ideology.

> A physics of power, or a power thought of as physical action in the element of nature, and a power thought of as regulation that can only be carried out through and by reliance on the freedom of each, is, I think, something absolutely fundamental. It is not an ideology; it is not exactly, fundamentally, or primarily an ideology. First of all and above all it is a technology of power, or at any rate can be read in this sense".[45]

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[42] For a detailed explanation see Nikolas Rose, "Government, authority and expertise in advanced liberalism," *Economy and society* 22, no. 3 (1993): 283, https://doi.org/10.1080/03085149300000019. Nikolas Rose, Pat O'malley, and Mariana Valverde. "Governmentality." *Annual review of law and social science* 2 (2006): 83-104.

[43] Michel Foucault, *Security, territory, population: lectures at the Collège de France, 1977-78* (Springer, 2007), 108.

[44] Foucault, *Security, territory, population*, 24.

[45] Foucault, *Security, territory, population*, 71.

Foucault used the term governmentality to characterize the collection of methods, strategies, practices, and processes for wielding power on individuals that arose along with the cultural evolution of laissez-faire liberalism in 18th-century France. This liberal social system did not imply a complete rupture from authoritarian modes of discipline. Nevertheless, through its "dominant characteristic," it fostered a comparatively liberal social structure which could not merely focus on exposing individuals to “obligatory rules”, but rather attempted to operate on a knowledge of "how and why" people behaved in the first place.[46] Beside this idea of bio-power, Foucault introduced the notion of governmentality: "the set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power, or, in other words, how, starting from the eighteenth century, modern western societies took on board the fundamental biological fact that human beings are a species".[47] Both have been linked to a genealogical examination of how the relationship between "nature" and "government" changed over time during the rise of liberalism, when the "totally modern" idea of "the people" became the main focus of political power. This structure was made possible by the rise of regional scales of government and power structures that can have an effect on large groups of people from a distance instead of focusing on one person at a time.[48]

The "economy" has become an important concern of the State and a central part of political activity, which Foucault argues is directly related to the rise of the modern power structure. The formation of an economy at the state level became essential to the governmentality methods of the laissez-faire government as well as the development of a chosen method of actions that connected the earliest realm of economy – the governance of the family and home – to the rationale of elite administration. The final outcome was a radical rethinking of what it means for a state to be legitimate, with authorities "external and internal to the state" exercising influence through a wide range of control structures that assumed a clear relation among individual

[46] Foucault, *Security, territory, population,* 40.

[47] Foucault, *Security, territory, population,* 1.

[48] Foucault, *Security, territory, population,* 66.

behaviour and "good government of the state".[49] Foucault argued against the idea of a viable state that is so strong that may "take over" society; this is the image represented by the concept of "the police state".[50] The rationale of a decentered system of power is, in a way, embedded into the stabilizing rationale of the state, which was reconfigured as just an enabler of liberal economic and political liberties in the process of "govermentalization" of the state. Foucault questioned all who regarded neoliberalism to be nothing more than a revival of historic "free market" ideas in a series of talks that examined how and why the governmentality methods of classical liberalism got reshaped in neoliberal administrations. Instead, he said that neoliberalism was a radical departure from the "laissez-faire" principles of traditional liberalism.[51] Both liberal movements hoped to establish a system founded on unrestricted market competition and rights to private property. However, neoliberal thinkers provide a politically distinct view of how the economy relates to the state.

The state was viewed by classical liberals as a threat to economic efficiency. The concept of either a non- intervening state or minimally-intervening condition was correlated with ideas of individual and societal advancement. Based on a philosophical trust in "the market" as the paramount structural protector of basic human urges, regulatory measures aimed to monitor a predetermined human behaviour. Foucault identified how the neoliberal phobia surrounding the idea of the state exacerbated the typical liberal fear of the state.[52]He emphasised how a constructive neoliberal image of the state, which frames it as vital to an aim of democratically facilitating neoliberal systems, is offset by the discourse that rejects statism. By adopting the free market as organizing and regulatory foundation of the state, from the beginning of its creation to the final manifestation of its interference, orthodox liberals flipped the liberal ideal

[49] Foucault, *Security, territory, population,* 95.

[50] Michel Foucault, *The birth of biopolitics: lectures at the Collège de France, 1978-1979* (Springer, 2008), 17.

[51] Foucault, *The birth of biopolitics*, 20.

[52] Foucault, *The birth of biopolitics*, 187.

of a so-called sphere of economic liberty generally unobstructed by the state.[53] They rebuffed laissez-faire liberalism's guileless assumption that the market economy's cultural and social roots were natural; as if something formed organically which even the state should accept. In its place, neoliberal thinkers acknowledged that "human behaviour" they had in mind had to be politically generated, or built using a bio-political governmentality approach facilitated mostly by the state and, much like previous liberal systems, distributed across a wide range of organizational environments and groupings. This perspective makes possible a form of state involvement which is substantially dissimilar from the dismal image of a "controlled" and "regulated market" that Hayek and others ascribed to socialist principles.[54] Instead, it celebrates the role played by the state in regulatory acts, which shape market conditions and make a neoliberal social structure possible.[55]

The neoliberal logic

In response to what I consider as an overuse of the reified concept of neoliberalism, I propose that it may be more fruitful to speak of neoliberal logics, that are constantly and dynamically entangled with the other sociopolitical, economic, and cultural logics. I seek to use the term logic as defined by Glynos and Howarth— the logic of an activity is the principles or grammar of the practice, in addition to the circumstances that render the activity simultaneously feasible and unstable.[56] The limitations of confining this study of digitalization of television within the framework of "neoliberalism" are highlighted by framing neoliberalism as a sequence of foundational logics, discursively interwoven with certain other logics. As a possible response to

[53] Foucault, *The birth of biopolitics*, 116.

[54] Friedrich August Hayek, *The fatal conceit: The errors of socialism*, (London: Routledge, 2013).

[55] See Johanna Oksala, "Foucault's politicization of ontology." *Continental Philosophy Review* 43, no. 4 (2010): 445-466, 10.1007/s11007-010-9153-6. and William E. Connolly, *The fragility of things: Self-organizing processes, neoliberal fantasies, and democratic activism*, (Durham: Duke University Press, 2013)

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[56] Jason Glynos and David Howarth, *Logics of critical explanation in social and political theory* (New York: Routledge, 2007), 136.

the determinism that underlies many critical discourses, it may also make us more aware of alternative ways in which the logic of "things" may be stated.[57] It may also enable a method of thoughtful examination that can both reject and grapple with the idea of neoliberal state, helping us establish a critical perception that goes beyond denouncing a layered social system for being neoliberal. This relatively extensive exposition of neoliberalism was necessary to posit the political upheaval surrounding the issue of cable digitalization deadline in West Bengal.

The issue of delay

The issue of delay in maintaining the deadline and the overarching confusion related to transition from analogue to digital is not new. Similar problems occurred in respect to other countries too. Even the developed countries like United States and United Kingdom had to face issues while undergoing the digital switchover. In most of the countries, there has been an interplay between politics and market. There have been deliberations regarding accessibility of technology for the common people. In the American context, there have been delays right from the completion of their Grand Alliance System in 1995 to the subsequent problems related to the converter-box coupon programme and insufficient support for low-income, rural and elderly Americans in 2009. In the case of United States, there were two opposing sides. The Consumers Union, the Government Accountability Office, a number of Democratic members of Congress supported the delay while Qualcomm, Kevin Martin of the FCC, several Republican members of Congress, David Rehr of the NAB, Kyle McSlarrow of the National Cable and Telecommunications Association, and Gary Shapiro of the Consumer Electronics Association opposed the delay. Even, in January 2009, Jay Rockefeller introduced the DTV Delay Act of 2009 in the Senate. However, a new version of the bill was passed later by the House. The analogue switchover occurred on 12 June 2009, which was after twelve years from the decision of the Federal Communications Commission (FCC) to switch completely to Digital Television. In case of United States, the delay eased the transition.[58] In United Kingdom too, the

[57] John Clarke, "Living with/in and without neo-liberalism." *Focaal* 2008, no. 51 (2008): 135-147, https://doi.org/10.3167/fcl.2008.510110.

[58] Jeffrey A. Hart, "The transition to digital television in the United States: The endgame," *International Journal of Digital Television* 1, no. 1 (2010): 7-29. https://doi.org/10.1386/jdtv.1.1.7/1

government took a decision to wait until 95 per cent of the population has switched to digital before making the final commitment. The market forces were against the delay and criticized the government.[59] However, in majority of the countries, the transition has been from analogue to Digital Terrestrial Transmission. In India and China, the switchover has been mainly in the cable industry. The terrestrial transmission in India is under the purview of the public broadcaster Prasar Bharati and is still to undergo complete digitalization.

According to industry estimates, as television households continue to grow at over 5 percent till 2025, it is expected that the growth will be driven by connected TVs which could cross 40 million by 2025 and free television, which could cross 50 million. The number of television households in the country increased 6.9 per cent to 210 million at the end of 2020.[60] With more than 210 million television households, India is the world's second largest television market after China but it remains highly unstructured. All these figures point to the fact that television industry in India is not only significant in terms of economy but also in terms of public policy and government intervention.

On the basis of forecasts for 138 countries, global digital television penetration is likely to reach 98 per cent of television households in 2020. By 2020, 94 countries are expected to be completely digital compared with only twelve in 2013, and about 124 countries are expected to have more than 90 per cent digital penetration. Cable is a dominant technology largely in China, in India and the United States. In 2013, India cable accounted for 58 per cent of all television households, followed by China and United States, respectively.[61] Consequently, television

[59] Michael Starks, Switching to Digital Television: UK Public Policy and the Market, (Bristol: Intellect Books, 2007).

[60] FICCI-EY, "Playing by new rules" March 2021, 1-332, 13, accessed October 2021, https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/media-and-entertainment/2021/ey-india-media-and-entertainment-sector-reboots.pdf

[61] FICCI-KPMG, "Shooting for the Stars," 2015, 1-274, 8-12, accessed October 2020, https://assets.kpmg/content/dam/kpmg/pdf/2015/03/FICCI-KPMG_2015.pdf.

digitalization efforts of most governments have been on Digital Terrestrial Transmission switchover rather than on digitalization of cable.

Cable television digitalization promises collaboration across the value chain, mechanisms for measuring and monitoring, and equitable sharing agreements and it could go a long way in enabling the industry to reap the benefits that regulatory initiatives and reforms promise. However, the Indian scenario remains much complicated. Although digitalization of C&S households crossed the 50 per cent mark in 2013, implementation challenges remained in achieving improvement in addressability and increase in monetization.[62] While effort towards introducing Conditional Access System was initiated since early 2000, the roll out of Digital Addressable System (DAS) have encountered a number of obstacles, debates and controversies.[63] The rollout of digital cable set-top boxes (STBs) in Phases I and II cities was largely complete by December 2013 amidst much agitation from both the consumers, local cable operators (LCOs) and at times from state governments. From the initial deadline of September 2014, the Ministry of Information and Broadcasting (MIB) was compelled to extend the deadlines for Phases III and IV of DAS implementation to 31 January 2017 and 31 March 2017, respectively, to provide more time for different players in the value chain to resolve contentious issues on the ground related to indigenous manufacturing of STBs and registration of the multi-system operators (MSOs).[64]

[62] In Conditional Access System, the subscribers can access television signals through an addressable system. However, the free to air (FTA) channels can be viewed without an STB. This system was first implemented in some parts of the four metro cities (Mumbai, Kolkata, Delhi, Chennai) before the implementation of DAS.

[63] The DAS is a service in the cable TV industry where the signals are sent in an encrypted form to be received by the consumers via an STB. The authorization to the signals is given by the MSOs (multi-system operators) to the LCOs (local cable operators) which in turn reaches the consumers based on their preference. In India, DAS was implemented in four phases.

[64] According to Telecom Regulatory Authority of India (TRAI), 'multi-system operator (MSOs)" means a cable operator who receives a programming service from a broadcaster or his authorized agencies and re-transmits the same or transmits his own programming service for simultaneous reception either by

The rollout of digital STBs was sluggish in 2012–13, as DAS rollout in Phases I and II proved to be more challenging on account of the geographical spread, funding requirements and low potential for average revenue per user (ARPU), in addition to resistance from local cable operators (LCOs) in giving up ownership of customers.[65] Subsequently, MSOs were trying to tackle this challenge by taking a joint go-to-market approach instead of attempting to remove LCOs from the value chain. However, given that 70 million STBs needed to be rolled out in Phase III and IV areas compared with 25 million STBs in Phase I and II areas in 42 cities, the task ahead was enormous. The first phases of DAS in 2012 and its deferring deadline has offered a site for the government, consumers, broadcasters, cable operators to work on STB procurement, setting up digital headends where required, fixing agreements with broadcasters, implementing channel packages and getting the local logistics in place for rolling out the STBs. While some in the industry welcomed the move, saying the December 2014 deadline was not practical, some section of the industry criticized the continuous extension of deadline by opining that this would lead to loss of momentum in the digitalization process.

This article focuses on the debates and issues raised during the first Phases (I and II) of DAS rollout in West Bengal, to understand in what way, contrary to its typical image of a fully automated digital ecosystem of governance, as the modern states would like to conceive, it is loaded with internal contradiction. While raising these questions, this article would try to explore in what way DAS can be located within the historical trajectory of techno-cultural rhetoric of public policy and how it invests in the shifting political economy of television in India.

State versus center: Reflections from West Bengal

The implementation of cable digitalization process faced problems with the issue of sticking to the deadline implemented by the centre. Out of the four metropolitan cities Chennai and Kolkata

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multiple subscribers directly or through one or more cable operators, and includes his authorized distribution agencies.

[65] Average revenue per user is equivalent to total revenue divided by the number of users during a period.

were the ones that sought an extension for the switchover. In the case of Chennai, the state government wrote to the centre seeking time till 31 December 2012 to complete the process and hence, they filed an affidavit in the court.[66] However, in the case of West Bengal, there was an unprecedented commotion during the cable digitalization rollout in 2012. While the initial deadline was 31 October 2012, when the regular cable broadcast was supposed to be switched off, it was extended till 15 January 2013. The West Bengal government refused to switch off analogue signals citing low penetration of STBs required for receiving digital signals. The Information and Broadcasting Ministry at the centre initially did not push for switching off of analogue signals in Kolkata. After the central government estimated that approximately 75 per cent of Kolkata households had installed STBs, the ministry issued a directive to stop airing analogue channels in some parts of the city beginning from 16 December 2012 and to completely switch off analogue signals after 27 December 2012. The Information and Broadcasting Ministry had initially threatened to cancel the license of MSOs in Kolkata if they did not switch off all analogue channels. The West Bengal government, on 17 December 2012, openly defied the directive and stated that it would not implement it.[67] However, the ministries softened their stand following a letter from MSOs, explaining how they were squashed between conflicting policies from the central and state governments. The West Bengal state government then announced that it would extend the deadline to 15 January 2013. Finally, by March 2013, Kolkata reached 90 per cent digitalization with 3.2 million total cable television subscribers.[68]

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[66] A. Subramani, "HC gives four more days for TV digitization," *The Times of India*, November 6, 2012, https://timesofindia.indiatimes.com/city/chennai/HC-gives-four-more-days-for-TV-digitization/articleshow/17109351.cms. Accessed 10 November 2012.

[67] Ajanta Chakraborty, "Mamata government defers cable TV digitization date yet again," *The Times of India*, January 8, 2013, https://timesofindia.indiatimes.com/city/kolkata/Mamata-government-defers-cable-tv-digitization-date-yet-again/articleshow/17936957.cms.

[68] Tech genie, "90 percent digitisation achieved in Kolkata: Siticable," *DreamDTH*, March 7, 2013, https://dreamdth.com/community/threads/90-percent-digitisation-achieved-in-kolkata-siticable.25347/. It is important to note here that there was wide media coverage on the issue at prime time which included panel discussions in the regional news channels where the members of the civil society and the political

The state government, through the announcement of Chief Minister, Mamata Banerjee, opposed the digitalization process on four aspects: first, the state government claimed that they were not consulted before this policy was made mandatory; second, the issue of affordability; third, the forced implementation of DAS during the festival month in Kolkata and fourth inadequate supply of STBs in the market. However, the benefits of digitalization remained undisputed in her rhetoric as well. The focus was on the deadline and readiness of the state in relation to the centre's diktat. Hence, the West Bengal state government asked for an extension of the deadline, threatening a statewide movement that may 'later spread to the whole of India'.[69]

The debate around 'deadline' gained impetus as the Cable Operators' Digitization Committee claimed that the requirement of STBs was around 40 lakh – twice the ministry's estimate. This was also the month of 'Durgapuja', one of the biggest festivals in West Bengal and hence, installation of STBs had not picked up pace, and only about 40 per cent of the total requirement was achieved. In 2012, the Kolkata Metropolitan Area had a total of eight MSOs; among them four were major MSOs and only one, Siticable, came out with the revenue-share arrangement with LCOs. The majority of the cable operators had declined to sign the agreement as they stated that the contents were arbitrary.

Therefore, on the one hand, the chief minister of West Bengal, Mamata Banerjee, asserted that the analogue television signals would not go off air in Kolkata from 1 November 2012; on the other hand, the centre seemed determined to enforce the deadline. As a result, the MSOs were in a difficult position, compelling them to opt for partial digitalization. In other words, the deadline meant that the MSOs who operate beyond the metropolitan area would continue to receive

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personalities addressed the issue of deadline. The common people were allowed to share their views often through dial-in facility.

[69] PTI, "Now, Mamata threatens agitation on TV digitisation issue," *India Today*, October 30, 2012, https://www.indiatoday.in/india/story/mamata-tv-digitisation-protest-120052-2012-10-29.

analogue signals may illegally re-route the analogue signals to the city network or they could use the modulator that can be used to convert digital signals into analogue.[70]

What is important to note in the context of these debates, proposals and allegations is that instead of focussing on the promises of benefits more critically, the entire turmoil is centred on the deadline. Can we interpret the focus on 'deadline' as a question of readiness? The readiness of the welfare state to distribute state benefits evenly and efficiently through new technologies. Then, is there an unbridgeable gap between the intended and the actual beneficiary of development?

Inherent contradictions in a digital ecosystem

Within this context, it is important to explore the issues that underline the domain of digitalizing governance and the experience of neoliberal India. India, with all its contradictions and social tensions, witnessing the people moving into a digital domain may also point to the translation of existing social conflicts into the digital domain.[71] Even though there are parallels between digital ecosystem and the classical public sphere, these parallels have their limitation. For instance, the digital ecosystem differs in key aspects to the classic public domain, and may function in a particular way that can be unique to the classical public sphere.[72]

Cable digitalization makes it evident that, contrary to its typical image of a fully automated digital distribution system, the digital ecosystem of governance is loaded with internal contradiction. Moreover, similar to other Digital India initiatives, and particularly like the

[70] Rith Basu, "Mamata signals cable war," *The Telegraph*, October 31, 2012, https://www.telegraphindia.com/west-bengal/mamata-signals-cable-war/cid/1279531.

[71] Ashish Rajadhyaksha, In the Wake of Aadhar: *The Digital Ecosystem of Governance in India,* (Bangalore: Centre for the Study of Culture & Society, 2013), 13.

[72] Nicholas Garnham, "'Information society' as theory or ideology: A Critical Perspective In Technology, Education And Employment In The Information Age," *Information, Communication & Society* 3, no. 2 (2000): 143.

UIDAI project, it also tends to grow locally, in diverse ways, depending on how different issues around digitalization are locally comprehended, and how the system is put to local use.[73] Hence, the centralized imagination of the state consequently presents itself as an obstacle to this organic growth.

It is not new for India to adopt the newest available technology and assume that it can now reach out to the remotest parts of the country. The famous 'last mile problem' has been primarily concerned with the fact that intended beneficiaries of state benefit do not receive what is meant for them: mainly due to gaps in the system from the receiver's end. Over the years, the term has been widened to include problems that affect most schemes of public policy, from disaster relief to housing and food subsidies, and even educational scholarships, where it is widely assumed that benefits do not reach those who need them the most. Similar to UIDAI project, even in the context of cable digitalization, it can be argued that there was growing evidence to show that the problem primarily lay in the structure of a centralized state being unable to even comprehend, or find appropriate mechanisms to either define or regulate, this new ecosystem.

Perhaps the typical reference to the attempt of overcoming the 'last mile' through technology was scientist Vikram Sarabhai's contention that the key reasons for problems in last mile delivery in India were linguistic diversity and geographical distance, and his suggestion in the late 1960s was that terrestrial television could rapidly overcome these problems by reaching out

[73] The UIDAI project is popularly known as the Aadhar project. The UIDAI has been mandated to assign a twelve-digit unique identification (UID) number to all the residents of India. The resident's demographic and biometric information including his/her photo, fingerprints, and iris scans are stored in a centralized database which is linked to the Aadhar number. Aadhar is considered to be the world's largest biometric ID system. However, the validity of Aadhar remains controversial as the Supreme Court of India has delivered judgements claiming Aadhar to be voluntary not mandatory. The Central Government still pushes the Indian citizens to link a range of services with their Aadhar numbers. See Ashish Rajadhyaksha, In the Wake of Aadhar: *The Digital Ecosystem of Governance in India,* (Bangalore: Centre for the Study of Culture & Society, 2013), 16.

to all of India's population wherever they are.[74] Considered by many as the classic example of India's fascination with government policies that banked on technology backed developmental rhetoric, the Sarabhai model offers the definitive example of developmental fascination with communication and media, linking key tenets of democratic citizenship to connectivity. The charting of media upon developmentalist-democratic priorities has been the prevailing attribute of communication technology since the development of the radio in the 1940s, and has provided the major motivation for consecutive technological developments from the 1960s wave of portable transistors to the terrestrial transponders of the first televisual revolution in the early 1980s, from the enthusiasm around satellite communications during Satellite Instructional Television Experiment (SITE)[75] and the Indian National Satellite System (INSAT) series,[76] to the arrival of wired cable networks in 1990s, followed by wireless networks and the contemporary initiatives towards DAS and future proposals for Digital India initiatives.[77]

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[74] Bharthur Parthasarathy Sanjay, "The role of institutional relationships in communication technology transfer: A case study of the Indian National Satellite System (INSAT)" (Ph.D. thesis, Simon Fraser University, 1989), https://summit.sfu.ca/item/3544.

[75] SITE was a project designed jointly by National Aeronautics and Space Administration (NASA) and Indian Space and Research Organization (ISRO) in 1975 to launch communication using satellites on an experimental basis. The experiment ran for one year, from 1 August 1975 to 31 July 1976, covering more than 2400 villages in twenty districts of six Indian states and territories (Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa, Rajasthan). Informational programmes for television produced by All India Radio (AIR) were broadcast by NASA's ATS-6 satellite in the rural areas. The project was a milestone as it paved the way for further development of India's own satellite programme, INSAT.

[76] Indian National Satellite System (INSAT) is a joint venture of the Department of Space, Department of Telecommunications, India Meteorological Department, All India Radio and Doordarshan and a series of geo-stationary satellites launched by ISRO to develop the telecommunications, broadcasting, meteorology and search and rescue operations. INSAT was commissioned in 1983 and is the largest domestic communication system in the Asia Pacific Region.

[77] Digital India is a campaign launched in 2015 by the Government of India under the leadership of Prime Minister, Narendra Modi to ensure that the Government services are made available to citizens

It is important to remember the key responsibility was conferred to broadcast media to somehow overcome the last mile between the late 1960s and during the Special Plan for the Expansion of Television in 1981. Such rhetoric created the context to the 1990s emphasis on electronification, as expounded by Nandan Nilekani while defining the 'last mile' in terms of technological delivery of state welfare, as well as its capability to overcome what has sometimes been termed as an unbridgeable policy gap between the intended and the actual beneficiary of development.[78] Through the 1990s and early 2000s, the major fascination with the concept of 'convergence' attempted to forge new coalitions between historically disparate agendas and to find a single solution for multiple ends.[79]

Is it at all useful to identify a linkage among mandatory DAS, Nilekani's view on electronification and Sarabhai's view on terrestrial and later satellite television? There are key similarities as all of them represent a somewhat benevolent state, or perhaps, under neo-liberal imperatives, a state–corporate structure compassionately adapting the most recent technologies to perform its tasks more efficiently. But the differences in their position are crucial, and constitute a marker of what has transformed in the post-liberalization period. The transformation

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electronically by increasing Internet. The initiative also includes plans to connect rural areas with high-speed internet networks. The three core components of the Digital India campaign are, (a) development of secure and stable digital infrastructure, (b) delivering government services digitally, and (c) universal digital literacy.

[78] Nandan Nilekani is an Indian businessman and one of the founders of the Indian multinational company, Infosys. Nilekani was the Chairman of the UIDAI and was one of the key persons involved in implementing Unique Identity Card (UID) or the Aadhar Card. See: Nandan Nilekani, *Imagining India: Ideas for the New Century* (New Delhi: Penguin India, 2009).

[79] Ashish Rajadhyaksha, *The last cultural mile: An inquiry into technology and governance in India*, (Bangalore: Centre for Internet and Society, 2011).

is partially in the altered nature of the state itself – in the new public–private partnerships being projected, and in that way the force of the transformation is being propelled.[80]

On the one hand, then, continuing the Sarabhai vision of a benevolent state apparatus trying to effectively deliver its benefit, the Union Cabinet in March 2015 proposed that, it would make it mandatory for every government organization to deliver public services in electronic mode. Thus e-Kranti- Electronic Delivery of Services was launched as an essential pillar of the Digital India initiative. While, on the other hand, contrary to the Sarabhai model and at the same time, avoiding the rigorous governmental service-delivery mechanism, Nilekani did not believe that the delivery of benefit would happen mainly with the government. Once the model was properly in place – once a beneficiary is identified and is 'registered' into the digital arena, the market would do the rest. He made the hopeful conjecture that "as regulations eased up, market players have brought in remarkable synergies into the rise of a single market. Freeing up the private sector has allowed entrepreneurial energy to work its way through infrastructure barriers and connect markets, thus building innovative, interlinked networks from scratch", and that the new focus on single market synergies is also driving reform towards national policies and infrastructure around critical sectors.[81]

However, in the early 1990s, the optimism around the idea of convergence and the prospects of public–private partnership, or the capacity of delivering public services through the marketplace has been a subject of significant concern for many in India. According to Amartya Sen, the role that markets play are contingent not only on what they can do but also on what they are allowed to do. There can be groups for whom the smooth functioning of markets may have positive or negative effects for their interests. If the groups whose established interests may be hurt by such functioning are politically more powerful and influential, then they can try to bend the trajectory in their favour. Confronting such influences, according to Sen, "has to occur not merely through

[80] Ashish Rajadhyaksha, *In the Wake of Aadhar : The Digital Ecosystem of Governance in India*, (Bangalore: Centre for the Study of Culture & Society, 2013), 19.

[81] Nilekani, *Imagining India.*

resisting—and perhaps even "exposing"—the seekers of profit from captive markets, but also from taking on their intellectual arguments as proper subjects of scrutiny".[82]

In the context of cable digitalization, Sen's explanation for why the market could have a historical resistance to the dissemination of public good becomes relevant. His explanation relates to why certain forms of dissemination that may have once emerged as a public good had to transform their premise in order to enter the market – and therefore, even if they are doing good, these forms may not qualify as delivery mechanisms for the public good. One is reminded of the use of satellite during the SITE project in 1970s and the use of satellites by private television networks during the rise of cable television in India in the early 1990s. His explanation may well have significant relevance as much for understanding electronification as a social benefit, on the one hand, and for large schemes of public policy that are grappling with the barriers of the market, on the other.[83]

Mapping the citizen and the beneficiary

The above distinction between citizen and beneficiary directly impacts the one issue that has dominated all discussion of DAS, namely for whose benefit the digitalization has been made compulsory. Here, it is important to consider the Supreme Court judgment on Aadhaar project. In October 2015, a Constitution Bench led by Chief Justice of India H.L. Dattu said the use of the Aadhaar card was purely voluntary and not mandatory. The bench categorically mentioned, "No person will be denied benefits under any government scheme for want of Aadhaar card".[84] Is it the neoliberal logic, through which Aadhaar is declared voluntary and DAS is made mandatory by the welfare state?

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[82] Amartya Sen, *Development as Freedom* (New York: Anchor Books, 1999), 122.

[83] Sen, *Development as Freedom*.

[84] Utkarsh Anand, "Supreme Court allows Aadhaar card use on voluntary basis for government schemes," *The Indian Express*, 16 October, 2015, https://indianexpress.com/article/india/india-news-india/sc-allows-aadhaar-use-for-other-government-schemes-on-voluntary-basis/.

This again brings us back to the 'last mile problem'. It is a common axiom of Indian social sciences that the method of describing the normative citizen, the discursive beneficiary of state development, paves the way for the far more complicated method of naming that actual citizen of India. Partha Chatterjee classifies the division between civil society represented by the citizen and political society represented by the category of 'population', to propose that, long before the Indian state came up with an adequate normative process of defining the citizen as holder of democratic rights and entitlements, it was able to extend key developmental systems of welfare well beyond the physical boundaries that characterized the norm: namely, the actually existing individuals in India, who could exercise citizenship in the full sense. It could do so by creating a parallel form of classification and enumeration that divided society into elementary units of population, in other words, numbers of people who could receive state benefit and nothing else. Unlike the citizen, he says, the concept of population is descriptive and empirical, not normative. Those listed under population measures do not normally have defined rights, but nevertheless exist as the beneficiaries of state welfare.[85]

On the one hand, the normative citizen provided the Constitutional foundation upon which the Indian state exists, since all welfare – including all of its fundamental rights – had to be in the name of the normative citizen. On the other hand, since the vast numbers of the actual people of India did not qualify as normative citizens, a second structure of distribution had to work over the first. To protect its civil society, the Indian state had to make the benefits of welfare available to a population that, in addition to being named through processes such as the census, the ration card and the bank account, was also named through the political processes of democracy. It was the job of the latter processes, according to Chatterjee, to transform not-quite-citizens into full members of civil society by extending the principles of associational behaviour through voting, through political membership etc.[86]

[85] Partha Chatterjee, *Politics of the Governed*, (New York: Columbia University Press, 2004).

[86] Partha Chatterjee, "Beyond the nation? Or within?," *Social Text*, no. 56 (Autumn 1998): 61. https://doi.org/10.2307/466770.

However, it is well known that the two methods were inherently conflicting as civil society viewed the political system with suspicion of being inherently corrupt, which meant that as per the norms of civil society functioning, the benefits of welfare could never efficiently penetrate through the barriers set up by political interest groups. In many ways, this has constituted the classic definition of the 'last mile problem' in media policy even in the digital age. And this can also be identified as the site of contestation between the West Bengal state government and the Information and Broadcasting Ministry at the centre, on enforcing the deadline for switching off the analogue television signal access in Kolkata.

What does the government policy regarding cable digitalization now do to this barrier? On its side, does an electronic delivery of services simply render this populational mechanism onto a digital platform, keeping it almost unaltered from its physical variant? Or would there also be a way by which the digital distribution now in the fullest possible sense – also transform the normative structure? In other words, would the complexity of a market-driven structure of overseeing entry into the digital ecosystem reconfigure the very concept of the 'last mile'?

The rhetoric of good governance

Technology, governance and human development are now the central concepts in the contemporary discourse and practice of media policy in a developing country. At the same time, they form the 'hot agenda' of the state-of-the-art social science research. Social science researchers, from various disciplinary positions, seek to explore these distinct, but intimately linked, ideas to measure the potential of public policy formulation and implementation.[87] Clearly, in this context, cable digitalization has much potential for exploration and theorization. India under rapid globalization, which has been going through a phase of transition both in governance and technological spheres since the first decade of the new millennium, also causes the spillover of policy discourse into larger public discourse.[88] Another essential, and perhaps even more fundamental, question is whether the Indian state is prepared yet for such

[87] Castells, Manuel (2000), The Rise of the Network Society, London: Blackwell Publishing.

[88] A. S. Bhalla, "Can 'high' technology help third world 'take-off'?," *Economic and Political Weekly* 22, no. 27 (July 1987): 1082–86. https://www.jstor.org/stable/4377183.

transformation? While it is evident that the state of e-readiness requires a lot of preparedness and time, the truth remains that it is important to continue to trace the "sources of tension between the imperatives of governance networking and those of a technology network, keeping especially the fate and the status of the ordinary people in mind".[89]

Often the claims of 'good governance', 'inclusive technology' and 'participatory development' in the policy papers appears to be hollow rhetoric. More critical and more intense analysis may expose fundamental flaws in the perception of the stakeholders themselves, who often fail to take into account the crucial point that technology needs to be at the service of people and not people at the service of the technology. It is important to scrutinize these policy developments to understand to what extent they are corresponding with the means of effective governance in order to be employed to develop new openings in the sphere of human development, welfare and wellbeing.

[89] Dipankar Sinha, "Networking-in-governance: Revisiting the digital horizon," in *In the Wake of Aadhar: The Digital Ecosystem of Governance in India*, ed. Ashish Rajadhayaksha (Bangalore: Centre for the Study of Culture & Society, 2013), 5.

CHAPTER 4:

The Disruptions and Continuities: Ethnographic Reflections

Over the years, television distribution has transformed in various ways and has become a profitable business for stakeholders. The development and growth of cable television distribution in India have been quite different compared to Europe and America. While in the United States, the Federal Communications Commission (FCC) adopted a predominantly laissez-faire position maintaining the rhetoric of the broadcasters that cable systems are serving the interests of the public and, thus, leaving the cable systems in the hands of private entities. In contrast, the interventionist model dominated in Europe, whereby principles of public interest were foregrounded, leading to the creation of a networked communications infrastructure considered a part of public utility and thus, required the creation of public monopolies.[1] The cable infrastructure was organized at the local and regional level as municipalities and local governments started granting a single concession per service area. This led to the creation of independent smaller cable operators.[2] In India, similar to Europe, the cable business was independent and restricted to serving a few households, but the business started without government intervention, unlike Europe. Hence, initially, the growth remained haphazard with several cable operators operating in a single area due to the absence of clear-cut policy.[3]

However, as days progressed, the government introduced The Cable Television Networks (Regulation) Act, 1995, to regulate the cable broadcasting sector. As discussed in chapter 1, the gradual changes in technology led to the entry of other players like the MSOs as the equipment became costly and the investments were high for the cable operators to bear. While in USA, consolidation of the cable infrastructure in urban areas gave rise to the first US pay- television network, Home Box Office (HBO), leading to cable operators

[1]Ian Goodwin and Steve Spittle, "The European Union and the information society: Discourse, power and policy," *New media & society* 4, no. 2 (2002): 225-249, https://doi.org/10.1177/146144480200400206.

[2]Tom Evens and Karen Donders, *Platform power and policy in transforming television markets* (London: Palgrave Macmillan, 2018), 17-18, https://doi.org/10.1007/978-3-319-74246-5.

[3] See Vanita Kohli-Khandekar, *The Indian media business* (SAGE Publications India, 2008)

encouraging and even investing in the establishment of cable channels that was available exclusively to their subscribers. Apart from introducing premium content for television through cable in USA, HBO was also the first channel to use satellite communications for the delivery of its programmes. This led to other channels like WTBS (1976), ESPN (1979), CNN (1980), and MTV (1981) becoming part of the cable systems and offering consumers premium content leading them to subscribe to pay television.

The scenario was quite different in Europe, where the growth of the cable industry was slow due to the lack of commercial broadcasters. Until the mid-1980s, the public service broadcasters enjoyed a monopoly position and many used terrestrial distribution networks for transmission. However, policymakers realized the importance of coaxial cable and fiber networks in creating information highways and, thus, started creating regulatory systems keeping in mind the changing technology. When the upgradation of network infrastructure became more costly for local communities running the cable systems, interested financial and corporate entities were asked to invest in upgrading the network infrastructure. Economic considerations played an important role in the broadcast policy of Europe during this time.[4] In India, too, like in Europe, the public service broadcaster Doordarshan had held its monopoly until the late 1980s but with the rapid changes in technology leading to the broadcast of foreign satellite channels like CNN by the local cable operators, the monopoly eventually collapsed. Also, the deregulation policies adopted by the Indian government opened up the space for other private satellite channels like Star TV (1991) and Zee TV (1992) to enter the broadcasting space. As a result, cable operators, who originally provided better reception to improve the quality of terrestrial transmission by connecting the buildings with a single antenna, expanded into showing movies on its wired video channel to hotels and into broadcasting privately owned satellite channels by investing in a dish antenna.

However, with the rise of channels, cable operators were required to invest more in cables, amplifiers, dish antennae and decoders to decrypt the signals from the broadcasters. The small cable operators found it difficult to bear the cost and resorted to paying a small fee to the MSOs for using their signals. The MSOs had the money and resources to set up head ends and control rooms to transmit the signals to the local cable operators. The MSOs were new players entering the cable distribution market and gradually became important stakeholders in the cable distribution business. However, unlike USA, no particular cable

[4] Evens and Donders. *Platform power and policy in transforming television markets*, 20-22.

channel was offered as a part of pay television services in India. Also, whereas in Europe, cable took off with the provision of telephony services and the consolidation of regional franchises into national and, in some cases, international entities, in India, the scenario was different. Though some local cable operators did set up master control rooms and headends to incorporate more channels, retention of the same became difficult due to a lack of resources. Also, large companies like Essel Group and Hathway began investing in the cable distribution business and started acquiring regional and local MSOs to have a national presence. In Europe and America, the launch of Digital Broadcast Satellite (DBS) during the 1990s led to a decrease in the popularity of the cable distribution business. In India, however, cable has remained popular among subscribers and still occupies the first position in reaching consumers. However, with the launch of the Direct to Home (DTH) service in India, cable has faced competition, but cable broadcasting still has the most extensive subscriber base in India.[5] Also, broadcasters like Zee have stakes in both cable distribution (SitiCable) and direct-to-home (DTH) (Dish TV) sectors. The Indian public service broadcaster also offers its DTH services free-of-cost to the subscribers. Over the years, with the widespread changes in technology and the popularity of television programmes among viewers, the industry has proliferated rapidly and become more organized. However, the widespread struggle between various stakeholders in the pre-digitalization era due to the lack of a coherent policy continued during the post-digitalization phase, mainly due to the nonpayment of dues[6] and the implementation of new policies[7].

When we look into the history of Indian television, especially the growth of cable operators in India, we find the beginnings of the cable industry to be somewhat unsystematic. As

[5] Krishna Veera Vanamali, "What explains the stagnation of the cable TV industry in India?," *Business Standard*, November 22, 2021, https://www.business-standard.com/podcast/current-affairs/what-explains-the-stagnation-of-the-cable-tv-industry-in-india-121112200082_1.html.

[6] Prithvijit Mitra, "Manthan subscribers get double whammy after Star withdrawal," *The Times of India*, December 13, 2018, https://timesofindia.indiatimes.com/city/kolkata/manthan-subscribers-get-double-whammy-after-star-withdrawal/articleshow/67073430.cms.

[7] Exchange4media Staff, "Implement NTO 2.0 by Aug 10: TRAI tells broadcasters," *Exchange4Media*, Jul 24, 2020, https://www.exchange4media.com/media-tv-news/tv-ad-volume-increased-by-2347-in-2022-tam-124716.html.

discussed in Chapter 1, initially, there was no need for licenses to open a cable business in India. Through the passing of The Cable Television Networks (Regulation) Act, 1995, the government aimed at organizing the cable industry through specific regulations. Though the Act consolidated the cable industry to some extent even then various unrecorded customs and practices were prevalent. For instance, the cable operators often had an understanding of not intercepting each other's territory; moreover, they habitually offered discounts to some consumers they knew personally. However, as the number of channels kept increasing and other players entered the cable business, problems among the industry stakeholders began to emerge. As the Cable Television Networks (Regulation) Act, of 1995 did not explicitly deal with any of the new developments, predicaments between the broadcasters, MSOs and cable operators ensued, leading to channel blackouts. The industry tried to bring transparency to the business by compelling the government to bring out a legislation keeping in mind the technological developments happening around the world.

It is important to mention that when we look at the scholarship of television studies in India, there has been a significant focus on the content and its effect on the audience. However, the study of the media industry and its stakeholders has been limited in the Indian context. Vanita Kohli's book traces the growth of print, television, film, music and radio through interviews with media industry veterans and media practitioners.[8] While the book does not offer critical analysis of the transformations over the years, it does put forward an understanding of the growth of the different media businesses in India replete with anecdotal accounts. The Indian media industry, especially the field of news production practices in English and regional language newspapers, has recently attracted academic attention.[9] Somnath Batabyal's work on news production practices in the Indian newsrooms of Star News and Star Ananda is another important work as it offers insight into the newsrooms'

[8]Kohli-Khandekar, *The Indian media business*, SAGE Publications India, 2008.

[9] There are very few studies focusing on the changing terrain of the Indian media industry in contrast to the overwhelming academic interest in content and audience related studies. See in this context: Ursula Rao, News as Culture: *Journalistic Practices and the Remaking of Indian Leadership Traditions*, (New York and Oxford: Berghahn Books, 2010); Per Stahlberg, *Writing Society through Media: Ethnography of a Hindi Daily*, (New Delhi and Jaipur: Rawat Publications, 2013).

corporatization and decision-making process.[10] The seminal research conducted by Vibodh Parthasarathi, John Sinclair needs to be mentioned, as their works have looked critically at the cable industry through fieldwork with the cable operators and the viewers.[11] Apart from these, there are hardly any studies looking into the working of the Indian media industry per se, though there have been significant studies on television content and its audiences. The reason behind this gap in research might be that conducting ethnographic fieldwork among people belonging to the media industry is considered a demanding and problematic task. The industry personnel are predominantly cautious to allow researchers and academicians as an insider to their daily work environment. This anxiety is expressed in the words of Batabyal, as he claims,

> Most media outlets do not allow outsiders the kind of proximity required to conduct meaningful research. Despite the cut-throat competitiveness of India's television news media, the number of contacts I had was quite unusual. Even so, it took more than two years of emails, phone calls, calling in favours and plain, old-fashioned pleading before I could start the work.[12]

For a researcher to gain access to the inner circle of the media industry without any previous contact is exceedingly difficult. While the digital media organizations are relatively open about allowing the presence of field researchers, the apprehension of allowing a researcher to conduct field study within one's own office space remains a key hurdle in print and electronic media sector.

The stakeholders have been skeptical of each other during the transition phase; thus, getting access to most of them has been quite tricky. Most cable operators who started this business

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[10] Somnath Batabyal, *Making news in India: Star news and Star ananda*, (New Delhi: Routledge India, 2014).

[11] Vibodh Parthasarathi, Arshad Amanullah and Susan Koshy, "Digitalization as formalization: a view from below," *International Journal of Digital Television* 7, no. 2 (2016): 155-171, https://doi.org/10.1386/jdtv.7.2.155_1.; John Sinclair, "Globalization and grassroots: Local cable television operators and their household subscribers in India." *Media Asia* 32, no. 2 (2005): 69-77, https://doi.org/10.1080/01296612.2005.11726776.

[12] Batabyal, *Making news in India*, 20-21.

more than twenty years ago lacked formal education and learned about the business on the go. With the constant changes in the industry, in terms of technology and regulations, most of them initially had the unwillingness to talk to a researcher. Though the discomfort was more visible among the cable operators, the other key industry people like the equipment manufacturers, suppliers and the MSOs were also not entirely open to the idea of talking to a researcher about the industry. As pointed out by one of the respondents, the reason behind this disinclination might bethe fact thatno one from the field of scholarly researchhad shown an interest in understanding the dynamics of the cable industry by engaging in a dialogue with them.However, in this chapter I seek to understand the fraught relationship among the local cable operators, multi-system operators, broadcasters and the consumers in the context of mandatory digitalization of cable television.

The perils of doing multi-sited ethnography

Using ethnography as a method, I assemble my primary source materials to understand the digitalization of television and its implications for the stakeholders.

Ethnography has been chosen as it helps me explore the field of cable television in India and understand the diverse narratives surrounding the digitalization of Indian television. The growth of cable television in India has been haphazard, so the changes introduced through the amendments brought into the Cable Television Networks (Regulation) Amendment Act 2011 made the industry more systematic. As the claim of the government, the broadcasters and MSOs in vouching for the Act has been to bring in more transparency into the cable distribution system, understanding the field's narratives became important to understand whether transparency has been achieved and for whose benefit. It is also important to point out that my position as a female researcher exploring the field of cable television was quite unanticipated for the respondents. Also, most of them were quite skeptical to allow me to explore the field leading to the postponement of dates and appointments. However, in-depth interviews and formal and informal conversations helped me make sense of the position of cable television in India.

Ethnography is well-respected for its capacity to take what people do seriously, recognizing practice on its own terms as something that makes sense for those individuals, and employing an open-minded approach to determining how it makes sense, and what social formations arise. Ethnographers are able to look beyond the visible, allowing for the analysis of the unsaid assumptions that constitute the foundation of any given social setting and

provide the illusion of normalcy to behaviours that may otherwise be the product of radical change.[13]

Ethnography has been used by anthropologists for quite some time now. The traditional notion of ethnography used earlier in anthropology, known as the Malinowskian model, has changed with the advent of globalization to include diverse actors and multiple sites. Marcus (1995) points out,

> "The other, much less common mode of ethnographic research self-consciously embedded in a world system, now often associated with the wave of intellectual capital labeled postmodern, moves out from the single sites and local situations of conventional ethnographic research designs to examine the circulation of cultural meanings, objects, and identities in diffuse time-space." (P 96)[14]

For Marcus, multi-sited ethnography involves building a plan to follow the connections, bonds, and presumed relationships between the people involved in the study.[15]My aim has been to unravel the anxieties and opinions of stakeholders at different positions in the hierarchy related to digitalization of cable television. As the power exercised by the stakeholders depend on their position in the hierarchy, it becomes important to make sense of the relationships and bonds among them through ethnographic narratives. The use of multi-sited ethnography in my research helped me to understand the roles played by different stakeholders in the digitalization of cable television in India. Formal and semi-formal interviews were conducted with the stakeholders to understand their views on cable digitalization, the changing role of stakeholders, the audience responses to the same, and the constant changes in the policy documents initiated by the Telecom Regulatory Authority of India (TRAI).

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[13] Christine Hine, *Ethnography for the internet: Embedded, embodied and everyday*, (London: Routledge, 2020), https://doi.org/10.4324/9781003085348.

[14] George E. Marcus, "Ethnography in/of the world system: The emergence of multi-sited ethnography." *Annual review of anthropology* 24, no. 1 (1995): 95-117, https://www.jstor.org/stable/2155931.

[15] Marcus,"Ethnography in/of the world system," 98.

In trying to get access to the key people associated with the cable industry, I attended the Cable TV Show organized by Cable TV Equipments Traders & Manufacturers Association (CTMA) each year at Science City. Here, I approached the equipment manufacturers, the trade publications, the MSOs and the cable operators' associations for my ethnographic fieldwork. While most of them later agreed to an interview by sharing their contacts, some were non-responsive or reluctant to talk when follow-up communications were made. I interviewed twenty-three local cable operators from Kolkata, South and North 24 paraganas and conducted interviews with audience participants. It is important to mention that since most of the local cable operators were apprehensive about my interest in the cable industry, they were uncomfortable allowing me to record their interviews. However, notes were taken from the conversations I had with the respondents. I also conducted formal and semi-formal interviews with MSOs operating in West Bengal, members of the cable operators' associations, cable television equipment manufacturers, professionals from the cable TV industry publishing trade magazines and professionals working for the broadcasters. Apart from these primary data, I also looked into online interviews, panel discussions and newspaper reports related to the cable TV broadcasting industry to make sense of the shifts in the cable television domain.

I tried to establish rapport with the local cable operators so they would be able to speak at ease with me, and most of them opened up about their anxieties after a few sessions. The viewers, too, talked freely during the semi-formal interviews. However, the stakeholders occupying the upper positions of the hierarchy were more reticent in their communication and were often indisposed to talk about their trade practices. Nevertheless, the data gathered from these various sites helped me to organize my findings around particular themes.

With this brief overview of my experience in doing the fieldwork, let me discuss the various themes that emerged from the ethnographic interviews conducted with local cable operators, multi-system operators, broadcasters and the consumers.

The inevitability of digital and the unpreparedness of the state

Changes occurring in the field of broadcast technology worldwide are a point of concern to the stakeholders. The broadcasters, MSOs, most of the LCOs, equipment manufacturers and experts agreed to the supposed inescapability of digital technology. An MSO underlined this with a clinical analogy:

> *When we discovered a treatment for tuberculosis, cancer soon followed. When we discovered a cure for cancer, we were told that HIV was more dangerous than tuberculosis; when we discovered a cure for HIV, we were told that AIDS was more dangerous than cancer. This is real life right here. Similarly, in the field of the analogue realm, many issues have been resolved, and new issues have arisen; yet, this is the way of life and the way things are really unfolding.*[16]

It was not that transitioning to the digital mode was devoid of any problems, but it was a way of advancement to make progress for the future. Another MSO claimed:

> *The industry has benefited and suffered from the change. A significant financial commitment was required from MSOs. Most of the funds were used to digitally convert the headend and upgrade the set-top-boxes. That is a risk for the MSOs to take, so that is a negative, but it is also a potential future advantage in terms of technology, so that is a benefit. Whatever technical advancements you make will always provide you an edge in the future.*[17]

Digital technology was considered advantageous for the business though the MSOs and the LCOs stressed the fact that the broadcasters are the ones to benefit the most from it. It is also important to note that digitalization in the television industry was mandated by International Telecommunications Union (ITU), whereby all member countries were required to shut down their transmissions by 2020.[18]This was done in order to maximize the benefits of digitalization for all the member states through ITU's policies of harmonization.[19]Though the benefits of digitalization are claimed to be immense by the stakeholders, one cannot forget

[16] Interview, July 19, 2018.
The names of the respondents are either not mentioned or changed, as majority of them were reluctant to talk about emerging developments in the field of cable television distribution.

[17] Interview, July 25, 2018.

[18]Shanti Kumar, "Digital Television in Digital India." in *Global Digital Cultures: Perspectives from South Asia*, ed. by Aswin Punathambekar and Sriram Mohan (Michigan: University of Michigan Press, 2019): 53. 10.3998/mpub.9561751.

[19]Kumar, "Digital Television in Digital India," 55.

the high costs of digital gadgets and equipment furthering the digital divide. As one of the viewers mentions, *"The cost of the set-top box was significant for me. I was helpless since the cable company insisted that I purchase a set-top box in order to view television. In contrast to other parts of Kolkata, we were the first to be subject to this regulation (i.e., the Conditional Access System [CAS], which preceded mandatory digitization)."*[20]

Many of the viewers were not aware of the exact reasons behind the mandatory digitalization but were forced to comply as they thought that there was no other option available for them. Though the DTH operation had started in India during the time, majority of the viewers were initially unaware of it and relied more on the cable system as most knew the cable operator personally. Almost everyone in the broadcasting, MSO, and LCO industries agreed that the transition to digital technology is inevitable. However, some have voiced concerns about who stands to gain the most from the transition. Digital made it easier for MSOs and broadcasters to track cable subscribers, fostering openness in the industry.

The majority of viewers, however, adapted to the change since it was mandated by the government. Proper awareness about the need for the switchover was limited among the viewers and the affordability of the digital set-top box to watch channels remained difficult for some. Though the MSOs claimed that initially they offered the boxes at a subsidized rate to the consumers but still the affordability of the boxes remained constricted for many. However, many individuals in underdeveloped countries struggled to afford the set-top boxes that the government required of them because of their steep cost. As mentioned by the LCOs and MSOs during the interview, the reason behind this was mainly the non-availability of set-top boxes in India. The MSOs had to spend a considerable amount of money to import them from other countries to fulfill the demand for mandatory digitalization.

A cable operator commented, "*Most of the set-top boxes are imported from countries like Korea and China. The MSOs order the boxes and we distribute them. The demand for the boxes is high but production is slow."*[21] Another LCO remarked, *"There are very few Indian companies making the boxes. The government implemented the policy without any proper*

[20] Interview, September 17, 2018.

[21] Interview, June 25, 2018.

market check. To cater to the needs of so many consumers is difficult, if India does not have a production unit. Hence, we are not being able to stick to the timeline."[22] One more MSO echoed the same concern:*"Sticking to the deadline will require making the boxes available to the consumers. We had to work hard towards that. Not many production units were there in India. So, the majority of the boxes are imported, and we tried to offer them to the consumers on subsidy."*[23] Most of the respondents agreed that Indian companies were not equipped to fulfill the required demand of supplying set-top boxes for the TV viewing population.

This unpreparedness can be read as what Bhabha has explained as "a deliberate, political and policy-based sense of unpreparedness, which gives them maximum latitude to work with whatever they want to do; to change whatever regulations they want; and to give executive orders however they want to".[24] This unpreparedness is questionable since the process of digitalization started from 2003. From the unavailability of set-top boxes, uncertainty among the consumers to the confusion related to the deadline of switchover, all point to a sense of unpreparedness that could have been avoided unless the state use "the unpreparedness as a strategy of governance".[25]

The everyday-ness of television

A number of people interviewed stressed the importance of television in everyday lives while discussing the nature of the change ushered in by the mandatory digitalization of cable television. "*Television is an important part of the various activities that people do in a day. So, it will stay so, atleast for the next few years.*"[26] mentioned a leading MSO. For viewers, too, television was an essential part of their life, as mentioned by one of the viewers, "*I can't*

[22] Interview, July 27, 2018.

[23] Interview, September 16, 2018.

[24] Homi Bhabha, "The state of unpreparedness" 2021, *Expeditions*, www.joinexpeditions.com/exps/113.

[25] Bhabha, "The state of unpreparedness," 2021.

[26] Interview, June 10, 2018.

imagine my life without TV. After the day's work, it is the TV that provides me relief."[27] Television's connection to the practices of everyday life has been pointed out by scholars within the field of audience studies, like Silverstone (1994) have stressed television's role as an agent of cultural transformation, communicator and as definer of reality through the tactics and strategies of texts and the related practices of the audience.[28] So, television's role in shaping the everyday life of the audience and the people working to produce the programme is not new. Notably, the stakeholders emphasized the difficulty the elderly confront in keeping up with these innovations. "*TV will not be extinct till the time your fathers and uncles are there",* said one of the MSOs interviewed. "*Your mother will not be able to access TV on the internet using the Jio TV app. Even for a young boy who watches TV on the internet, the TV will continue to be a requirement. Given the various complications in using these apps, it is certain that most users in India will not have any idea what they are doing." [29]*

Virtually all participants highlighted the imminent need for a technological shift, but they also underscored the central role that TV sets play in the daily lives of subscribers. An MSO explained,

> *As technological advancements continue, the answer may vary. While Jio is building the network underground, local cable operators are still connecting through cables from one lamp post to another . . . Nonetheless, cable TV is here to stay, although it is likely to undergo significant transitions in the next few years. TV may become wireless. Teenagers today use computers instead of televisions. Technology cannot be halted. We consider mobile a revolution because it is equally operational in the metropolis and villages. So, rural areas are not lacking in technological advancements. Within the next five to six years, there will be a shift in the cable*

[27] Interview, September 19, 2018.

[28]Roger Silverstone, "Let us then return to the murmuring of everyday practices: a note on Michel de Certeau, television and everyday life," *Theory, culture & society* 6, no. 1 (1989): 86, https://doi.org/10.1177/026327689006001004.

[29] Interview, June 19, 2018.

sector; TV will still exist, but it will use a different platform. Through wireless connectivity and internet technologies, a shift can come in.[30]

The emerging practice of cord-cutting and cord-shaving is implicit in these comments by local cable operators. Nevertheless, these narratives, however, highlight the ways in which the advent of digital cable TV has allowed for the emergence of new kinds of audience-hood and enabled audience researchers to create a new understanding of everyday involvement with the media. These insights lead us to the pivotal technological apparatus in question—the set-top box.

The changing attributes of the Set-top Box

However, it is important to look at how the stakeholders lay importance to the television set and the set-top box apparatus. For some of the industry segments, the installation of set-top boxes has brought transparency into the entire cable business in terms of knowing the number of subscribers and understanding the tastes, habits and behaviour of the audience. Though the industry claims that not all set top boxes in India are Return Path Data (RPD)[31] ready but still, the stakeholders do get access to the viewing habits of some of the subscribers in terms of data which they can use to gain monetary benefits. It is not that earlier the subscriber's consuming habits were not monitored (TAM Media Research earlier monitored it[32] and now it is done by BARC[33]). However, only a handful of consenting subscribers were chosen from the entire population where meters were installed to record their viewing patterns but with the onset of mandatory digitalization, it has become easier for

[30] Interview, July 20, 2018.

[31]Return Path-capable set-top boxes may retain information about what was watched and for how long and send it back to the MVPD (Multichannel Video Programming Distributor) service provider.

[32]TAM (Television Audience Measurement) is the specialised branch of media research, dedicated to quantifying (size) and qualifying (characteristics) this detailed television audience information.

[33]BARC (Broadcast Audience Research Council) India is an organisation entrusted with designing, implementing, supervising, and owning an accurate, dependable, and timely television audience measuring system for India. Using a sample panel of over 50,000 houses, it assesses the TV viewing patterns of the nation's 210 million TV households.

the MSOs to get access to the viewing patterns of the viewers. The industry is exploring opportunities to use the data from the set-top boxes in conjunction with BARCs data.[34] So, somehow in this entire process, the consumers have no other option but to give in to the demands of the industry if they wish to continue watching television.

The hardware of the television has played a crucial role in shaping television as a social and cultural institution.[35] Also, over the years, STBs have evolved to include more features and functions, keeping in mind the global geographic, technical and policy differences.[36]As one of the MSOs explained: *"One of the first digital personal devices was the mobile phones via which you could only converse. Nothing other than that was possible. Then you were required to enter EPG (electronic Programme Guide) and other facilities. Then the need to make it multilingual was felt. So constantly there is a change happening."*[37]

The Indian government, in the year 2018, even proposed installing chips in the new set-top boxes of the Direct-to-Home(DTH) customers in order to get better data about the channels watched, including their duration and also to "help advertisers and the DAVP to spend their advertising expenditure wisely."[38]However, issues related to the invasion of privacy of the

[34]Suchi Bansal, "Case for set-top box data as an add-on to people meters," *Mint*, February 11, 2021, https://www.livemint.com/opinion/columns/case-for-set-top-box-data-as-an-add-on-to-people-meters-11612979107139.html.
Also see: Krishn Kaushik, "Chip in TV set-top boxes: Why govt wants 'accurate' viewership data." *The Indian Express*, April 19, 2018, https://indianexpress.com/article/explained/chip-in-tv-set-top-boxes-why-govt-wants-accurate-viewership-data-barc-ratings-smriti-irani-5143088.
Swati Mathur, "Electronic chip in set-top boxes not tantamount to surveillance: Govt sources," *The Times of India*, April 17, 2018, https://timesofindia.indiatimes.com/india/electronic-chip-in-set-top-boxes-not-tantamount-to-surveillance-govt-sources/articleshow/63794842.cms.

[35]David Hesmondhalgh and Ramon Lobato, "Television device ecologies, prominence and datafication: the neglected importance of the set-top box," *Media, Culture & Society* 41, no. 7 (2019): 961, https://doi.org/10.1177/0163443719857615.

[36]Hesmondhalgh and Lobato, "Television device ecologies, prominence and datafication, 962.

[37] Interview, June 25, 2018.

customers were raised across several quarters of the industry.[39] Also, since installing the microchip was not a part of the initial reference from the Ministry, it was not included in the new DTH licenses that TRAI gave in 2014; hence, TRAI asked for an official letter from the Ministry if recommendations regarding this matter were desired.[40]The set-top boxes in India have evolved over the years to include new features.

The MSOs also acknowledged making a profit out of the new hardware in every way possible. An MSO mentioned,

> *Let us pretend you are about to throw away the empty Bisleri water bottle when the thought occurs to you that you could increase its worth. The bottle is melted down into new plastic. Our network operates in a similar fashion, with an eye on repurposing unused resources. On average, it takes a desktop or laptop computer roughly 27 seconds to start after being turned on. Similarly, we monetize the set-top box's booting time by showing advertisements during that period. For example, when my set-top box is starting up, downloading the channels, and updating itself for the day, you will see an ad for Republic Channel, followed by an ad for Naaptol Channel. You have to wait for the computer to power up since you cannot operate the buttons. We monetize the same scenario on set-top boxes.*[41]

Thus, several strategies are being used by the MSOs to use the television hardware and the associated software to extract revenues. However, TRAI has regulated the placement of channels in the Electronic Programme Guide (EPG) based on genres decided by the broadcasters asking the DPOs to also put channels in the same language together by not changing the LCN number for atleast one year.Apart from this, no other regulations regarding the EPG insertion ads, boot-up screens, volume bar and menu bar were mentioned

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[38]PTI, "I&B Ministry proposes installation of chip in new TV set-top boxes," *The Economic Times*, April 15, 2018, https://economictimes.indiatimes.com/industry/media/entertainment/media/ib-ministry-proposes-installation-of-chip-in-new-tv-set-top-boxes/articleshow/63770780.cms.

[39]Bansal, "Case for set-top box data as an add-on to people meters."

[40]Kaushik, "Chip in TV set-top boxes: Why govt wants 'accurate' viewership data."

[41] Interview, July 19, 2018.

in the NTO but charging a marketing fee for the promotion and advertisement of services was considered to increase the business and hence, kept outside the purview of any regulation.[42]So, by means of the specificities of the platform presented by digitalization, the MSOs promote a particular channel, content, product or service. The viewers, in most cases, cannot skip the promotional content.

Also, since the concept of a set-top box is evolving with the rise of streaming media companies like Amazon and Netflix, it is crucial to understand the changing role of television's hardware and software in shaping people's choices and preferences. With the launch of Android set-top boxes by the MSOs like SitiCable and Meghbela offering internet and subscription to streaming apps along with live television channels, viewers can navigate both live television channels and subscribed streaming services via a set-top box.[43] So, scholars like Hesmondhalgh and Lobato (2019) stress on understanding the different device combinations and their interrelationship, which they term the television 'device ecologies.'[44] It is important to mention that almost all of the viewers interviewed used a basic set-top box through which they received channels they had subscribed. *"I am not aware of the functions of the box. I can just change the channels as I remember the channel number. I really am not aware of the other functions."*[45] A number of viewers replied in a similar manner. Hence, for most of the viewers interviewed the set-top box was like an additional piece of equipment performing the same functions that a traditional television set did. However, there were a

[42]TRAI, "The Telecommunication (Broadcasting And Cable) Services Interconnection (Addressable Systems) Regulations (No.1 of 2017)," March 03, 2017, 1-110, 99, accessed December 2, 2020, https://www.trai.gov.in/sites/default/files/Interconnection_Regulation_03_mar_2917.pdf.

[43]See: ANI. "SITI Networks Launches Next-generation Set Top Box SITI Playtop Magic in India," *ANI*, March 23, 2021, https://www.aninews.in/news/business/business/siti-networks-launches-next-generation-set-top-box-siti-playtop-magic-in-india20210323161851.
Tanya Singh Thakur, "Meghbela Broadband Android Box Plans Detailed." *Telecom Talk*, February 20, 2021, https://telecomtalk.info/meghbela-broadband-android-box-plans/336861.

[44]Hesmondhalgh and Lobato. "Television device ecologies, prominence and datafication: the neglected importance of the set-top box," 966.

[45] Interview, September 21, 2018.

few for whom the set-top box provided an add-on to the traditional television experience. One of the viewers mentioned, "*I use the EPG to search for channels and also to learn a bit about the timing and nature of the programme. But apart from that, I have not used it for anything else. I do not think programmes can be recorded here."*[46] However, the extra features offered by the non-HD set-top boxes were limited to Electronic Programming Guide and Messages from the MSOs which many viewers were unaware of. Some viewers also expressed a grudge for both extra investment and the need to handle a piece of added equipment. *"I do not know why they made it mandatory for us to buy this device. I had to pay around Rs 2100 for this. It is costly! I also have to use two remotes, one for the TV and the other one for the set-top box. All this is complicated."* Somewhat similar opinions were voiced by other viewers also. *"Earlier, I had to spend around Rs 200 to watch TV. Now I have to spend Rs 350. So, how is it beneficial for me? I do not know. However, Pankaj [Local cable operator] told me that the cable reception is going to be better in this system."*[47] So, though the viewers were aware of using the STB, many were either ignorant or uninterested in the changes it brought for them regarding the choice of channels or better quality signals. They continued to depend on the local cable operators to choose channels and packages.

Different observations and opinions on the set-top box, mentioned above, in a layered manner, underlined the economic realities that have emerged as a result of technical advancements through the set-top box and revealed the uncertainty that may also provoke or intensify conflicts of interest between stakeholders in the ecosystem.

The conflict between 'choice' and 'affordability'

Though several promotional campaigns in favour of the digital switchover claimed that the digital addressable system would offer more choices to the customers, the customers had some specific objectives based on which they chose the channels. Even though the consumers could choose individual channels but the channels offered as part of the bouquet were more economically viable for the customers as they were offered for a lower price. The broadcasters mainly did this to attract advertising companies by bundling the less viewed channels in the bouquets of channels, including channels with high viewership. This way,

[46] Interview, November 6, 2018.

[47] Interview September 26, 2018

they could show a steady base of customers subscribed to these not-so-popular channels. A cable operator explained:

> *"During the era of analogue television, there were around 80 to 85 channels at this pace. More importantly, all of these 80-85 channels were accessible, meaning that anybody could watch them if they so desired. Let us say you watch roughly twenty hours of TV each week. If I were to sell you a package of eighty channels, you could easily tailor it to your watching habits by adding or removing channels. However, the fact that we are receiving three hundred channels is impressive on paper but provides no real value to users. An individual exclusively watches the networks that he has specifically chosen. Whether you have 80 channels, 200 channels, or 500 channels does not matter."*[48]

"If you ask me about the à la carte channels", another cable operator stated, "*we have very few subscribers of à la carte channels. Maybe only 10-20 customers prefer à la carte. We mostly run on packages because there are many advantages to a package. In the bouquet, you get more for less money and When broadcasters and MSOs agree to offer more channels for less money, consumers benefit and are more likely to tune in to the commercials. Suppose, Godrej wants to give an ad, and if Godrej sees that under an MSO, every subscriber has subscribed to that channel, then it will be encouraged to give advertisements in that channel."*[49]

To put it another way, if an average person wants to exercise his or her choice, it will conflict with his or her capacity to pay for it. While the digital switchover has been time-consuming and expensive for many stakeholders, the industry insiders in their interviews emphasized the importance of making the consumers part of this transformation by convincing them to invest in the set-top boxes. The MSOs initially imported the set-top boxes from Korea and China as there were not enough manufacturing units in India. However, since the set-top boxes were quite costly for a lower-income household, the MSOs claimed to offer subsidies. The Indian government, it is important to note, did not offer any subsidy to the consumers to keep the implementation of the digitalization drives on the

[48] Interview, January 6, 2019.

[49] Interview, April 9, 2018.

track.[50] This, in fact, left out many people from watching television, especially people from low-income households. As one of the MSOs affirmed,

> *Any technology is always capital intensive, so earlier, we had to spend about Rs 2000 to buy a set-top box, and we gave it to the operator for Rs 1200. Naturally, we offered Rs 800 as a subsidy. That was the capital we had invested as we had provided the subsidy ourselves. After digitalization, most of the MSOs have invested hundreds of thousands. Such investment was necessary as the entire backend had to be digitalized. The headend had to be digitalized, the boxes had to be purchased; so all the investment has gone in it.*[51]

So, according to most of the MSOs, the set-top boxes were distributed to the viewers at a loss in order to make the digitalization of cable broadcasting drive a success. The viewers had to shell out about Rs. 800 to 1250 for a non-HD set-top box which was also offered on rental plans by some MSOs.[52] One Local Cable Operator asserted:

> *The MSO insists that government subsidies are optional. According to them, they are subsidizing the boxes and giving out boxes at a loss is necessary for the sustainability of their company. The monthly payment they get from the cable company will benefit their firm. They continue to tell us this narrative.*[53]

However, many of the cable operators interviewed were skeptical regarding MSOs claiming to offer subsidies for the boxes. Also, some of the LCOs were unhappy about not being able to make any money by distributing the boxes among the customers. As one of the cable operators from South Kolkata mentioned:

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[50]PTI, "No subsidy for digitalisation but implementation on track: Government," *The Economic Times*, March 27, 2012, https://economictimes.indiatimes.com/industry/media/entertainment/no-subsidy-for-digitalisation-but-implementation-on-track-government/articleshow/12429441.cms.

[51] Interview, July 25, 2018.

[52]Bidisha Sarang, "Digital deadline is 31 October: All you wanted to know about Set Top Box," *First Post*, October 22, 2012, https://www.firstpost.com/living/digital-deadline-is-31-october-all-you-wanted-to-know-about-set-top-box-498575.html.

[53] Interview, August 11, 2018.

> *Now, if you argue with the MSOs that cable operators are selling the customers their boxes, why should not we get commission? They will say we are buying the box at a very high price. Try to understand that the cost of the box is high because it is coming as shipments or on plane, and there is a duty on that, etc., and then they will give you a figure to back up what they are claiming.*[54]

The MSOs claimed to be offering subsidies for the benefit of the customers but like USA or UK, the government did not provide the set-top boxes to low-income households at a subsidized rate, though the new rules made it mandatory to view television via a set-top box. Here, it is essential to mention the importance of considering the concept of affordability while making a policy affecting billions of households. Television is a part of the lives of billions of people as it provides both information and entertainment, so a policy related to the mandatory digital switchover of television should look into the matter of affordability too. According to the UK telecommunications regulator Ofcom, a good or service is considered affordable for a consumer if the consumer can purchase it without suffering undue hardship?[55]"Affordability" refers to a consumer's ability to pay for and utilize the service without cutting back on spending on other necessary services and commodities. Therefore, affordability is not merely a monthly cost issue but rather a complex one with several factors. No longer is it sufficient to correlate affordability with lower prices or greater value for money. This is because products should not put an excessive financial strain on customers if they come in a wide range of options that cater to both heavy and casual users.[56]

Affordability has been envisioned broadly as a policy objective and an economic constraint. A combination of pricing and income variables alongwith the subjective value derived by an individual from spending scarce resources on goods and services, can be understood as affordability. Innovations in technology over the years have improved the quality of the

[54] Interview, June 25, 2018.

[55]Ofcom, *Affordability of Communications Services Summary of findings*, (UK: Ofcom, July, 22, 2021), https://www.ofcom.org.uk/__data/assets/pdf_file/0015/222324/affordability-of-communications-services-summary.pdf.

[56]Katerina Pavlidis and Wayne Hawkins, "Affordability and 21st century telecommunications services," *Journal of Telecommunications and the Digital Economy* 3, no. 2 (2015): 27-36, https://doi.org/10.18080/jtde.v3n2.10.

product while reducing the costs and thus, becoming accessible to the majority of the customers. So, products once considered luxuries to few become necessities for many.[57]This has been true for communication services and the government mandate towards compulsory digitalization of television was a demand of the industry; thus, they took an active role in investing in the set-top boxes and offering them at a subsidized cost to the consumers. The government resorted to private entities in India to make the necessary arrangements for the shift without offering benefits to low-income cable subscribers.

Improving economic participation opportunities has been considered an important policy initiative. The affordability of a new technology can act as a barrier to adoption and, thus, needs to be a part of the policy initiative. [58]In developed countries like USA, government created funds for offering subsidy coupons for the digital TV converters to initiate a smooth transition from analogue to digital, or in UK where Digital Switchover Help Scheme was initiated for providing subsidized set-top boxes to elderly or vulnerable groups during the switchover. Since, in India, many low-income groups faced challenges in buying set-top boxes, some kind of government subsidy might have been beneficial. Though set-top boxes were offered at subsidized rates by the MSOs, no initiative was taken by the Indian government to protect the interests of low-income groups. Instead, the regulatory body TRAI mandated the switching off of analogue signals strictly. Since there were not enough set-top boxes available in the country to meet the demands of the consumers, it became difficult for the MSOs and LCOs to maintain a strict deadline. However, it remains a known fact that in developing countries, policy gaps remain embedded in the policy due to lack of proper planning. As an MSO mentioned in the interview, "*We imported set-top boxes from countries like South Korea and China. In India, there were hardly any manufacturing units. So, we had to depend on foreign countries. Still, we faced difficulty in meeting the demand and supply."*[59]

[57]Catherine Middleton, "Literature Review: Affordability of Communications Services." *Policy Commons Report*, 2016, 4-7. https://policycommons.net/artifacts/2033903/literature-review/2786346/.

[58]Middleton, "Literature Review: Affordability of Communications Services", 10.

[59] Interview, June 27, 2018.

Though the MSOs had to invest a significant amount of money in obtaining the boxes, they were still content about the transparency brought by implementing the Digital Addressable System, which meant systematic business for them. As one of the MSOs explained:

> *Earlier, LCOs paid us money for 100 points even when they ran 1000 points. There was, therefore no check and balance. There was no oversight. There was no trade. As a result, the firm was extremely unorganized. There was no logic to the chaos. It formerly operated in a fairly traditional and ad hoc manner without a formal business strategy. If I know that 100 customers would purchase from me at a cost of Rs 100 each, I am aware of my income and expenses and may make my business decisions on them. Perhaps 100 individuals will buy at that moment, but how much will they pay? I know nothing about it, although my bills and these other factors are very stable. So, this leads to something hypothetical. I may either earn or lose money. That cannot be the foundation of a company model. Therefore, the business has become more professional, structured, transparent, and methodical due to digitization and addressable system.*[60]

So, in the Indian case, achieving affordability for the consumers is contingent on the MSOs and broadcasters, who were private entities initiating the digitalization drive mandated by the government. There is no doubt that many deliberations by the broadcasters and MSOs with the government led to the initiation of the digitalization drive in the television industry; hence, offering set-top boxes at subsidized rates was in their own interests. Hence, the conflict between 'choice' and 'affordability' in the context of the digitalization of cable television for the ordinary consumer cannot be resolved.

Informal benevolence and the Local Cable Operators

Another narrative that emerged from the interviews was the informal relationship between the LCOs and the customers. As one of the LCOs reminded, "*Earlier, the relationship of the cable operators with the customer was excellent. They used to know each other well, but with the implementation of the set-top-boxes, the relationship between the neighbouring*

[60] Interview, July 19, 2018.

customers and the local cable operators is deteriorating."[61] Though money has been an essential aspect of the cable business but for the cable operators, it was also a matter of maintaining an informal and often personal relationship with the customers. This was mainly because the area of providing service for the cable operator was limited; thus, he could build a personal relationship with the customer who had known him for years as he belonged to the same locality. This is evident from the narratives of some of the customers interviewed.

An elderly customer living in Behala said, *"I have known Pankaj since his childhood. He used to play near our house with other children. His father used to run the business then. He is like a family."*[62] Another middle-aged customer, mentioned, *"I do not consider the cablewallah only as a service provider. He is a local boy whom I have known for years. So, if there is any problem with the connection, anytime during the day or night, I know I can call Tapuda, and he will fix it."*[63]

It is not that this personal relationship changed with the implementation of the Digital Addressable System but, new rules forced more professionalism into the system. As a cable operator based in North Kolkata explained,

> *During the analogue system, we gave the viewers discounts on prices if they had two TV sets in their households. We also offered discounts to people belonging to low-income groups as they could not \ pay high prices. Sometimes we also accepted delayed payments if the customers had some genuine problems. We did this mainly for our customers as they were also our neighbours. All this cannot be done anymore now. So, is it our fault that we tried to be helpful?*[64]

Another local cable operator stated,

> *During the analogue time, we could cover the details of our subscribers from the MSOs and what we used to do is give the advantage to the customers. We used the*

[61] Interview, January 6, 2019.

[62] Interview, September 13, 2018.

[63] Interview, September 23, 2018.

[64] Interview, July 28, 2018.

money we used to hide from the MSOs to offer the benefit to the customers. At that time, when I used to charge Rs 150 from the customer, some other cable operators were charging Rs. 250-300 from their subscribers.[65]

The cable operator, while doing business in the analogue period, were also engaged in the customers' day-to-day activities as they were locals. So, along with business maintaining personal goodwill was important. That equation changed after digitalization. Both the cable operators and the customers appeared to be upset about it. A cable operator mentioned,

See, we have decided that if the MSOs decide to raise the money by Rs 50 for the viewers, then we would charge Rs 30 from the consumers and pay Rs. 20 from our own pockets because if the initial package is provided at Rs 320, which is a high fee, then it will be tough for us to keep clients We have been in the business with goodwill, and impoverished people watch cable TV as well, so what can we do? We must provide additional funds from our own wallets. Now, if any operator believes he will not provide the money, then it is a different story, and the consumers would suffer as a result.[66]

So, even in the digital period, the cable operators were willing to forego some profit for the sustainability of their consumers. However, the MSOs, the broadcasters and the equipment manufacturers maintained that the benevolence of the cable operators was a nuisance for the business. An equipment manufacturer based in North Kolkata candidly stated:

For me a consumer is a consumer. The problem with the cable operator fraternity even today is that they want to become benevolent. My outlook is that you are doing business by offering a service. You are not the government that could give a subsidy or anything else to different strata of society. It is none of your concern. One of the reasons why this business got affected was the benevolence attitude of the operator and the reason for this benevolence was that he is a local person. He was moved by the plight of those people and wanted to give support to them which is basically not bad but from the business point of view, you cannot discriminate. If you are offering the same service to two different consumers, you cannot differentiate. Now is the

[65] Interview, April 11, 2018.

[66] Interview, May 7, 2018.

> *same person buying a TV getting a discount? The TV manufacturer is not saying that you are from a low-income group so I will give you a discount. Now, only government can give him a subsidy.*[67]

Another MSO echoes the same clear business philosophy:

> *The cable companies fund the MSOs to the tune of 30-40%, depending on the company. Therefore, if he is collecting Rs 300 from a client, he may be paying Rs 120 to the MSO, saving him Rs 180; if he is still not saving, he may not be receiving the money from the consumer, or his employees may be scamming him, leaving him with a loss. If you are a good operator, you will save money and not lose money. Any cable company in any area could provide free service to various groups, goonda-mastans (anti-social persons), or those with political ties. It seems that cable TV is probably the only service in the country that cable operators give for free. Nothing else is free, of course; you can not get electricity for free and neither can you get a place to live without paying a monthly fee.*[68]

A relatively large MSO from central Kolkata explained the benevolent attitude of the cable operators as a historical blunder. According to him,

> *We have made a historical blunder. Basically, any product should have a minimum price. In America, cable TV is subscribed for Rs 1800-2000 per month, but in India, the subscription is happening at Rs 200-250 or Rs 300; so historically, we made a mistake and adopted the wrong kind of strategy. Earlier the cable operators did not share with us the right amount of revenues during the analogue days, as a result, they were getting great returns with minimum investment. They used to take whatever they could from customers. Basically, it was like tolabaji* [extortion]. *Somebody gave 150 rupees while another customer paid 200 rupees; there was no standardization. Now, when we slowly ventured into digitalization, there was scope for rebranding, repositioning, reengineering and repricing.*[69]

[67] Interview, June 27, 2018.

[68] Interview, July 25, 2018.

[69] Interview, July 25, 2018.

Referring to the wide price range of various items in the market but nothing freely available, the MSO continues to stress his point of contention:

> *So, this product and its value, the positioning has gone wrong historically. This has happened as our cable operators took whatever the customer paid during the analogue period anddid not give us anything. At that time, we accepted it as no other option was available. So, from that trap, we have not yet been able to bring us out . . . Why will the operators not pay that money if there is a minimum cost for everything? The operators are telling us that they are not able to collect Rs 200 from the ground why? . . . We have asked if there are any price differences between city and rural residents for things like electricity, phone service, and laundry detergent. Maybe there is a different sort of subsidy for those belonging to BPL [Below Poverty Line], especially in LPG connection. Otherwise, the prices of city and village goods are identical. How then can there be a pricing difference between cable TV in the metropolis and cable TV in the village? We recently requested that the cable companies in the city, who now pay us Rs 130, raise that amount to Rs 150. The proposal is that for every Rs 300 they take in, they will give us Rs 150 and keep the other Rs 150 as profit, allowing us to continue doing business together and expanding. This foundation ensures the longevity of our company, allows our operators to earn a healthy profit, and helps us both expand. They back the last mile, and we back them with technology, broadcasting, and content, in addition to regular quality check.*[70]

Several broadcasters also underscored similar opinions:

> *We now know who our subscribers are. What are the channels they are watching. We can pay according to the channels subscribed and also collect the revenue accordingly. This transparency is important for business. The cable operators had earlier [during the analogue period] ruined it because of differential pricing and non-collection. Now, you see the industry looks like a proper business. Nothing can be free. Right?*[71]

[70] Interview, July 25, 2018.

[71] Interview, August 20, 2018.

Though profit is important for the survival of any business, the personal relationships built by the cable operators with the customers over the analogue era led to differential pricing and discounts for low-income households. This investment in building their goodwill remains a vital aspect to be considered. Adam Smith mentioned that we expect our dinner not in regard to the benevolence of the butcher, brewer or the baker but in regard to their own interest. So, everybody has self-interest in return for which he/ she provides goods and services. In the context of cable TV digitalization in India, for the broadcasters and MSOs it is money, and for the LCOs it is both money and goodwill of the customers, and for the customers, it is mainly the services received from the cable operators along with their generosity. There is a significant amount of trust and belief endowed by the customers in the local cable operators, and the generosity shown by the cable operators in return, offered stability and certainty in their business.

Here, I am using the term 'benevolence' with caution. Benevolence is a virtue (a kind of excellence) in the theory of virtue ethics because it is a learned disposition that allows one to seek the welfare of others and act in accordance with that wish or intention. There is no expectation of return, therefore the beneficent actor is operating on a purely unilateral plane. To borrow Kant, it is a responsibility you have to uphold since it is the right thing to do according to the [universal] code of ethics for achieving perfection. Kindness based on emotion, inclination, or disposition is viewed by Kant as less morally significant than charity motivated by reason. Benevolence is not only an admirable trait in itself, but also a virtue that develops as a result of interactions between people. However, in this context, I draw from Mercier and Deslandes's study on formal and informal benevolence in a profit-oriented context which argues that in a for-profit setting, most acts of charity will take a utilitarian or instrumental shape. "Informal benevolence exists at the margins . . .in interpersonal and discretionary relationships".[72]In a for-profit setting, such as cable broadcasting business, the most common type of informal benevolence will be one that serves a practical purpose. Yet even under the best of conditions, conflicting incentives may surface due to the incursion of virtue ethical and/or duty-based issues but spontaneous acts of kindness are constantly subject to the whims of individuals, which means they are always fraught with risk and instability.

[72]Guillaume Mercier, and Ghislain Deslandes. "Formal and informal benevolence in a profit-oriented context." *Journal of Business Ethics* 165, no. 1 (2020): 125-143, 10.1007/s10551-019-04108-9.

While local cable operators made profits monetarily by under-disclosing the number of subscribers during the analogue period, they still belonged to the lower rung of the hierarchy, as the broadcasters and the MSOs were formidable entities. After digitalization, the broadcasters and the MSOs have become even more influential. So, the question remains whether the customers and the cable operators were wrong in creating a personal bond in a transactional relationship. Is it wrong to creating a field of informal benevolence in business? In his Theory of Moral Sentiments, the Scottish economist Adam Smith discussed rational compassion and universal kindness.[73] According to Smith, because humans are moral beings by nature, they sense the suffering of others and may take action to assist them so that they might have a morally flawless existence. He refers to this as rational sympathy. When a person imagines himself or herself in another person's situation, he or she is able to empathize with that person's plight and, in accordance with his or her own values, take action to alleviate that person's difficulties. Thus, human self-interest results in compassionate behaviour. The activities of a specific individual, if they offer enjoyment to another person, are likewise capable of providing happiness to that individual's life. Therefore, the notion of economic man parallels that of prudent man. Since the economic man is a rational entity, it is anticipated that he would meet the interests and expectations of consumers and society. Also, because of the presence of the trait self-love, company owners will be wise in their acts so as to gain social acceptance. This would drive company owners to provide more options and higher quality on the market in order to please clients. The concept of kindness is also expressed through 'self-love' and 'self-interest' on the part of individuals, but ultimately benefits society as a whole. For a capitalist, benevolence is essentially the contentment of consumers with the services or goods provided. As a result, companies attempt to grab consumers' attention by supplying them with what they require and decreasing the costs of goods and services wherever feasible, as consumer happiness leads to corporate profits. In the case of the cable operators too, dealing with the consumers with trust, empathy and care was essential for their own goodwill and reputation. While maintaining reputation was important for all the stakeholders engaged in the cable business, but the informal benevolence between the customers and the cable operators was unique, as the bond they shared was personal, owing to them residing in the same neighbourhood for a long period of time.

The ambiguous objective of digitalization

[73]Adam Smith, *The theory of moral sentiments*, (London: Penguin, 2010).

The broadcasters, MSOs, LCOs and customers were skeptical about the government's decision to implement digital addressable system but for different reasons. The broadcasters and the MSOs blamed the government for being populist, while the LCOs talked about the government reaping huge benefits from the digital switchover in the form of taxes and the customers blamed the implementation of the system for leading to a rise in monthly cable expenditure. One of the MSOs remarked,

> *Ultimately, the thing that is being played out is a very populist approach wherein the consumers may have the last call. The model is being changed completely. How can I make everything available to the consumers at virtually nothing? Is this the new approach? It is a political act carried out by politicians. Like providing Kanyasree, providing bicycles, and distributing free computers. This orientation has been flowing through the business too and the government is also quite delighted that in the process the development is eventually percolating down the line. This previously did not occur.*[74]

For the MSOs, the changing Tariff Orders issued by TRAI were making it difficult for the industry to sustain its business. According to them, TRAI was trying to follow a populist approach that made the government look good in the eyes of the people. The broadcasters were also unhappy with the New Tariff Order issued by TRAI as they believed it would result in revenue loss. Thus, they went to court to stop its implementation. A regional head of a private satellite channel mentioned, *"The government has left us with no other option. They are coming out with new rules and regulations that are not conducive to the industry and need to be reviewed. They are not thinking about our needs."*[75]

An LCO pointed out, "*The stakeholder who has gained most from DAS is the government. They are getting the money through tax. GST Tax of 18 per cent is being charged. The government is collecting 18 per cent GST from the customers. The broadcasters have also somewhat benefited from the system but if you compare the two, you will see that government has benefited more."*[76] Similar concerns were voiced by other LCOs too.*"The*

[74] Interview, July 25, 2018.

[75] Interview, August 25, 2018.

[76] Interview, November 15, 2018.

government is not concerned about us. They are just listening to the MSOs and broadcasters and implementing rules accordingly. Are we gaining anything from that? No, not at all. We are just the small fishes in the large ocean."[77]- said an LCO. Most of the LCOs felt that the government has benefited from the digitalization as they did not invest any money but received revenue from the stakeholders in the form of taxes.

Another cable operator highlighted how in the early days of the cable business no support was offered by the government. He asserted that the cable TV operators did not get loans from banks or support from the government even after registering themselves. *"For some reason"*, he griped, *"this industry was a black-listed industry. Till now, this is continuing. You cannot get a credit card if you are a cable tv operator."*[78] Another cable operator admitted, "*We have not received any assistance from the government regarding getting loans. We have lent most of our ornaments to the business and invested for the growth of this business. We also pay taxes. So, why does the government not think about us?"*[79]

Nonetheless, another cable operator, who is an executive member of a cable operators association, acknowledged that the state government was taking an interest in the cable business now after being convinced that it is a vast and gainful business. He clarified, *"We attempted to persuade government officials with evidence that this is a substantial industry that generates considerable revenue for the government in the form of service tax, income tax, amusement tax, etc. We have between twenty to twenty-five thousand cable operators; if we take into account the average number of staff members, which is five, we have approximately one lac people, and if we take into account the average number of people per family, which is five, we have approximately five million West Bengal residents".*[80] The respondent also informed that the State government has also stated that the cable operators will be included in the government-sponsored medical insurance scheme *Swasthya Sathi* from the West Bengal Health and Family Welfare Department.

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[77] Interview, November 17, 2018.

[78] Interview, July 27, 2018.

[79] Interview, August 12, 2018.

[80] Interview, August 17, 2018.

Another LCO argued, TRAI has minimal jurisdiction: "*According to my understanding, TRAI's hands are tied in various respects. Similar to how TRAI issued a directive to Jio [in the telecoms industry] to terminate its Welcome offer, but Jio disregarded the directive. But did TRAI do anything? No, it had no effect. Hence, it lacks the capability. Although they pretend to be a parent organization, nobody is bound to follow their directives. This means that MSOs cannot be forced to adopt TRAI's recommendations. There are now other management tactics. Like perhaps, TRAI instructed something, and the MSOs responded with a letter and under-the-table payment."*[81]

So, the cable operators had concerns not only regarding TRAI's role in implementing the directive among the MSOs but also about the relationship that the MSOs shared with the officials working at TRAI. The deeply hierarchal set-up is foregrounded in a comment made by a LCO: *"See the people belonging to the higher positions in Star or Siti can sit and make amends with the government, which is* im*possible for the operators. Because we are average citizens. Therefore, all of the exchanges must occur at the top level, while those at the lower level are led to believe that the price has raised without MSO's involvement. They are also supposed to suffer due to increased expenditures. This is an attempt to elicit our sympathies."*[82]

Most of the customers too, were not pleased with the transformed system. One of them said, *"How can I be happy with this system? I have to pay more now. Earlier it was a hundred and fifty rupees, and now it is three hundred rupees. So, I have to pay double the amount for the same channels. Better signals and HD quality does not matter to me."*[83] Another customer based in South Kolkata said, *"I don't know why a set-top box became necessary. However, I had to invest money to buy the box as I watch TV daily. My cable bills have risen now, but what to do? . . . The government is not bothered. My cablewallah said they had been forced to implement this system by the government. I can simply say, I have not benefited in any*

[81] Interview, June 25, 2018.

[82] Interview, August 17, 2018.

[83] Interview, September 15, 2018.

way."[84] Most consumers had no idea why cable television was digitalized and felt that they did not benefit from the system as the governmental policies did not consider their position. While some of the customers mentioned the closure of channels due to fights between broadcasters and the LCOs in the context of DAS implementation, the majority of them were unaware of the reasons for the implementation and felt they had to pay more for this new system without justification.

If we consider digital addressable system as a disruptive technology and a powerful force for change, then the public that will be affected by this change needs to know what the objective of this system is. The deeply entrenched viewing habits and durable ties that individuals have with technology are diametrically opposed to ambiguous policy implementation, particularly when it is mandatory.

The conflicting narratives between the MSOs and LCOs

The ethnographic accounts of different stakeholders from the cable television broadcasting industry offered important insights but more importantly revealed their deeply conflicted and at times perplexing engagement.

While the customers usually had no other option than trusting the local cable operators, the other stakeholders in the cable business did not trust each other. They were skepticalabout each other and believed that the other stakeholder was making more profit in the business. Though the New Tariff Order (NTO 1.0) which the TRAI implemented in 2019 promised to bring in more transparency in the system (which was also agreed upon by the MSOs and the LCOs except for the broadcasters in the interviews) but this lack of trust between the stakeholders made it evident that the entire system stood between thin lines. An LCO commented, "S*ince the introduction of set-top boxes, everything is under the supervision of MSOs. They are creating the bill, assigning a rate, and informing us that this is the amount due. Therefore, we have no room for negotiation."*[85] In a similar line, another cable provider stated: *"Set-top boxes introduced to the market after 2011 are repairable, but those introduced before to the Conditional Access System are not. Currently, we do not know where old or swapped boxes go or what the company does with them. The MSOs do not interact with us about this issue, stating that it is not their problem. True, but I believe they*

[84] Interview, September 23, 2018.

[85] Interview, June 21, 2018.

are earning a profit; otherwise, why would they request that customers to replace their boxes? This indicates that the boxes are being used for something."[86]

An MSO based in Salt Lake area mentioned,

> *Twenty-threeout of thirty-four channels belonging to Star TV network were not even subscribed to by one percent of the population. They operate these channels in foreign nations, such as the United Kingdom, and they have moved them here and begun operating them at transponder expense. Therefore, no programming or content fees apply to these channels. The channel was already operational in the United States and Australia; they just imported it here and began transmitting it. They incur no additional expenses for these channels beyond uplinking them. Therefore, they just introduced these channels in India and charged us for the privilege. They receive advertising money and subscription income. During the analogue era, the competition was between purchasing two or three channels, but now there are thirty-five channels with separate costs. Now, if I buy all the channels separately, it would cost me 202 rupees, but if I buy them all at once, it will cost me twenty-two rupees. The price difference is so great that paying twenty-two rupees to display all the channels made sense. Currently, there is a court case over the TRAI Tariff Order. The introduction of the Tariff Order will increase openness.*[87]

Another MSO mentioned,

> *Currently, people everywhere have the idea that they are the sole losers in the entire chain. If you speak with the broadcaster, you will receive the same response. If you go online and look at Star, Zee, and Sony's balance accounts from the past four years, you will discover that they have all seen tremendous growth. However, if you question them, they will claim that all the money stays in the hands of the cable operators and that they earn no profit. But, if you look at the balance sheets of the MSOs, you will notice that since the beginning of the digitalization, every MSO's balance sheet has decreased, every MSO is on the losing end, every MSO's loans have increased, and every MSO's survival is at risk. I am not just talking about our*

[86] Interview, July 3, 2018.

[87] Interview, January 15, 2019.

organization; I am referring to MSOs across the country. Therefore, the trend is on the balance sheet and accessible online to everybody.[88]

The friction between the stakeholders was evident in the interviews and there was a general belief in the fact that the other stakeholder was benefiting more than them. So, the cable operators blamed the MSOs and broadcasters for their misery, the MSOs criticized the broadcasters and the cable operators and the broadcasters, in turn, accused the government, MSOs and LCOs. But despite this, few local cable operators mentioned being loyal to the MSOs providing them with the connection. A cable operator resolutely said, *"One's loyalty is based on their character. In that respect, we have not changed. Changing service providers is not in our DNA. Recent months have seen a rise in the number of MSOs' attempts to blackmail us. Jio is hoping to bring us in under their wing. How do we come under their network? Leaving Siti is the only option for that. We shall not be participating in it."*[89]

If we consider these aspects from the point of view of the consumers, the entire digitalization drive was projected to benefit the consumers, but most consumers were unaware of the reason behind this shift in the TV industry. They depended on the information provided by the cable operators regarding the same. *"The cable operator told me I cannot watch TV without the set-top box. He said that this is a rule that the government has made. So, there is no way out."*[90] said a subscriber. Another subscriber said, *"the cable operator informed me that installing a set-top box is for our own benefit. He was talking about better signals and better coverage, all that. Though he too seemed unhappy about this saying that all this is being done by the people belonging to the higher positions of the industry."*[91]

The customers felt burdened by this switchover as they had to pay more for cable services. As one of the viewers pointed out, *"For me paying for this set-top box is of no use. I was*

[88] Interview, July 19, 2018.

[89] Interview, June 25, 2018.

[90] Interview, September 13, 2018.

[91] Interview, September 22, 2018.

enjoying watching TV before [in the analogue period]. So, how does this box change a thing? It just increases my bills."[92] Another disgruntled subscriber mentioned, *"I am not sure how the government thinks about us when we have to pay for the box. The monthly expenses for cable have also increased . . . but the cable operator said its inevitable. So, I had to install it since I want to watch TV."*[93] Many of the customers were afraid that their signals would be switched off, so they invested money in the boxes. *"I could not let them [the broadcasters] cut off the signals. Without TV, how would I watch serials? So, I did not waste time and made the necessary arrangements for the purchase."*[94]

Changing nature of television and the advent of Jio

Stakeholders were aware of the dramatic shifts in television technology, yet many still saw the medium as indispensable. As an equipment manufacturer elucidated,

> *TV will remain one of the mediums of watching video. Earlier, you only had TV, but today you have got options you can watch it on the laptop watch it on the tablet or the smart phone so the same content is now available on different screens.So, TV will be one of the screens you can not replace. If you want to watch Amazon or Netflix you will have to watch it on large screen and so the TV has to be there. Cable is a mode of delivery so cable may not be there. Now if the delivery changes to WiFi or internet so be it. So, ultimately internet also needs cable. Today you are getting RF signals through cable tomorrow you will get your bandwidth on a cable. So, cable is a must.*[95]

Another cable operator added,

> *Right now, cable TV is here to stay, but that might alter in the future. Perhaps the future is cordless television. Nowadays, instead of watching television, youngsters use their computers. The advancement of technology is unstoppable. Even, rural areas are not lagging behind in terms of technology. There will be a shift in the cable*

[92] Interview, November 14, 2018.

[93] Interview, September 12, 2018.

[94] Interview, September 12, 2018.

[95] Interview, June 27, 2018.

sector in the next five to six years. As for television, it will still exist, but it will be run by a new system. In theory, a shift might occur as a result of wireless networking and broadband internet.[96]

Many MSOs blamed the government for favouring Jio and playing the populist card. An MSO exclaimed,

It is estimated that 30 per cent of the world's population has never seen a television programme. A villager without access to power cannot watch TV. Piyush Goel has promised that all of India's rural areas will be wired for electricity within a year, and this is what we expect to see happen over the course of the next five years. This is the first step. When an individual gets a stable electricity connection at home, he will have two aspirations – one is watching television, and another is having a refrigerator because every human being has an essential requirement for survival. Having access to high-speed internet is the third goal. All business is moving online. As a result, the mindset has shifted to how I can deliver the best at the least. So, in the end, Jio will set the prices, and everyone else will have to follow suit if they want to stay in business. So, you are deciding your pricing on the basis of your competitor's whims and fancies. The competitor has got a deep pocket, who has got a long-term orientation, who has got a predatory pricing strategy. So, in that way, you cannot say that the consumer will pay; instead, you will have to foot the bill yourself"[97]

Concerns were raised that Jio would determine the future of the cable business because of the radical shift it has caused in the telecommunications industry, leaving just Vodafone-Idea and Bharti Airtel Ltd. as its main rivals. Members of the industry were worried that the government would partner with Jio, which had not yet entered the cable market. Stakeholders were concerned that the sector will be forced to adopt Jio's pricing structure. Jio was blamed for using the predatory pricing[98] strategy, which many MSOs believed

[96] Interview, January 6, 2018.

[97] Interview, July 25, 2018.

[98] The Competition Act 2002 defines predatory pricing as the "sale of goods or provision of services, at a price which is below the cost…of production of the goods or provision of services, with a view

involved the government's support. The MSOs anticipated a decline in profits in light of the rumoured introduction of Jio Giga Fiber, which would have offered combined internet, mobile, and TV services. Although JioFiber began offering broadband connections alongside a router and set-top box in 2019, the original plan of providing TV connections fell through because Jio could not bring IPTV to its subscribers. Instead, Jio's subscribers relied on the LCOs to connect their Jio set-top boxes to satellite TV services. Jio, meanwhile, has made headlines by purchasing sizable stakes in two of India's largest multiple system operators (MSOs): Hathaway and DEN Networks.[99]

Scholars like Fitzgerald have referred to the constant rise of Jio in the market as being the'Indian Gilded Age' characterized by the accommodation of regulatory practices by the government, unlike the American Gilded Age, characterized by scarcity of regulations.[100]The Indian State has maintained patronizing relationships with business entities, leading to state officials being inspired to believe in business-friendly notions of development, while business owners are also building relationships with officials to get the work done easily. For this reason, the Indian government has actively promoted both

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to reduce competition or eliminate competitors" (The Competition Act 2002). Predatory pricing involves competitors being forced to lower prices when a particular firm cuts down the prices of goods and services offered by it. This leads to a fall in the profits for the competitors which might ultimately lead to incurring severe losses too. The competitor is left with no other option than to reduce the prices of its products or services as there is possibility of the company losing market share. Sometimes the prices might have to be dropped below its average cost of production which can lead to bankruptcy. This way the initial competition is curbed by a firm and then prices are increased by it to earn monopoly profits which are considered anti-competitive.
For more see: Jai Bhatia and Advait Rao Palepu, "Reliance Jio: Predatory Pricing or Predatory Behaviour?," *Economic and Political Weekly* 51, no. 39, (September 2016): 33-39.

[99]K. Chakri, "Jio Broadband Users Must Get a Separate Cable TV Subscription to Watch Content on Set-Top Box," *Telecom Talk*, October 8, 2019, https://telecomtalk.info/jio-broadband-separate-cable-tv/219163.

[100]Scott Fitzgerald, "The Networked Media Economy and the Indian Gilded Age," in *Platform Capitalism in India*, ed. by AdrianAthique and Vibodh Parthasarathi, (Springer International Publishing, 2020), 43-65.

development and patronage, creating opportunities for corporations to gain several entry points into a wide range of government-controlled organisations.[101]

Informality or the absence of organization?

The rise of the cable business in India has been unstructured and built on informal relationships. Political endorsement and personal connections played an important role in the business. As one of the cable operators mentioned, *"The division of locality among the operators is actually dependent on the relationship you have with the other operators operating nearby. So, on the one hand, there is the law; on the other hand, the relationship is built upon personal and political connections. Both have to be followed simultaneously*.[102] He explains the situation by referring to his own experience,

> *There may not be much I can do legally if another provider in my area connects the consumer. Perhaps the law is on my side and that cable company does not have a license to operate in my region, but the process of taking them to a court or the consumer forum will take a very long time. There is no way I can fix this the way I was going about it now. What I need to do, therefore, is either put pressure on the MSOs or use whatever political influence I have, either way, to prevent them from operating in my region. Let us say you find a great location to rent a storefront. In addition to the monthly rent payments, you must now cultivate friendly relationships with influential local people. In that sense, our situation is comparable. Given my father's long history in the industry, my family and I have never had to make any special efforts to cultivate alliances among the industry's power brokers. In addition, father's reputation helped him out even if he had nothing to do with the cable business. However, others may seek local political intervention to come out of such a situation. I mean that the law exists, but nobody is responsible for upholding it. It will be difficult to take legal action against an unauthorised operator who enters a zone where another operator is already functioning, even with the assistance of the*

[101]Fitzgerald, "The Networked Media Economy and the Indian Gilded Age," 47.

[102] Interview, June 25, 2018.

police. Therefore, personal or political influence is necessary if the territory under your control is to be preserved.[103]

The division of operational areas by the cable operators is based on mutual understanding and on verbal agreements. Another cable operator operating in North Calcutta emphasized, *"There is a mutual understanding and based on that, one cable operator does not encroach upon the area of the other cable operators. So, it is a verbal understanding. Legally there is no prohibition regarding encroaching on some other cable operator's territory because no such clear demarcation of the territories exists. We have made an understanding amongst ourselves and according to that we are running their lines in our areas."*[104]

Another cable operator mentioned about the analogue days when he had just ventured into the cable business, *"From the very beginning, when we started with the VCR channels at that time, we had to take a license after dividing our area, and that was a fraudulent move. That had no basis, but we had no idea at that time. We took the license from a private company to run their video channels, which was absolutely spurious. In the 1990s, we started to divide our area based on that and we maintained that demarcation later on."*[105] So, whether it is the case of the distribution of territories or maintaining relationships with the customers, the cable operators enjoyed the informal aspect of the relationship. This not only helped them hide the number of subscribers and make profits but also gave them a sense of agency and control. So, in the event of connectivity failure, reaching out of the customers to their cable operators provided the cable operators with a sense of agency. This informality helped them retain their position as problem-solvers, which started changing gradually after the implementation of the digital addressable system. The cable companies were concerned not only about the losses they might incur or the costs they might have to incur for going digital, but also about the ways in which their relationships with other operators and with customers might change, as the digital addressable system attempted to organise the business in order to reduce conflicts among the stakeholders by bringing more transparency to the system.

[103] Interview, June 25, 2018.

[104] Interview, July 10, 2018.

[105] Interview, January 6, 2019.

As most of the cable operators who started the business in the 1990s lacked formal education and mainly consisted of unemployed youth who learned the intricacies of the cable business while being on the job, for them, the dependence of the customers on them was significant. As mentioned by one of the cable operators, *"The customers call us at odd times, sometimes during the grave weather conditions complaining about not getting signal. We must respond to these queries as we have personal relationships with most of them. So, the behaviors of the cable operators have become a very vital issue. Thus when you talk about the cable operators, you need to mention their relationship with their customers."*[106]

The broadcasters and the MSOs blamed this informal aspect for causing hindrances in the cable business. One of the prominent MSOs in central Kolkata anxiously replied,

> "*The cable operators' lack of internal organisation is a major issue. The cable operators really need a customer service department. For this reason, he should provide more funds if necessary. They may hardly claim that they would lose clients to DTH because of price increases. As you can see, the difference in cost between a DTH and a cable subscription is now at least fifty per cent. The price of DTH has increased by fifty per cent despite the fact that the number of channels remains the same. And if the user obtains certain channels at lower prices, he can switch connections and the disparity remains at fifty per cent. This means that the cable providers are trying to avoid blame. The cable operators are often uninformed and come from underprivileged backgrounds, which is a major contributor to the industry's stagnation. These folks are so narrow-minded that they want to keep making the money that they were making even if the business remains unorganised and non-transparent."*[107]

Therefore, the broadcasters blamed the cable operators for trying to preserve the informal approach in business. They believed that bringing structure to the business depends on educating the cable operators. As a broadcaster claimed," *We want transparency in the system. In order to ensure that one has to be professional. Maintaining a professional relationship with the customers helps in not only addressing their queries timely but also being efficient in solving the problems that occur in the system. I may know someone*

[106] Interview, August 12, 2018.

[107] Interview, July 10, 2018.

personally but when it comes to work, I have to be professional. This way the cable business will become strong and become organized."[108]

The educational background of the cable operators was stressed repeatedly by the broadcasters and the MSOs in the interviews to be a major impediment towards the formalization of business. An MSO pointed out that "*In the 1990s, many people who had been unemployed and had an interest in club culture and the associated "adda" (informal gathering) started their own cable TV businesses. So, it is clear that the commercial acumen needed for any business to grow was not there . . . Some of them were affluent yet culturally illiterate. They wanted a more relaxed approach to doing business*". Broadcasters reaffirmed the same contention: "*Education is important to understand the changes happening in the world in terms of technology. It is not that the cable operators are not aware. Some are, but many of them are not willing to accept the changes. This is because a lot of them are unqualified. So, they want things to happen their own way. This cannot continue. They need to change their approach. Times are changing."*

The global technological shifts that prompted the cable TV industry's digitalization push also led to the industry's formalisation, which was meant to increase efficiency and profitability for the industry's most powerful players, such as broadcasters and Multiple System Operators (MSOs). However, it must be noted that the broadcasters fought the TRAI's New Tariff Order (NTO 1.0) in court when it sought to increase transparency.[109]Another cable operator stressed, the policies to be favourable to the broadcasters and MSOs by providing an example of lack of interoperability of set-top boxes. He said,

> *Similar to the widespread acceptance of mobile phone 'sim' cards, which allows users to switch between networks without changing their phone's hardware, where you may keep your sim card and switch to a new provider, TRAI has a directive that the same be true of the cable tv business. But the MSOs may have bribed higher-ups to keep the set-tops from being compatible with one another. The set-top boxes in your homes will need to be updated if you decide to move from Siticable to*

[108] Interview, August 20, 2018.

[109]Namita Viswanath, "The Supreme Court Upholds TRAI's Tariff Order - Broadcasting: Film, TV & Radio - India." *Mondaq*, November 15, 2018, https://www.mondaq.com/india/broadcasting-film-tv--radio/755336/the-supreme-court-upholds-trais-tariff-order.

Manthan". He further clarified, *"There will be continued corporate pressure until such time as an order is made allowing a Siti set-top box to be used with a Manthan connection. Because consumers have already spent money for the boxes, they are unlikely to be amenable to having them swapped out if the process also costs them money. It will be difficult for me too to do business as well. Therefore, it is impossible for the operator to be daring once you have entered under an MSO.*[110]

Though TRAI later recommended the MSOs to bring in interoperable set-top boxes through its Recommendations on Interoperability of Set-Top Box' published in April 2020, there are still no regulations related to that. Also, though mandatory digitalization in the cable industry was initiated in 2012, the interoperability factor for cable set-top boxes was brought for pre-consultation in 2016 and then in 2019.[111]

This way of thinking about the informal economy is older than the established logics of the digital platforms that have sprung up in India in the last ten years, and it also helps to shape them. Even though discussions of the platform economy have become more focused on digital ecosystems, there is no reason why we cannot develop a broader view of the platform economy, especially in the context of the digitalization of cable broadcasting. When we take a closer look at how the organized distribution methods of platform economies interact with informal practices of distribution, which grew up as "local" pockets of growth outside of the centrally controlled distribution of mainstream media, we can ask how does the rise of the platform economy change or disrupt these informal distribution practices?[112] Or to put it in other way, how does these informal distribution practices influence consumer formation

[110] Interview, August 13, 2018.

[111] See TRAI, "Pre-Consultation Paper On Set Top Box Interoperability," April 4 2016, 1-24, accessed December 2, 2020. https://www.trai.gov.in/sites/default/files/Pre_consultation_paper_on_interoperablity_final.pdf. TRAI, "Consultation Paper On Interoperability of Set Top Box," November 11, 2019, 1-70, https://trai.gov.in/sites/default/files/CP_STB_Interoperable_11112019.pdf.

[112] Akshaya Kumar discusses this aspect in the context of Bhojpuri popular culture, focusing on the performative informality of Bhojpuri live concerts and the distributive control of platform economy. See. Akshaya Kumar, "Informality in the Time of Platformization." in *Platform Capitalism in India,* ed. by Adrian Athique and Vibodh Parthasarathi, (Springer International Publishing, 2020), 261-279.

which affects the way platformization is taking place in India? As a result, the preceding debate raises key considerations regarding whether we are seeing the end of informal practices of distribution or their growth through digital domains as online access grows.

Transparency in business- for whom?

Digitalization provided the MSOs with the scope to monetize by utilizing the set-top boxes' properties like EPG insertion ads, boot-up screens, volume bar and menu bar branding.[113] Apart from this, the MSOs also had their own news and entertainment channels (GEC) which broadcast local ads. Though some of the channels existed during the analogue period, the number of channels owned by MSOs increased during the digital period. A cable operator mentioned that the video-on-demand services as of now have not started on cable lines. Earlier, the local cable operators used to run a ground channel as a separate channel for video-on-demand; now, the MSOs run this channel. If the LCO wishes to broadcast a separate channel, it cannot be linked to the set-top box. Currently, set-top box signals originate from the MSOs, who are free to alter the signals in any way they see fit. Once the signal is out, nothing can be done in between. Another cable operator claimed,

> *"The MSOs control the local ads which are being shown on the MSO's channel as it is another source of income for them. Now pirated copies of movies are available freely on the internet, which means the source is free. Most of the movies shown are pirated, but the MSOs get paid for the advertisements. This is an area where they are making a profit. We used to operate the channels on a shared basis with the MSOs back in the analogue era. Absolutely no advertisements have ever been displayed on our channel. It was a great deal of enjoyment for us to manage the video channel. During the era of analogue television, we made an effort to play movies that our clients requested."*[114]

Currently, MSOs are looking for alternative profit centres. The android-enabled set-top box was a potential addition that they were looking at. It was suggested by one of the MSOs that

[113]Nisha Qureshi, "How ads on local cable networks and set-top box ensures deeper reach for brands," *Best Media Info*, October 05, 2020, https://bestmediainfo.com/2020/10/how-ads-on-local-cable-networks-and-set-top-box-ensures-deeper-reach-for-brands.

[114] Interview, June 25, 2018.

"Tomorrow, I can upload HoiChoi to our YouTube-enabled set-top box, allowing everyone with a set-top box to see it. As of today, I can do the same with Zee5, and then the next day with Netflix. Any modern television set will include a Netflix button on the remote control. If you are purchasing a new Sony TV and it runs Android, you can now access Netflix from the home screen; otherwise, you will not be able to view it. You will find a Hoichoi button on all of our set-top box remotes in future. Similarly, we have programmed our remote with four buttons—the red one instantly loads Zee Bangla when pressed. If you want to watch Zee Bangla, you will not have to look for it. At present, clicking the green button transports me to S News. Thanks to the software, I can now set these controls to Star, Zee, Sony, and Colors. Now that Zee Bangla and our MSO have agreed to work together, I am ready to push the big red button. In the same vein, if Netflix or Hoichoi sign a deal with me tomorrow, they will each receive their own set of buttons".[115]

Another MSO claimed that the digitalization process has led to a huge investment. So, they are exploring all the possibilities for earning revenues. The company has its own ground channels where they show advertisements. The MSO is also trying to utilize the booting time of the set-top box to show commercials of products or services. *"You see, we have to think of ways to monetize so that we can make a profit in the cable business".*[116] Thus, apart from subscription revenues, digitalization offered the MSOs the opportunity to explore other avenues of profit-making.

Underlining a prevalent industry practice, a cable operator mentioned:

"Broadcasters, while making a deal with the large MSOs give them signals at lower rates as they get a great deal money from them. Manthan was a large MSO once upon a time, now it is Siti Cable. Now Siti Cable enters into a deal that, per point it will give ten rupees. Broadcasters accept the deal by negotiating and fixing the money to suppose eight rupees per subscriber. Now, when the broadcaster enters into a deal with Manthan, they will charge twenty-five rupees, offering more revenue than SitiCable. This is the Fixed pay Deal. Now, if the broadcasters say that it is not

[115] Interview, July 19, 2018.

[116] Interview, July 25, 2018.

about big or small MSOs, but I would charge an equal amount of money from all the MSOs, then the system becomes more transparent."[117]

The cable operators blamed the Reference Interconnection Offer (RIO) between the broadcasters and the individual MSOs for being the reason for channel blackouts causing the burden of guilt to be borne by the cable operators as they were the point of contact for the customers.[118] As a cable operator remarked,

"The cable operator who used to pay 15000 to 20000 rupees during the analogue time now has to pay an amount of Rs 1 lakh or Rs 80000. So, why are the MSOs not making a profit, why are the broadcasters not making enough money, and why are the signals being shut down? The sub base is the same as the subscribers had not increased so when the operators used to give 15000 rupees to the MSOs, at that time, the MSOs were satisfied with the revenues earned, the broadcasters were also content but now the operator's payout to MSO has increased about five to six times. If the subscriber RPU (Rate per Unit) has increased, why are the channels shutting down? No one has answers. The MSOs say that earlier, we needed to give bulk money to the broadcasters, but now the situation has changed as now I have to pay money per unit basis. Broadcasters want more money and this entire fiasco is because of the deals that the MSOs and broadcasters have."[119]

Another cable operator also mentioned, *"See, the broadcasters know how much money per subscriber point Manthan is paying to Sony. Star also knows these facts as they sit and decide together. Sony is saying that Manthan has paid money for 4 lakh points, while Star is saying they have been paid of 3.5 lakh points. My question is why should there be such a disparity in the system? So, suppose the game would have been fair if an MSO gives all the top five broadcasters' money for the same number of points."*[120] The cable operator

[117]Interview, August 23, 2018.

[118] Reference Interconnection Offer is an offer document setting out matters relating to the price, and terms and conditions, under which a carrier will permit the interconnection of another carrier to its network.

[119] Interview, August 17, 2018.

mentioned this in view of the fact that the channel packages made jointly by the broadcasters and MSOs consisted of the channels viewed by the majority of the viewers.

The broadcasters, however, felt that the system has become more transparent due to digitalization and thus, the revelation of RIO and the Maximum Retail Price (MRP) of individual channels as per the New Tariff Order (NTO 1.0) might obstruct the growth of the business. A broadcaster mentioned, *"We have always felt the need for transparency in business which we achieved after digitalization. But the new provisions are not business-friendly. The case is subjudice. We are closely following the development."*[121]

A prominent MSO explained how broadcasters are using the idea of transparency to confuse both the consumers and distributors:

> *"There is no end to transparency. The call for transparency is everywhere today. Presently, broadcasters come and do the audit of my company twice a year. So, they know the total number of subscribers I have, the number of subscribers who are watching Star. But since they think they are offering Rs 200 worth of material for Rs 20, they compel us to show all their channels. It is only when the customers actually select all of their channels, we will be able to identify what their demand is. Now, I am giving all channels through the package system. The package is created withan understanding with the broadcasters and not the subscribers.The broadcasters have a major say in channel packaging. They say that if you give Zee's GEC then you have to give another network's GEC too, if you give Sony Music, then another music channel will also be clubbed with it. Neither the customer nor the MSOs has any option but to listen to them."*[122]

The primary difficulty of navigating through all these diverse narratives was integrating many types of responses from different stakeholders into a unified research objective. However, traversing the situation across its diverse and crudely connected manifestations was a source of ethnographic insight in its own right. In this chapter, I attempted to unfold

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[120] Interview, August 21, 2018.

[121] Interview, August 26, 2018.

[122] Interview, July 10, 2018.

the ethnographic narratives that cover several layers of inquiry, delving deeply into meaning-making practices while also acknowledging the problems of engaging with dispersed, subjective and debatable accounts. Thinking about the disruptions and discontinuities in the implementation of the digital addressable system, a dynamic process, continuously changing in terms of technology, policy and distribution, the idea was to participate in events as they unfold in the here and now, exploring the temporal complexities of the digitalization process. The objective was to unpack deeper reflection on the scattered, multiple, and inscrutable characteristics of the implementation of the digital addressable system from all the participants, instead of focusing on just any one of the sections.

CHAPTER 5

The Dispersed Terrain of Television: Making Sense of OTT Video-Streaming Services

It may not be an overstatement that the task for television studies is today far more complicated than it would have been two decades ago. Not only are there fundamental technological questions to do with formats and platforms of delivery that affect our understanding of the production of television, but the modes of consumption have proliferated in ways that challenge our capacity to find a common link between them that might justify the application of an approach like television studies. Thinking about television, particularly, in the period of post-broadcast, further complicates some of the issues. However, as Sinclair suggests, it may not be prudent to designate the present period as post-broadcast, as majority of television networks are still popular and available over the traditional cable and satellite distribution and the prevailing income equalities among the audience affect the demand for subscription-based services. Moreover, the practice of watching television has remained a family ritual, so its social and cultural function is further distinguished from many of the elements used to identify the post-broadcast era. Nonetheless, it is undeniable that regarding the experience related to television watching, many of the typical practices, patterns and reception do not apply anymore.[1]

Against this backdrop, the objective of this chapter is to explore the shifting idea of television, its form, technology and reception, particularly with the rise of digital distribution. The introductory section asks what attributes might be highlighted under the category of OTT (Over the Top) presently with the term crisscrossing across so many policies, regulations, practices and trade strategies. The confusion surrounding the nomenclature of some of the terms, such as OTT, and the difficulty in differentiating communication from non-communication related OTTs, can be read as a symptom of the post-broadcast era. The following section asks another fundamental question: if television is intrinsically related to the idea of platform and OTT, then what are the different functions they may serve – technologically, culturally and policy wise? Can we any longer claim a distinction between the two terms in terms of market and socio-cultural function at all? The

[1] Sinclair quoted in Turner, Graeme, and Jinna Tay, eds. *Television studies after TV: Understanding television in the post-broadcast era*. (London: Routledge, 2009), 139.

subsequent section focuses this issue more directly by examining the video-streaming services that are making the traditional value-chain unstable for the media ecosystem characterized by the "matrix era".[2] Finally, the chapter aims to contextualize the discussion by focusing on the Indian experience and emerging practices around the growth and development of OTT video streaming services in India given that the development of internet distributed video disrupted the traditional television broadcasting in the country, similar to various markets around the world. The chapter concludes with a discussion on the various types of business models followed by OTT video streaming services in India to explore in what way very specific formations of distribution, technology and audience emerge in comparison to transnational accounts of television services.

Unpacking Communication and non-communication OTTs

The video-on-demand (VoD) streaming services have gained prominence in the Indian market, especially after the launch of Reliance Jio's telecom services on September 5, 2016, which reduced the data and voice prices, thus offering consumers an opportunity to watch more video content.[3] These streaming services have been disrupting traditional television broadcasting. I have already mentioned in the first chapter that though most people consider VoD streaming services to be Over-the-top (OTT) services. However, Telecom Regulatory Authority of India (TRAI) considers "OTT to be any Internet application that may substitute or supplement traditional telecommunication services, from voice calls and text messaging to video and broadcast services." TRAI further states that there are three types of services provided by the OTT apps: "Messaging and voice services (communication services); Application ecosystems (mainly non-real time), linked to social networks, e-commerce; and Video/audio content." This means that not only VoD but OTT encompasses a range of other services which use global internet and access network speeds to reach a user, thus going over-the-top of a telecom service provider.[4] So, apps like Viber, Skype, Whatsapp Snapchat,

[2] Curtin, Michael. "Matrix Media," In *Television Studies after TV: Understanding Television in the Post- Broadcast Era*, edited by Graeme Turner and Jinna Tay, 9-19. London and New York: Routledge, 2009.

[3] Mobis Philipose, "How Reliance Jio transformed India's telecom industry, in five charts," *LiveMint*, January 16, 2020. https://www.livemint.com/market/mark-to-market/five-charts-that-show-how-india-s-telecom-industry-has-fared-post-reliance-jio-11579082872199.html.

Instagram etc. are OTT services offering messaging and voice services, while e-commerce apps like Amazon, Flipkart, Uber, Ola etc. are also OTTs in addition to the apps offering audio and video content online like Gaana, Saavn, Spotify, iTunes, Netflix, Amazon Prime Video, Voot, Disney+Hotstar, Zee5, SonyLIV etc. However, many OTT platforms also offer multiple services using the same platform like Google docs, which is primarily an online text editor but also allows the user to chat in real-time, Facebook too offers both video and messaging services. Thus, it is difficult to differentiate communication from non-communication related OTTs, so the European Union has suggested testing the platform in terms of functionality mostly by trying to understand whether it is 'substantial' or 'ancillary' for the service/platform.[5] The Department Of Telecommunications (DoT) Committee Report on Net Neutrality, 2015, explains that the OTT applications work "by delayering of communications networks through Internet Protocols (IP) that permit the applications layer to function independent of the media layers." In OTT services, unlike the linear broadcasting models, there is a separation of "carriage" from "content", which enables the service providers to provide the content directly to the end-users and the role of network operators is just to provide the network services. In the 2015 report, OTT services are classified into two types- OTT Communication Services (OCS) and OTT Application Services (OAS). OCS provide real-time person-to-person telecommunication services which are provided via the applications carried over the internet using the network infrastructure of telecom service providers (TSPs) but are similar to the telecommunication services (for example, Voice over Internet Protocol (VoIP)).[6] OAS include "other OTT services like media services (broadcasting, gaming), trade and commerce services (e-commerce, radio taxi, financial

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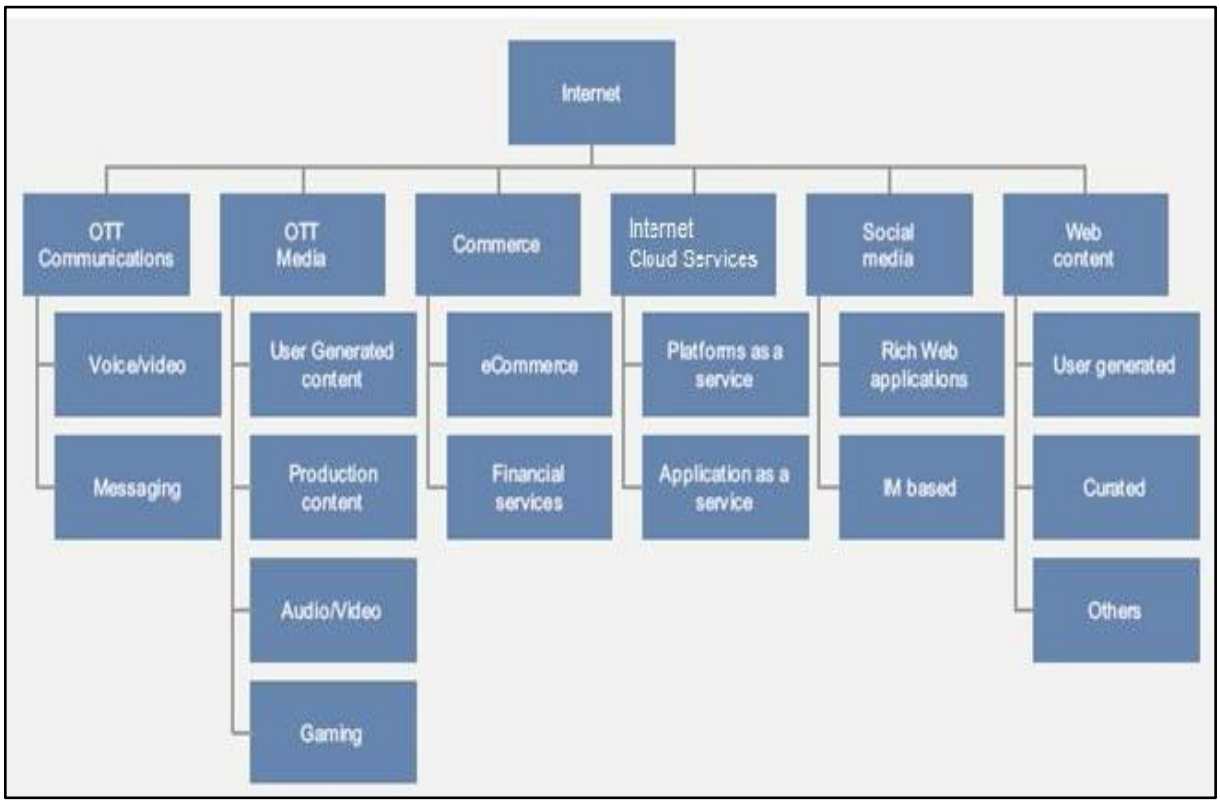
[4] TRAI, "Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services," November 12, 2018, 1-38, pt. 2.1.2- 2.1.3, accessed December 2, 2020. https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf.

[5] TRAI, "Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services," pt. 2.2.8.

[6] As per TRAI's Consultation Paper On Regulatory Framework for Over-the-top (OTT) services 27th March, 2015 Telecom Service Providers (TSPs) also means Network providers, Internet Service Providers, fixed and mobile broadband providers, data service providers, wireless net providers and access providers. For more see: TRAI, Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services, November 12, 2018, 1-38, 4, accessed December 2, 2020, https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf.

services), cloud services (data hosting & data management platforms/applications), social media (Internet-based intermediary applications like Facebook, YouTube) (which) offer services to end-users using the network infrastructure created by TSPs but do not directly compete with the service offerings for which the TSPs have obtained a license under the applicable law i.e. the Indian Telegraph Act, 1885."[7]

Figure1.1: Classification of services offered over the Internet



Source: TRAI, Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services, March 27, 2015.

ITU's Recommendation ITU-T D.262 on 'Collaborative Framework for OTTs defines OTT as "an application accessed and delivered over the public Internet that may be a direct technical/functional substitute for traditional international telecommunications services." However, ITU has also left it to the member states to have their own definitions of the term

[7] DoT, NET NEUTRALITY DoT Committee Report, May 2015, 1-110, pt. 8.3 (i) (ii), 44-45, accessed December 2, 2020, https://dot.gov.in/sites/default/files/Net_Neutrality_Committee_report%20%281%29_0.pdf.

depending on their national sovereignty.[8] The recommendation further explores the relationship between OTT platforms and telecom services.[9] In internet networks, the carriage is usually separated from content thus, offering the OTT content providers direct access to the end-users. Here, TSPs have a limited role to play as they have no control over the content or application. The revenues of the TSPs increase due to the increased data usage of the OTT apps. The OTT players use the infrastructure of the TSPs to reach the customers in order to provide their services and develop new businesses and thus, there is a chance that the revenue of the network operators might be impacted.[10]

At present TRAI in its 'Recommendations on Regulatory Framework for Over-The-Top (OTT) Communication Services', 2020 recommended not to implement a comprehensive regulatory framework for OTT services in India as International Telecommunication Union (ITU) is still examining the various aspects of OTTs and so, the Authority will be able to suggest a framework only after the ongoing deliberations at ITU are completed.[11] However, the Ministry of Electronics and Information Technology on February 25, 2021 has notified "Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules,

[8] ITU News, "New ITU Recommendation provides parameters for a collaborative framework for OTTs," *ITUNews*, May 13, 2019, https://news.itu.int/new-itu-recommendation-provides-parameters-for-a-collaborative-framework-for-otts/.

[9] The report also tries to promote fair competition between network operators and OTT providers by advising the Member States to develop policies and by reducing the regulatory burden on traditional networks and telecommunication services. For more details see: ITU, "Recommendation ITU-T D.262: Collaborative framework for OTTs," 1-12, accessed December, 2020. https://www.itu.int/rec/T-REC-D.262-201905-I.

[10] TRAI, "Consultation Paper on Regulatory Framework for Over-The-Top (OTT) communication Services," March 27, 2015, 1-118, pt. 2.1-2.8, 8-12, accessed December 2, 2020. https://www.trai.gov.in/sites/default/files/OTT-CP-27032015.pdf.

[11] TRAI, "Recommendations on Regulatory Framework for Over-The-Top (OTT) Communication Services," September 14, 2020, 1-12, pt.2.4 (iii), 8, accessed December 14, 2020. https://www.trai.gov.in/sites/default/files/Recommendation_14092020.pdf.

2021" under the Information Technology Act, 2000, which prescribes a Code of Ethics and a three-tier Grievance Redressal mechanism to be followed by the digital media publishers.

The organization for Economic Co-operation and Development's (OECD) Report on the development of broadband networks (2014) identifies OTT services into the following types- Real-time communications, Entertainment Video services, Telework/ Telepresence, Cloud Computing and Storage, Financial services, Internet of things, smart homes. Real-time communications include applications like Skype, Apple's Facetime, and WhatsApp that offer voice and video services along with messaging, screen sharing and file sharing services. Entertainment Video services refers to the availability of commercial video as well as user-generated content on internet. Sites like Netflix and YouTube provide such content over television, computers and mobile phones. Apart from content delivery, these video services also provide other functionality like rewinding, pausing, fast-forwarding and downloading videos as well as viewing shows already broadcast on television. Telework means smart working techniques where employees and professionals can work remotely as teams by creating virtual collaborations. This saves commuting expenses and infrastructure costs. Telepresence entails connection among the participants present in different locations by connecting them through high-quality video and audio thus, ensuring end-to-end quality service through interconnection agreements with network operators. Cloud computing services refer to applications like Google Docs, Dropbox and enterprise software like Salesforce.com, which allow users to access their files and data from any computer or smart phone thus, providing them greater functionality. Financial services provide customers access to different banking applications on their mobile phones and computers. These transactions rely on short-range communication technologies, biometric authentication, micro-transaction platforms as well as low-cost reader and sensor devices. Connecting and integrating all electronic devices ranging from home appliances to industrial equipment via the internet is called the Internet of Things. The devices connect with each other due to machine-to-machine functionality, thus minimizing human intervention. Smart speakers like Amazon Echo and Google Home are examples of Internet of things. Fibre networks have the capability to connect the energy- consuming equipment inside homes and could measure the usage in real-time and generate feedback, thus creating mechanisms through which the demand can be shifted from peak-load periods. This is what has been referred to as Smart

home by OECD.[12] It refers to equipment which can provide convenience, customization and energy efficiency, safety and control at home.[13] Thus, a wide range of internet related services has been identified as OTT.

If we look at the reports published by the Body of European Regulators for Electronic Communications (BEREC), we find that the term OTT is not well-defined but has been used widely by businesses. It has been used for a range of services available over the internet or to signify a group of actors. BEREC defines OTT service as "content, a service or an application that is provided to the end user over the public Internet." Thus, a range of content and applications such as voice services over the internet, web-based content including social media and news website, search engines, email services, hosting services instant messaging, and video and multimedia content fall within the range of OTT services. The report further states that OTT includes the content or services that are being offered by a third party irrespective of the Internet Service Provider or Internet Access Provider, though the ISP or IAP can provide their own OTT services.[14] The BEREC report further categorizes OTT services into three types, clearly stating that divisions can be made on the business models used or the type of services offered.[15] However, the taxonomy made by BEREC is as

[12] OECD, "The Development of Fixed Broadband Networks," OECD Digital Economy Papers, No. 239, June 13, 2014, 1-50, 30-33, OECD Publishing, Paris, accessed November, 2020, http://dx.doi.org/10.1787/5jz2m5mlb1q2-en.

[13] OECD (2018), "Consumer policy and the smart home", OECD Digital Economy Papers, No. 268, April, 2018, 1-32, 4, OECD Publishing, Paris, accessed November, 2020, https://doi.org/10.1787/e124c34a-en.

[14] BEREC, "Report on OTT Services," No. BoR (16) 35, January 29, 2016, 1-38, pt. 3.3.1, 14, accessed November, 2020, https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5751-berec-report-on-ott-services_0.pdf.

[15] BEREC, "Report on OTT Services," No. BoR (16) 35, January 29, 2016, 1-38, pt. 3.3.2, 15, accessed November, 2020, https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5751-berec-report-on-ott-services_0.pdf.

follows- "(a) OTT-0 services, which are OTT services that qualify as electronic communication services (ECS), (b) OTT-1 services, which are OTT services that do not qualify as ECS but do potentially compete with ECSs and (c) OTT-2 services, which are the remaining category consisting of OTT services that are not an ECS and do not potentially compete with ECSs" and defines OTT services as "content, a service or an application that is provided to the end-user over the public Internet." Before discussing these three categories of OTT, it is important to understand what is meant by electronic communication services (ECS).

According to Directive 2002/21/EC of 7 March 2002 in a report on common regulatory framework for electronic communications networks and services, "electronic communications service means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks"[16]. Let us now look at what the phrase, Information Society Service means.

According to Article 1 of Directive 98/34/EC, Information Society Service means "any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services." It further explains that distance here means "services provided without the parties being simultaneously present"; electronic means that "the service is sent initially and received at its destination by means of electronic equipment for the processing (including digital compression) and storage of data, and entirely transmitted, conveyed and received by wire, by radio, by optical means or by other

[16]European Parliament and the Council of the European Union, "Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)," March 7, 2002, Article 1, accessed November, 2020, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32002L0021.

electromagnetic means"; and at the individual request of a recipient of services' means that "the service is provided through the transmission of data on individual request." As Annex V of the report states that services transmitting data for simultaneous reception by an infinite number of users do not fall under the ISS which includes television broadcasting services.[17]

The definition of electronic communications service was later amended by the EU to include three types of services which might overlap: internet access services, interpersonal communications services and services consisting wholly or mainly in the conveyance of signals.[18] This EU directive also defined Interpersonal communications services as services providing an interpersonal and interactive exchange of information, including services like traditional voice calls and all types of emails, messaging services and group chats. Here the number of persons involved in the communication act is not unlimited but is determined by the sender of the communication. In order to qualify as an interactive communication service, the recipient of the information has to respond and thus, services like linear broadcasting video on demand, websites, social networks, blogs, or exchange of information between machines, have not been considered to be interpersonal communications services. Also, in services where the interpersonal and interactive facility is a part of only a minor or ancillary feature of a service, whose utility for the end-user is limited, it will be outside the consideration of interpersonal communication service.[19] Internet access services have been

[17]European Parliament and the Council of the European Union, "Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services," June 22, 1998, 1-23, Annex V, 22, accessed November, 2020, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1998L0034:20070101:EN:PDF.

[18]European Parliament and the Council of the European Union, "Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code," December 11, 1998, pt.15, accessed November, 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018L197215.

[19]European Parliament and the Council of the European Union, "Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code," December 11, 2018, pt.17, accessed November, 2020, https://eur-lex.europa.eu/eli/dir/2018/1972/oj.

defined in point (2) of Article 2 of Regulation (EU) 2015/2120 of the European Parliament as "a publicly available electronic communications service that provides access to the internet, and thereby connectivity to virtually all end points of the internet, irrespective of the network technology and terminal equipment used."[20]

After getting a brief idea about ECS from the above policy documents, let us now discuss the different categories of OTT as defined by BEREC in 2016. Based on the definition of the term ECS provided by EU stressing on the service provider's responsibility for the conveyance of signals, BEREC identified that the providers of OTT services over the internet could be partly responsible for the delivery of signals citing the example of OTT voice services which have the capability of making incoming and outgoing calls to the Publicly Available Telephone Service (PATS). So, BEREC interprets the ECS as put by EU as an OTT provider who buys termination on PATS and sells it to the end users as part of wider services and thus is responsible for the termination and transmission of signals that is part of it. VoIP Service provider is a part of OTT-0 service that can make calls and fall within the ECS communication services. OTT-1 are those services which has the potentiality to compete with ECS, as per the definition provided by EU, but are not part of ECS but still can be labeled as communication services. Examples are instant messaging and some voice services. OTT-2 services are all the other OTT services that are not ECS and also do not potentially compete with the ECS. The OTT-2 services mainly include e-commerce and video and music-streaming services.[21] Though there has been a lot of confusion in BEREC's

[20]European Parliament and the Council of the European Union, "Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union," November 25, 2015, pt. 2 of Article 2, accessed November, 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.310.01.0001.01.ENG.

[21] BEREC, "Report on OTT Services," No. BoR (16) 35, January 29, 2016, 1-38, pt. 3.3.2, 15-17, accessed November, 2020, https://www.berec.europa.eu/sites/default/files/files/document_register_store/2016/2/BoR_%2816%29_35_Report_on_OTT_services.pdf.

report regarding the classification of OTT-0 and OTT-1 services and their potential relationship with the ECS, the case has not been so for the OTT-2 services. There has been no such confusion in regard to what qualifies as OTT-2 services. OTT-2 providers facilitate interactions between the consumers and other group of customers like advertisers, thus, acting as intermediaries. The OTT-2 services also sometimes rely on a business model whereby instead of charging the end-users, they make money from the advertisers and other revenue sources like data-profiling.[22]

The above discussion was necessary to understand that OTT services comprises of a range of services, including social media, instant messaging, video conferencing and video-streaming- all of which have a great competitive impact in the constantly changing electronic communications market and are of great value to consumers and businesses.[23] But in common parlance, we associate OTT services with streaming services. However, an important aspect that needs to be considered before I discuss about OTT streaming services in India is the concept of the platform, a term that has been used alongside OTT services mostly by industry publications as well as by academicians and in the age of digital media, the term has increasingly become significant to understand the production, distribution, and monetization of media and cultural content.

The complicated relation between OTT and Platform

[22] BEREC, "Report on OTT Services," No. BoR (16) 35, January 29, 2016, 1-38, pt. 5.1, 29, accessed November, 2020, https://www.berec.europa.eu/sites/default/files/files/document_register_store/2016/2/BoR_%2816%29_35_Report_on_OTT_services.pdf.

[23] BEREC, "Preliminary report on the harmonised collection of data from both Authorised Undertakings and OTT operators," No. BoR (19) 244, December 5, 2019, 1-26, 2, accessed November, 2020, https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5751-berec-report-on-ott-services_0.pdf.

If we trace the meaning and origin of the term platform, then we find that in India, like China[24], the term platform refers to an elevated structure built for a specific purpose. The purpose of building a platform might range from cultural performance to controlling road traffic. However, over the years, the term has been used in different contexts and scopes like technology platforms, global platforms, digital platforms and so on. Nevertheless, it is difficult to pinpoint a chronological evolution of the term but the term has been widely used in the area of business studies. Having said so, it is important to mention that the literature on the platform encompasses a range of disciplines like economics, law, media studies, and sociology.

The word gained prominence in the computer industry in the mid-1990s when Microsoft described Windows as a platform while Netscape developed a cross-platform strategy for its web browser. Studies on platforms have been popular in management and business studies- many of whom examined three elements forming the architecture for platforms- core components with low variability, complementary components with high variability, and interfaces for modularity between core and complementary components- all of which help in lowering the innovation cost as one can use the existing architecture for launching a new product.[25] The term has been used by companies and businesses to refer to markets facilitating interaction and exchange between customers, advertisers and companies. The old-economy industries focusing on advertising supported media and the new economy industries-based software platforms and web portals play an important role in minimizing transaction costs in order to benefit together. As David S. Evans claims, the term "two-sided markets" used by Jean Charles Rochet and Jean Tirole in 2001 to mean businesses catering to two interdependent groups of customers is synonymous with the term "two-sided platforms."[26] Evans further theorizes multi-sided platforms as markets catering to a range of

[24]See Wilfred Yang Wang and Ramon Lobato, "Chinese video streaming services in the context of global platform studies," *Chinese Journal of Communication* 12, no. 3 (2019): 356-371, https://doi.org/10.1080/17544750.2019.1584119.

[25]Carliss Y. Baldwin and C. Jason Woodard, "The architecture of platforms: A unified view," *Platforms, markets and innovation,* ed. Annabelle Gawer (Cheltenham:Edward Elgar Publishing, 2011), 19-44.

customers belonging to different groups and backgrounds. These platforms act as intermediaries to facilitate interactions and exchanges between customers and businesses. Computer games, information technology, many internet-based industries, media, mobile telephony and other telecommunications industries, and payment systems devise strategies to facilitate the entry of different stakeholders while building relationships with customers to keep them hooked on to the platform.[27] Video-streaming services fit into this definition of the platform as many of these services depend on building relationships with the production companies to create content, advertisers for revenue generation, telecom companies for distribution, and consumers for subscription revenue. However, before discussing video-streaming services, it is important to look at the origin of the term platform and find out its relation with OTT services, as the meaning of the terms often overlaps in India.

Tim O' Reilly's proclamation of Web 2.0 as a network across connected devices builds a meaning of the term platform as a "cyber-political sense of liberty" and an "info-business taste of opportunity."[28] It was possibly Bogost and Montford who introduced the term "platform-studies" to pay attention to their computational infrastructures and understand their technicalities in reference to the culture. These computational systems provide a scope for other systems to be built upon it.[29] For Steinberg, a common agreement on the meaning of the term platform is yet to be reached. He puts together six competing definitions on platforms. First, he stresses that the term platform is essentially used in place of media as the technical differences between media have blurred in the digital age. Second, He uses Marc

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[26] David S. Evans, "Introduction," in *Platform Economics: Essays on Multi-Sided Businesses,* ed. David S. Evans(Competition Policy International , 2011), vi.

[27]David S. Evans, "Some Empirical Aspects of Multi-Sided Platform Industries," in *Platform Economics: Essays on Multi-Sided Businesses,* ed. David S. Evans(Competition Policy International , 2011), 30.

[28]Tarleton Gillespie, "The politics of 'platforms'," *New media & society* 12, no. 3 (2010): 352, https://doi.org/10.1177/1461444809342738.

[29]Ian Bogost and Nick Montfort, "Platform studies: Frequently questioned answers," Paper presented at digital arts and culture conference, University of California, Irvine, CA.,December 12–15 2009, https://escholarship.org/uc/item/01r0k9br.

Anderssen's (inventor of Netscape browser) definition of the term platform as something that is programmed. Third, he refers to Bogost and Montford's understanding of the platform as a computational hardware assemblage, thus, stressing more on the hardware of a video-game platform. Fourth, websites like Facebook and YouTube providing a space for creating user-generated content can be referred to as platforms. Steinberg uses Tarleton Gillespie's analysis of the term platform for corporate positioning to claim exemption from copyright-related indictment. Gillespie stresses that, this way the term has loosened its strict computational meaning and has, thus, appealed to the public, creating a sense of common ownership of proprietary sites like YouTube. Fifth, while referring to animation characters, Ian Condry defines platforms as including both the characters and their worlds as they create spaces where social energies merge with medial entities, making it possible for collaborative creativity to take place. Sixth, the term platform has been defined as a place where money, people and commodities meet or as multisided markets providing a set of products and services by bringing in groups of users and providers. This definition refers to the former Kadokawa chairman, Kadokawa Tsuguhiko's and Google executives Eric Schmidt and Jonathan Rosenberg's understanding of the term platform. Steinberg adds that platforms are closed sites regulated and copyright protected where the selling and buying of products and services occur. This commercial space for delivering structured content is what Steinberg refers to as platform ecosystem. The development of this ecosystem has been facilitated by the rise of Amazon, Apple, Google, and Facebook, all of which use hardware assistance, software interface and internet structures to facilitate the selling of goods and services.[30] Tarleton Gillespie categorizes platform into four categories- computational, architectural, computative and political. By computational, he means infrastructures used to build applications like computer hardware operating systems, gaming devices, mobile devices or digital disc formats. Gillespie further states the usage of the term to refer to online environments allowing users to design and arrange applications either by themselves or by third parties. From a figurative perspective, the term platform means a stepping stone to climb further up in a job thus, providing an individual with an opportunity to use his knowledge and skill to position him/ herself in the industry. The fourth and the last connotation of the term platform has been political, where a political candidate or a party

[30]Marc Steinberg, "Converging Contents and Platforms: Niconico Video and Japan's Media Mix Ecology," in *Asian Video Cultures: In the Penumbra of the Global*, eds. Joshua Neves, Bhaskar Sarkar (Durham and London: Duke University Press, 2017), 95-97.

discuss a range of issues. Gillespie states that this understanding developed from the architectural meaning referring to elevated stages, as the candidates used them to address the audience giving expression to their beliefs.[31] However, in the context of digital industries, the term platform has moved from its computational meaning to a technical base upon which programs are run to mean user-generated content, streaming media, blogging and social computing to create an opportunity to communicate, interact and sell while staying connected on devices. Citing the example of YouTube, Gillespie points out the more conceptual use of the term platform, trying to fit in several actors like developers, users, clients and advertisers together.[32]

Most of the studies have focused on platform architecture and design, allowing users some agency to express themselves. The power relations of platforms have been a crucial aspect referred to as José van Dijck puts it, that there is a constant friction in maintaining the relations between users' purpose of expression and to find a legitimacy by looking at the legal implications of its use while making profit at the same time.[33] Much of the concern in media studies in relation to platforms has been on social media and its power to affect and influence users. As Langlois and Elmer point out how economic interests are attached in the designing of social media interfaces where the pre-defined communicative acts are binded to an economic logic as the features "like", "share" and "retweet" helps in data analytics, product recommendation and ranking apart from allowing the users an opportunity to express themselves.[34] There are several ways in which the social media weave themselves with the web to create a dominant infrastructural and economic model of social web- a transition from social network sites to social media platforms which Anne Helmond refers to as "platformization." By infrastructural model, she refers to the social media platforms providing technological framework for others to build on in order to expand their visibility

[31]Tarleton Gillespie,. "The politics of 'platforms'," *New media & society* 12, no. 3 (2010): 349-350, DOI: 10.1177/1461444809342738.

[32]Gillespie, "The politics of 'platforms'," 352.

[33]José Van Dijck, *The culture of connectivity: A critical history of social media* (New York: Oxford University Press, 2013), 26.

[34]Ganaele Langlois and Greg Elmer, "The research politics of social media platforms." *Culture machine* 14, (2013): 14.

to the rest of the web while by economic model she puts forward the logic of social media platforms to engage their extensions to make the external web data platform ready. This decentralization and recentralization of platform ready data is referred to as double logic of platformization.[35] Platform studies incorporate both software and hardware studies highlighting the ways in which the technical, social, and economic concerns determine platforms' structure, function, and use. Plantin, Lagoze Edwards and Sandvig try to combine infrastructure studies with platform studies putting forward the notion that "Both infrastructure and platform refer to structures that underlie or support something more salient." While citing the examples of Google and Facebook, they claim that digital technologies have blurred the lines between infrastructure and platforms thus, creating a "platformization" of infrastructure and an "infrastructuralization" of platforms. They identify issues like "programmability, affordances and constraints, connection of heterogeneous actors, and accessibility of data and logic through application programming interfaces (APIs)" to be the dominant ones in the study of platforms.[36] However, in the context of video-streaming services, their softwares are not open and thus not reprogrammable by any user though they might follow the dominant infrastructure or design to build their design or interface. Since US-based platforms dominate the globe so, there has been a major dependence on part of the national companies to use their infrastructure or design and base their interfaces on the model provided by them. Dal Yong Jin labels this as "platform imperialism" as there is an overdependence and unequal exchange of technology and capital flow by the US based companies over the globe.[37] As the content distribution and mobility available on the smart phones mostly depend on the common infrastructure and the operating

[35] Anne Helmond, "The Web as Platform Data Flows in Social Media" (PhD diss., Amsterdam School for Cultural Analysis (ASCA), 2015), 3-4.

[36] Jean-Christophe Plantin, Carl Lagoze, Paul N. Edwards, and Christian Sandvig, "Infrastructure studies meet platform studies in the age of Google and Facebook," *New media & society* 20, no. 1 (2018): 294-295, https://doi.org/10.1177/1461444816661553

[37] Dal Yong Jin, *Digital platforms, imperialism and political culture*. (New York: Routledge, 2015), 38-39.

systems provided by IoS and Android (owned by US companies Apple and Google), these companies exercise a huge influence in creating a uniform interface.[38]

So far in the discussion we have seen that both the terms OTT and platforms refer to a range of services available via the internet. So, the question is, why are two different terms being used while referring to these services? Or is there any need for two separate terms? For example, Amazon is an OTT as well as a platform providing e-commerce services. Most of the times in common parlance, Amazon has been referred to as an e-commerce platform. On the other hand, Netflix is a video-streaming service which is both an OTT and a platform but in common parlance, it has been referred to be an OTT platform. So, we find that the word OTT and platform has been used interchangeably by businesses and markets, while in India, the term OTT has been used mostly to refer to streaming services. However, after studying the policy reports and the available literature on platforms, one can make an assumption that the term OTT has been used to refer to the more technical aspects of a software or hardware while the term platform encompasses a more anthropocentric or an abstract category of policy. Platform is used more precisely to mean the business, infrastructure and the relationships that develop around it while OTT (as per policy documents) is a much more neutral category concerning mostly with the intrinsic infrastructural details of the hardware and software. After making this differentiation, it is necessary to understand another equally obscuring aspect of the term OTT. In common usage and as per the industry lingo, the term OTT is used in reference to the streaming platforms. So, Hotstar is an OTT video streaming service which is also referred to as OTT platform whereas Flipkart is an e-commerce site which is referred to as an e-commerce platform by the industry. However, according to the policy documents Hotstar, Flipkart, Amazon, Facebook, WhatsApp and so on are all OTT services as they are delivered to the public over the internet. It is this disparity between the policy documents and the general conception existing among the public that prompted me to trace the origin and meaning of the term OTT and connect it with the existing literature on platforms.

Locating video-streaming services within the current media ecosystem

BEREC, in its draft report on "harmonized definitions for indicators regarding OTT services, relevant to electronic communications markets" defines video-streaming services as

[38]Steinberg, "Converging Contents and Platforms," 98.

"streaming of video content over the public internet, including on-demand services (i.e. for the viewing of programmes at the moment chosen by the user and at his individual request on the basis of a catalogue of programmes) and/or linear content (i.e. for simultaneous viewing of programmes on the basis of a programme schedule), which is either:

a. exclusively offered to consumers who get access to content (movies, series, documentaries, sport's events etc.), typically in exchange of a fixed monthly (or other regular) payment (e.g. Netflix, Disney+, HBO Max, Apple TV);

b. offered from a catalogue at request of the consumer, in exchange of a fee per individual content or per transaction (e.g. Apple TV);

c. offered at no specific cost to consumers as such, but being part of a bundle of different services which are offered by the provider in exchange for payment (e.g. Amazon Prime Video).

It should be noted that some video-streaming platforms are "hybrid" in the sense that they combine features of type 1 and type 2 above such as Apple TV, which comprises both subscription and transactional services."[39]

The BEREC Report further mentions that Video-streaming services (partly) compete with, as well as complement traditional pay TV services (IPTV and cable). The report also mentions about some services which cannot be considered as video-streaming services:
"1. IPTV and cable TV services, i.e. video transmission that is not provided over the public internet and video content as an add-on to linear TV provided online or through an app (tablets or smart phones)
2. Internet access services that only convey video content that is being streamed on-demand by a subscriber."[40]

[39] BEREC, "Draft Report on harmonised definitions for indicators regarding OTT services, relevant to electronic communications markets," No. BoR (21) 33, March 11, 2021, 1-27, pt 3.1, 10, accessed November, 2020,
https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/9877-draft-berec-report-on-harmonised-definit_0.pdf.

[40] BEREC,"Draft Report on harmonised definitions for indicators regarding OTT services, relevant to electronic communications markets," pt 3.1, 11.

Amanda Lotz focuses on professionally curated high-quality content distributed by using internet-protocol and labels them as "internet-distributed television."[41] She further points out the different terminologies used during the early experimentation period with internet-distributed content. Between 2004-2008, internet-distributed television was called "web TV" which rarely included full-length episodes. The term "OTT" referring to "over-the-top" gained significance in 2010 but had remained more or less unknown since its appearance in 2005 in an article where Diane Mermigas mentioned that companies like Apple Skype and Vonage had built strong business models by riding over-the-top of the infrastructure built by telecommunication providers and cable companies via using internet-protocol technology. Later the term gained significance in describing the distribution of video through broadband.[42] SVOD (Subscription Video on Demand) also became a common term to be used by the industry to describe the services provided by Netflix and Hulu as the revenue model of most of these services was subscriber driven, especially in the context of Unites States. The viewers also used terms like "on-demand" and "streaming" informally to describe these services. However, one important point that needs to be focused on is that these streaming services were just an extension to view and access legacy television content in the early days.[43]

However, over the years, OTT services are gradually located within an increasingly complex economic and intermediary matrix network. It is important to mention here that BEREC has classified three major economic entities in the Internet value chain, which are also involved in providing OTT services. These are: Internet service providers (ISPs) or Internet access providers (IAPs); Content and applications providers (CAPs); End users (both consumers and business users).

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[41]Amanda D. Lotz, "The paradigmatic evolution of US television and the emergence of internet-distributed television," *Revista ICONO14 Revista científica de Comunicación y Tecnologías emergentes* 14, no. 2 (2016): 132, https://doi.org/10.7195/ri14.v14i2.993.

[42] Amanda Lotz, "Guest Blog: How OTT Hides Television's Revolution," *Broadcasting+Cable*, March 9, 2016, https://www.nexttv.com/blog/guest-blog-how-ott-hides-television-s-revolution-154442.

[43]Amanda Lotz, *Portals: A Treatise on Internet-Distributed Television* (New York: Maize Books Michigan Publishing, 2007), Introduction, http://dx.doi.org/10.3998/mpub.9699689.

Internet service providers (ISPs) or Internet access providers (IAPs) are network and virtual operators providing internet access services to the end users and other intermediary operators or business connectivity providers. The end-users pay the ISPs/IAPs for their connectivity services, while the CAPs sometimes pay for their traffic services. ISPs provide a dual role by enabling access to ECSs to end-users and by helping in providing a connection between the CAPs and end-users. So, the interaction between end users and CAP is made possible by the ISPs who act as both enablers or intermediaries.

Content and applications providers (CAPs): The services of the CAPs range from content aggregation and search engines, messaging applications, entertainment and transactions involving media companies, right holders and users creating content. The end users or the advertisers pay for these services to the CAPs. End users (both consumers and business users): People who pay to the ISPs or IAPs to get access to the internet and pay or freely use the services provided by the CAPs are end users.

BEREC also identifies manufacturers playing an important role in this market as they create new hardware or software alongside developing new equipment to facilitate the dissemination of data services. So, manufacturers of mobile phones, computers, routers, smart-TV sets and servers fall within this category.[44] Let me now focus more pointedly on the term video-streaming services.

Video-streaming services provide the customers' agency to access their libraries arranged genre-wise or category-wise from which they can choose and watch any content according to their interests. So, they act as multi-sided marketplaces[45] designed in a way to provide the customers access to the products or services of a company as well as making transactions to avail these services.

[44] BEREC, "Report on OTT Services," No. BoR (16) 35, January 29, 2016, 1-38, pt. 3.1, 9-10, accessed November, 2020, https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5751-berec-report-on-ott-services_0.pdf.

[45]David S. Evans, "Some Empirical Aspects of Multi-Sided Platform Industries," 30.

The literature on video-streaming services follow two different trajectories- one, is concerned about the videos available on social media sites like YouTube, Facebook, Twitter and Snapchat to understand a range of questions extending from user-generated content[46] to participatory culture[47]. Much of the research is focused on critically evaluating the power dynamics, identity creation and communication discourses emerging from these sites, thus being governed by new media studies; the second one expands from film, television, and media studies which focuses on a range of issues starting from the implications of digital distribution on the existing traditional broadcasting and screen industries[48] to its effects on audiences[49] to understanding the sophisticated algorithmic feedback system[50] to find the place of traditional television-network branding on these websites[51].

[46]See: Jean Burgess and Joshua Green, "The entrepreneurial vlogger: Participatory culture beyond the professional/amateur divide,"in *The YouTube Reader,* eds. Pelle Snickars and Patrick Vonderau (New York: Wallflower Press, 2010), 89-107.
Janice Waldron, "User-generated content, YouTube and participatory culture on the Web: Music learning and teaching in two contrasting online communities," *Music Education Research* 15, no. 3 (2013): 257-274.https://doi.org/10.1080/14613808.2013.772131.

[47]Jean Burgess and Joshua Green, *YouTube: Online video and participatory culture*. (New Jersey: John Wiley & Sons, 2018). Jenkins, Henry. *Fans, bloggers, and gamers: Exploring participatory culture*. (New York: NYU Press, 2006). Clement Chau, "YouTube as a participatory culture," *New directions for youth development* 2010, no.128 (Winter 2010): 65-74,https://doi.org/10.1002/yd.376.

[48]See: Ramon Lobato, "The politics of digital distribution: exclusionary structures in online cinema,"*Studies in Australasian Cinema* 3, no. 2 (2011): 167-178, http://dx.doi.org/10.1386/sac.3.2.167/1; Keith Kehoe and John Mateer, "The Impact of Digital Technology on the Distribution Value Chain Model of Independent Feature Films in the UK,"*International Journal on Media Management* 17, no. 2 (2015): 93-108, http://dx.doi.org/10.1080/14241277.2015.1055533.

[49]Sidneyeve Matrix, "The Netflix effect: Teens, binge watching, and on-demand digital media trends," *Jeunesse: Young People, Texts, Cultures* 6, no. 1 (2014): 119-138, https://doi.org/10.1353/jeu.2014.0002.

Though video-streaming services are referred to as OTT platforms in common parlance but scholars like Amanda Lotz use the term 'portal' to describe these internet-distributed television services. The term portal has been traditionally used in computing to refer to website providing internet service and later to include websites or services providing access to a variety of content. The term portal provides a clear idea about the functioning of the internet-distributed television services as a gateway or library to a range of television programs. She also points out that though the term platform is used to describe these services viewed on particular devices, the term portal is device agnostic.[52] Portals like Netflix and Hotstar are thus sometimes distinguished from open-access platforms like YouTube as the experiences offered by them differ structurally. Based on Lotz's theorization of portal, Wilfred Yang Wang & Ramon Lobato (2019) in their paper on Chinese video streaming services cite the example of the service iQiyi which gives prominence to strongly-curated professional video content and well-known celebrities while at the same time offering interactive functions like online shopping, online payment e-wallet and uploading and

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Kyung-Ho Hwang and Kyung-Ae Kim, "Examining Factors Affecting the Binge-Watching Behaviors of OTT Services," *Journal of the Korea Convergence Society* 11, no. 3 (2020): 181-186, https://doi.org/10.15207/JKCS.2020.11.3.181.

Sunkyung Shin and Jooyeun Park, "Factors affecting users' satisfaction and dissatisfaction of OTT services in South Korea," *Telecommunications Policy*, (2021): 102203, https://doi.org/10.1016/j.telpol.2021.102203.

Graeme Turner, "Approaching the cultures of use: Netflix, disruption and the audience," *Critical Studies in Television: The International Journal of Television Studies*14, issue 2 (2019): 222-232, https://doi.org/10.1177/1749602019834554.

[50]BlakeHallinan, and Ted Striphas, "Recommended for you: The Netflix Prize and the production of algorithmic culture," *New media & society* 18, no. 1 (2016): 117-137. https://doi.org/10.1177/1461444814538646.

[51]Michael L. Wayne, "Netflix, Amazon, and branded television content in subscription video on-demand portals," *Media, Culture & Society* 40, no. 5 (2018): 725-741, https://doi.org/10.1177/0163443717736118.

[52] Amanda D. Lotz, "The Paradigmatic Evolution of U.S. Television," 134-135.

sharing of user generated video. Thus, the features of iQiyi are both portal-like and platform-like.[53] Though, it might seem that portals offer curated, professional content offering the viewer a television-like experience while platforms offer a range of interactive features with the provision of uploading user-generated content and making purchases online, it is not that simple as the term platform has/ is being used interchangeably by the industry personnels as well as by the consumers while describing the video-streaming services. Along with platform the term OTT is also used by the industry to describe the video-streaming services. This creates confusion when one tries to understand the category in which the video-streaming services fit into.

Video-streaming services form an important part of the current media ecosystem characterized by a transition which Michael Curtin labels as "matrix era" where instead of broadcast networks' distribution strategies to connect one-to-many, varied modes of interactivity, productivity, as well as interpretation, become the characteristic element[54] of a convergence culture which has become structured and modeled by the institutional, regulatory and cultural forces moulding the media industries. Amazon and Netflix use strategies like integrating connected viewing hardware and software and offering a library of content both original and old through its user-friendly streaming platform, which in turn are widely used by small and large organizations worldwide. Holt and Sanson use the term connected viewing to refer to the expansion of television content to multiple screens, apps and social media-websites which significantly bring changes to the business model whereby the industry while responding to the fragmentation of the mass audiences devices strategies to use advertising across a range of new reception sites and delivery systems.[55] While talking about video-streaming services, Evens and Donders (2018) stress that all television

[53] Wilfred Yang Wang & Ramon Lobato, "Chinese video streaming services in the context of global platform studies," *Chinese Journal of Communication* 12, no. 3 (2019): 4, https://doi.org/10.1080/17544750.2019.1584119.

[54] Michael Curtin, "Matrix Media," in *Television Studies after TV: Understanding Television in the Post- Broadcast Era*, eds. Graeme Turner and Jinna Tay (London and New York: Routledge, 2009), 13.

[55] Jennifer Holt and Kevin Sanson, eds., *Connected viewing: Selling, streaming, & sharing media in the digital age* (New York and Oxon: Routledge, 2013), 4-5.

platforms adopting a 'multi-sided' business model enabling exchange between different economic agents through their computational infrastructure though not all might provide a technical base for third-party services. They also emphasize the intermediary role of the platforms in connecting programming to the consumers. Competition is evident with the rise of a plethora of streaming services launched by both the old players of the broadcasting industry as well as the new entrants in the field leaving us to understand the impact platformization will have on the prevailing notions of power and control in the television industry.[56]

People worldwide, particularly urban upwardly mobile individuals started to disconnect their cable subscriptions giving a rise to the phenomena of cord-cutting. So, there were investments in digital platforms, smart TVs, smart set-top boxes, and gaming consoles that would allow viewers access to a range of content apart from traditional broadcasts.

Evens and Donders delve with the structure of the television industry affected by platformization which has broken the traditional value-chain by allowing the players of the streaming services "the ability to secure distribution of its services and connect with the viewer directly."[57] Hence, in the Indian context, video streaming services have emerged as a threat to the traditional cable operators, at least for the urban subscriber base. Similarly, niche channels and international television channels, such as HBO, Warner Brothers, even the once popular Star Movies have all shut down their broadcast in India with the rise of video streaming services. As several reports mention, "there is a continuous shift towards convenience based, on-demand viewing. Further, given that most households in India are single TV households, there is a growing trend of solo viewing particularly among the younger generation".[58] Let me try to unpack and elucidate the development of these services in India.

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[56] Tom Evens and Karen Donders, *Platform power and policy in transforming television markets* (Berlin: Springer, 2018), 4.

[57]Evens and Donders, *Platform power and policy,* 2.

[58] KPMG, The Digital First Journey: How OTT platforms can remain 'on-demand ready' October, 2017, https://assets.kpmg/content/dam/kpmg/in/pdf/2017/09/The-Digital-First-journeyV2.pdf

Growth and development of OTT video streaming services in India

Video streaming services began in India with the launch of YouTube on May 7, 2008.[59] In the year, 2020, YouTube dominated India's AVOD market with an estimated share of 67 percent.[60] YouTube India had only 16 channels in 2014 which had more than one million subscribers. In 2019, there were over 300 channels having not only more than a million subscribers but according to the company about two channels were being added every single week. The company also claimed in 2019 that 60 percent of its watch-time in India was from regions outside the six metros.[61] The first Indian owned VOD service was launched by Reliance Group in 2008 and catered to the audience with a library of 700 movie titles in 12 Indian languages.[62] The service named Bigflix couldn't create a market for itself due to the lack of high-speed internet in the country. The service however made a comeback in 2017 as an SVOD service to provide content in nine regional languages, including Hindi, Marathi, Bengali and Tamil.[63] A mobile based VOD service, nexGTv was launched Digivive in 2012 in order to provide users access to a range of TV series and movies along with live TV channels.[64] This period saw a rapid increase in mobile and wireless connections, which led

[59] IndiaTimes News Network, "YouTube Launched in India," *The Economic Times*, May 7, 2008, https://economictimes.indiatimes.com/tech/internet/youtube-launched-in-india/articleshow/3017907.cms?from=mdr.

[60]Media Partners Asia, "Asia Pacific online video and broadband Distribution," 2.

[61] Sohini Mitter, "How YouTube India spurred a thriving content economy cutting across genres, languages, demographics," *YourStory,* April 1, 2019, https://yourstory.com/2019/03/youtube-india-thriving-content-economy-yi37d6xy4u/amp.

[62] agencyfaqs! news bureau, "BigFlicks.com ties up with Raj TV Network for video content," *afaqs,* March 19, 2008, https://www.afaqs.com/news/digital/20657_bigflickscom-ties-up-with-raj-tv-network-for-video-content.

[63] Our Bureau, "Reliance launches Bigflix at ₹50 per month Mumbai*," The Hindu BusinessLine*, March 12, 2018, https://www.thehindubusinessline.com/info-tech/reliance-launches-bigflix-at-50-per-month/article21986163.ece.

[64] Karan Shah, "Digivive Launches New Live Tv Service," *Tech2,* March 12, 2012, https://www.firstpost.com/tech/news-analysis/digivive-launches-new-live-tv-service-3596051.html.

to the growth of internet penetration in India and the number of users reached to 137 million in 2012. Though the number of internet users increased still the internet penetration in India remained 11 percent in 2012 which was quite low in comparison to the number of users.[65] However, India remained the fastest growing internet market in the world and the broadcasting companies operating in India quickly realized the potential of the medium. Initially, some channels, which later launched their own video streaming platforms, were part of YouTube and were four of the top ten YouTube channels in India by the end of 2013. They were mostly the Hindi General Entertainment Channels (GEC) like StarPlus, Colors TV, Zee TV, and SET India.[66] During this period, Zee Entertainment Enterprises Limited (ZEE) and Sony Pictures Networks India Pvt. Ltd. (SONY) launched their own VOD platform, dittoTV[67] (February, 2012)[68] and SonyLIV[69] (January, 2013)[70]. The streaming

[65] Simon Kemp, "Digital 2012: India" *Datareportal*, November 9, 2012, https://datareportal.com/reports/digital-2012-india.

[66] Scott Fitzgerald, "Over-the-Top Video Services in India: Media Imperialism after Globalization," *Media Industries* 6, no. 2 (2019): 94-95, https://doi.org/10.3998/mij.15031809.0006.206.

[67] DittoTV was a subscription based platform launched by Zee Entertainment Enterprises Limited (ZEEL) on February, 2012. An advertising based video streaming platform, Ozee was launched by Zee Digital Convergence Limited (ZDCL), the digital arm of Zee Entertainment Enterprises Limited (ZEEL) on February, 2016 mainly with a focus to make television content available within minutes of the telecast of the programme on television. The platform focused on making all the content broadcast across Zee Network available for the viewers. However, on 14 February, 2018, ZEEL, launched another online video platform, Zee5 which integrated the existing platformsOzee (advertising-based) and Ditto TV (subscription-based). In order to compete with global players like Netflix and Amazon Prime Video, broadcaster-owned platforms like Hotstar, SonyLIv and Voot and independent VOD platforms like YuppTV and Spuul, Zee5 adopted a free plus premium pricing model and began with offering its content in 12 regional languages. See: Harveen Ahluwalia, "Zee Entertainment launches new video streaming platform Zee5," *mint*, February 14, 2018, https://www.livemint.com/Consumer/c7MymlBR4d5jIrLUeFWRkO/Zee-Entertainment-launches-new-video-streaming-platform-Zee5.html.

[68] Anupam Saxena, "Zee Launches Online & Mobile TV Streaming Platform Ditto TV," *Medianama*, February 29, 2012, https://www.medianama.com/2012/02/223-zee-launches-online-mobile-tv-streaming-platform-ditto-tv/.

video market grew especially after the launch of Reliance Jio's 4G telecom services on 5 September, 2016, as the data and voice prices decreased considerably, providing consumers with an opportunity to use more bandwidth for watching video content. The data usage per customer rose from 500 MB per month in 2016 to 10.6 GB per month in 2019.[71] So, there was a considerable rise in the OTT video streaming services, which increased by the end of 2016 to thirty.[72] The Indian government's Digital India campaign which was launched on July, 2015 to make governmental services available electronically as well as to build a strong digital infrastructure to connect even the remotest part of India, provided an opportunity for companies to invest in video streaming services. Later in December 2019, the government launched National Broadband Mission to lay 30 lakh route km Optical Fibre and increase the tower density from 0.42 to 1 tower per thousand population in order to provide equal access

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[69] SonyLIV was launched by Multi Screen Media (MSM) in January, 2013 to showcase shows from its own broadcast channels Sony TV, Sony SAB, Sony Ten etc. In June, 2020, SonyLIV launched its premium subscription with a user-friendly interface in order to compete with other platform providers. In 2019, SonyLIV also launched India's first OTT gaming destination with over 100 exclusive show-based games which was made available in a phased manner. See: Gaurav Laghate, "Sony launches digital entertainment platform Sony LIV," *Business Standard,* January 29, 2013, https://www.business-standard.com/article/pti-stories/sony-launches-digital-entertainment-platform-sony-liv-113012200570_1.html. and "SonyLIV to Launch India's First OTT Gaming Destination With Exclusive Augmented Reality and Show Based Games, Targets 50 MN Users," *businesswireIndia,* July 5, 2019, https://www.businesswireindia.com/sonyliv-to-launch-indias-first-ott-gaming-destination-with-exclusive-augmented-reality-and-show-based-games-targets-50-mn-users-64025.html.

[70] Our Bureau, "SonyLIV launches video-on-demand service," *The Hindu BusinessLine,* January 22, 2013, https://www.thehindubusinessline.com/companies/sonyliv-launches-video-on-demand-service/article23094096.ece.

[71] Mobis Philipose, "How Reliance Jio transformed India's telecom industry, in five charts," *LiveMint,* January 16, 2020, https://www.livemint.com/market/mark-to-market/five-charts-that-show-how-india-s-telecom-industry-has-fared-post-reliance-jio-11579082872199.html.

[72] Scott Fitzgerald, "Over-the-Top Video Services in India: Media Imperialism after Globalization," *Media Industries* 6, 2 (2019): 94. https://doi.org/10.3998/mij.15031809.0006.206.

to broadband services in the rural and remote areas.[73] Many broadcasting companies having a strong presence in television also followed suit and launched their own video streaming services like Hotstar[74] (launched by Star India on February 1, 2015)[75] and Voot[76] (launched by Viacom18 on March 29, 2016)[77]. With the launch of the US based video streaming

[73] PTI, "Government promises broadband access in all villages by 2022; launches National Broadband Mission," December 17, 2019, https://economictimes.indiatimes.com/tech/internet/government-promises-broadband-access-in-all-villages-by-2022-launches-national-broadband-mission/articleshow/72847719.cms?from=mdr.

[74]Initially launched as a free service Hotstar was supported by advertisement, it later adopted a blended model offering its content both as AVOD and SVOD. One of the reasons behind its popularity has been the live streaming of cricket matches especially of the Indian Premier League (IPL). Hotstar's parent company, 21st Century Fox was acquired by The Walt Disney Company in 2019 which led to an addition of more content in the platform while changing the name of the platform to Disney+Hotstar. Till November, 2020, Disney+Hotstar claimed to have 26 million paid subscribers. See: FICCI-EY, "A billion screens of opportunity, "March 2019, 1-300, 123, accessed October 2020, http://www.ioaa.co.in/images/EY-a-billion-screens-of-opportunity.pdf. and Sarvesh Mathi, "Disney's Secret Weapon Is a Streaming Platform in India," *Marker,* December 3, 2020. https://marker.medium.com/disneys-secret-weapon-is-a-streaming-platform-in-india-60c174130c7a.

[75]Urvi Malvania, "10 million users in 40 days: Hotstar takes digital media world by storm," *Business Standard,* March 21, 2015, https://www.business-standard.com/article/companies/10-million-users-in-40-days-hotstar-takes-digital-media-world-by-storm-115032100784_1.html.

[76]Voot is owned by Viacom 18 Media Pvt Limited which is a joint venture between the Indian owned TV18 and the American Multinational mass media conglomerate, ViacomCBS Inc. Voot initially began as an AVOD service free for consumers in 2016. However, on 3 March, 2020, it launched its SVOD service, Voot Select. It also entered into a partnership with the telecom service provider, Vi in January 2021 offering the platform on Vi Movies and TV. See: Basil Kannagi Arasu, "Voot Select content arrives on Vi Movies and TV," *OnlyTech,* January 21, 2021, https://onlytech.com/voot-select-content-arrives-on-vi-movies-and-tv/.

[77]Ritam Chakrabarty and Chriselle Bayross, "Viacom18 moves into the world of connected screens with the launch of its digital VOD platform," Viacom18 press release, March 29, 2016, https://www.viacom18.com/media/voot-press-release/.

services like Netflix (January, 2016)[78] and Amazon Prime Video (December, 2016)[79], the video streaming space in India has become even more competitive. As Vivek Couto, executive director of Media Partners Asia, mentions in their press release "In the emerging markets of India and Southeast Asia, the landscape for SVOD is promising but is still being shaped because of growing competitive intensity with increased investment in content and distribution."[80] It was YouTube's success as well as the changing scenario of the Indian broadcasting industry that inspired many companies to start their own streaming services.

OTT video streaming services have also tried to cater to the demands of the regional audiences by providing content exclusively in Bengali, Tamil, Telugu, Marathi, Kannada, Gujarati and other Indian languages. Exclusive regional language OTT video streaming players like AddaTimes, Hoichoi, Aha, Koode, Planet Marathi, Letsflix, CityShor.TV, Olly Plus etc. have also been successful in engaging the audiences' attention through innovative content. However, VOD platforms like Disney+Hotstar, Netflix, Amazon Prime Video, Voot, Zee5 have been procuring and making content in several Indian languages, Hindi being the dominant one followed by Tamil. As Gaurav Banerjee, President & Head of Hindi Entertainment, Star India, mentions "We want to make shows in many different Indian languages and have green lit a few shows. Our Tamil show will be the first off the block in the next few months. The way we are thinking about it is that any show that we do, it should be made accessible to consumers and different Indian languages. We are not building Hindi shows, we're building Indian shows, and we have just started, but its India and all languages

[78] Reuters, "Netflix launches in India, plans start at Rs. 500," *The Hindu,* January 07, 2016, https://www.thehindu.com/business/Industry/Netflix-launches-in-India-plans-start-at-Rs.-500/article13986241.ece.

[79] Vidhi Choudhary, "Amazon Prime Video launched in India," *Mint,* December 15, 2016, https://www.livemint.com/Consumer/HrRSNfsQaONsfvVh8dU1ZI/Amazon-Prime-Video-launched-in-India.html.

[80]Media Partners Asia, "Asia Pacific online video and broadband Distribution,"Press release, January 11, 2021,https://www.media-partners-asia.com/OTT2021/PR.pdf?_ga=2.85129169.917110209.1621251438-207023829.1621251438.

are important. As we keep scaling up, we will add more and more."[81] Thus OTT video streaming services are offering content to capture the global audience. Amazon Prime Video also has involved itself in making content in regional languages mainly in Tamil and Telugu. As Vijay Subramaniam, director and head of content of Amazon Prime Video, India puts it, "Clearly, you can see us going deeper and deeper to serve Indian customers as best as we can. We are deeply involved and engaged in multiple languages and our content preferences in those languages because that's what makes India and Indian entertainment. I think the brand Amazon Prime Video truly represents Indian entertainment." [82] The Covid 19 pandemic did provide a major boost to the video streaming services as due to lockdown, there was a lack of new content on TV, which led many people to move online in search of new content. According to the annual Media and Entertainment report of Boston Consulting Group (BCG) along with the Confederation of Indian Industry (CII), the Covid 19 pandemic has boosted the SVOD subscriptions in India by 55-60 percent as the "tier-two, three and four towns have taken the lead in availing OTT services by clocking 1.5 times the number of new OTT (over-the-top) users as compared to metro and tier-one cities."[83] Thus, the pandemic provided further impetus to the VOD industry as OTTs became mainstream and with the rise in consumers in tier-two, three and four towns, there was a surge in the launch of services dedicated to regional content like aha (Telugu), Koode (Malayalam), and City Shor TV (Gujarati), Planet Marathi (Marathi) and Letsflix (Marathi).[84] According to the

[81] Sonam Saini, "We are not building Hindi shows but Indian content: Gaurav Banerjee, Star India," *e4m*, November 19, 2019, https://www.exchange4media.com/digital-news/we-are-not-building-hindi-shows-but-indian-content-gaurav-banerjee-star-india-100913.html.

[82] Asmita Dey, "Amazon Prime Video to focus on content in regional languages," February 18, 2020, https://www.financialexpress.com/industry/technology/amazon-prime-video-to-focus-on-content-in-regional-languages/1870905/.

[83] Lata Jha, "India registers 60% growth in paid OTT subscribers during pandemic," *Mint,* December 16, 2020, https://www.livemint.com/industry/media/india-registers-60-growth-in-paid-ott-subscribers-during-pandemic-11608108011235.html.

[84] Javed Farooqui, "2020: The year OTT went mainstream How a combination of low-cost mobile data, affordable smartphones, fresh content and lockdown induced boredom changed the game for

report, Media and Entertainment Outlook 2020, published by PricewaterhouseCoopers India is currently the world's fastest growing OTT (over-the-top streaming) market, which is predicted to emerge as the world's sixth-largest by 2024 with a revenue growth expected in OTT video including internet advertising, video games and e-sports, music, radio and podcasts.[85] Due to increased data affordability, new mobile-first formats, ability to measure and tactical targeting, mobile devices will remain the primary source of revenue for the companies.[86]

It was important to look at the development of OTT video streaming services to understand how the development of internet distributed video disrupted traditional television broadcasting and the ways in which the future of television was shaped in a developing country like India. According to the FICCI-EY Report "Playing by new rules," 2021, television saw a decline of 22 percent in ad revenues while 7 percent fall in subscription income due to the pandemic, whereas OTT subscriptions saw a growth of 49 percent in subscription revenues as 28 million Indians paid for 53 million OTT subscriptions in 2020. Much of the content consumed were part of their data plans.[87] Especially during the pandemic, cable saw a decline of 3% in their subscriptions compared to 2019 whereas DTH and HITS remained relatively stable in 2020.[88] The monopoly of broadcasters on large screen is supposed to end by 2025 as the number of smart connected TV sets will exceed 40

OTT industry in the pandemic year," *e4m*, January 4, 2021, https://www.exchange4media.com/digital-news/ott-goes-mainstream-in-2020-109995.html.

[85] Lata Jha, "India is the world's fastest growing OTT market: PwC report," *Mint*, October 22, 2020, https://www.livemint.com/news/india/india-is-the-world-s-fastest-growing-ott-market-pwc-report-11603355739242.html.

[86] ETBrandEquity, "India is the fastest-growing OTT market at 28.6 percent CAGR: PwC report," October 22, 2020, https://brandequity.economictimes.indiatimes.com/news/media/india-is-the-fastest-growing-ott-market-at-28-6-percent-cagr-pwc-report/78804323.

[87] FICCI-EY, "Playing by new rules," March 2021, 1-332, 11, accessed January, 2021. https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/media-and-entertainment/2021/ey-india-media-and-entertainment-sector-reboots.pdf?download.

[88] FICCI-EY, "Playing by new rules," 41.

million; thus, 30 percent of the content consumed on large screens will be social, gaming and digital.[89] Affordable data packs, the availability of cheap handsets and a variety of content have led to the popularity of the OTT platforms. In order to provide consumers with better experience and pricing, the OTT service providers have adapted hybrid marketing strategies, promising deals with content producers and telecom players.[90] The FICCI-EY report predicts a growth of smart television sets by 40 to 50 million by 2025 where about thirty percent of the content will be gaming, social media and short video content produced by brands having a presence in radio, print and television. Also, television content will be integrated with OTT content which then will be offered in bundles by the telcos or collectively by the ISPs, cable and DTH companies and consumed by an estimated 400 million consumers.[91]

The affordances of the diverse distribution technologies have led to differing industrial and audience practices. Video-streaming services are like libraries providing the viewer a range of options to choose from at their own convenience. The non-linearity of video-streaming services is a crucial technological aspect that differentiates them from traditional linear broadcasting. For Amanda Lotz, "internet-distributed television is not a new medium, but the medium of television distributed through a different technology" which became popular not only because of the capability of internet-distributed technology but due to the emergence of services that made this distribution technology useful.[92] One of the major affordances offered by video streaming services which make them different from broadcast and cable distribution is the elimination of time-specific viewing, thus offering audiences the liberty to watch programme according to their own schedule.

It may be helpful to use the framework of paradigms to understand the rules related to the presence of multiple distribution technologies. Here, media is distinct from the distribution technology, and thus, paradigms do not only consist of technology and practice but it

[89]FICCI-EY, "Playing by new rules," 15.

[90]MICA-Communication Crafts, "Indian OTT Platforms: Consumption explosion," 2020, 1-294, 31, https://www.mica.ac.in/images/downloads/MICA%20OTT%20Report_2020.pdf.

[91]FICCI-EY, "Playing by new rules," March 2021, 41

[92] Amanda D. Lotz, "The Paradigmatic Evolution of U.S. Television,"134-135.

incorporates how the industry players think about their business practices as well as how the audiences envisage their viewing practices and expectations while watching television. So, the dominant practices and protocols of television created during the broadcast, cable and satellite eras are not norms innate to television but are some of the characteristics of television created due to the dominant distribution techniques. Lotz further stresses the need for a conceptual framework of paradigms to understand the changes that might lead to a modified broadcast paradigm that is reassembled from the existing norms of broadcasting if television broadcasting has to adjust in response to over-the-top video streaming services that has different affordances in comparison to broadcast television.[93]

Also, since the organizational structure and the business practices of one video-streaming service provider differs from the other so, it becomes important to address the complexity of the business enterprises rather than just "simplify [ing] it in the form of 'tech' versus 'media' binaries or ignoring it outright."[94] Thus, it becomes important to understand the industry protocols and the prevailing paradigms that guide these video-streaming services.

Indian and global business models: distribution, technology and audience

The market models followed by OTT video platforms can be divided into the following types: Advertising Video On Demand (AVOD), Transactional Video On Demand (TVOD) and Subscription Video On Demand (SVOD). The AVOD services are free for the customers but like broadcast television, the consumer has to watch the ads played on the platform when the content is being streamed. So, the viewer spends time watching the ads. Example of the video streaming platforms following this model is Dailymotion and YouTube.

TVOD services charge the consumer on a pay per view basis. These services can be further divided into two sub-categories- electronic sell-through (EST), where a viewer pays once to

[93] Amanda D. Lotz, "The Paradigmatic Evolution of U.S. Television," 131-132.

[94]Kevin Sanson, and Gregory Steirer, "Hulu, streaming, and the contemporary television ecosystem," *Media, Culture & Society* 41, no. 8 (2019): 7, https://doi.org/10.1177/0163443718823144.

gain permanent access to a piece of content; and download to rent (DTR), where customers access a piece of content for a limited time for a smaller fee. In this model, a customer gets timely access to content and most new releases too are offered in this model. Examples of the apps following this model are Apple's iTunes and Amazon's video store.

In the SVOD services like the traditional broadcast packages the customer has to pay a fixed amount of money per month. In most of these kinds of services, the customers are not tied to long-term contracts and can hence opt out of these services as and when they desire to do so. Thus, most of the platforms face a challenge of hooking in the customers to their platforms. They do this by offering new content on a regular basis.[95] Netflix, Amazon Prime Video, Hotstar, AltBalaji follow this model.

Another model, which is a combination of AVOD and SVOD model is the Freemium model which offers the consumers access to only some of the content in the platform while the premium content is available only after the customer pays a subscription fee. This way customer engagement in the platform is retained with a hope of converting the customer to the pay model by offering him/her original programming. Advertisement based monetization helps to recover some part of the operational cost while subscriptions, on the other hand, help in making the platform profitable in the future.[96] In India, mostly the broadcasting companies owning OTT video streaming services follow the Freemium model like Disney+Hotstar, Voot and Zee5. Here, the content broadcast on their television channels is offered on their online platforms free of cost while the original content produced only for streaming are behind the paywall. YouTube also uses the Freemium model offering a service called YouTube Premium in which the users get access to ad free content along with a range of other features like downloading the video, playing the video in background, access to ad free YouTube Music and ad free YouTube Kids app. Thus, OTT video streaming services follow a combination of business models to gain profits. Another model which has

[95] Jack Cammish, "What are SVOD, TVOD, AVOD?," *Imagen,* accessed July 3, 2021, https://imagen.io/blog/what-are-svod-tvod-avod/

[96] FICCI-KPMG, "The 'Digital First' journey: How OTT platforms can remain 'on-demand ready'," October, 2017, 1-56, 23, accessed January, 2021, https://assets.kpmg/content/dam/kpmg/in/pdf/2017/09/The-Digital-First-journeyV2.pdf.

developed especially during the Covid-19 pandemic, is the Premium Video on Demand (PVOD) model where the newly released films are streamed for a fee to the audiences for a limited period of time. Thus, in this model, the pricing is higher than usual and the films cannot be bought for indefinite viewing. However, the big studios have tried to implement this model even before the pandemic as films released in theatres generate 90 percent of the revenues during the first four weeks of its release so, the major studios in the West have been pushing to advocate this model in order to generate higher revenues. However, the threat of losing revenues have made the theatre owners resistant to PVOD[97] though Universal Studios reached an agreement with AMC theatres to shorten the theatrical exclusivity window to 17 days in order to generate revenues through PVOD services.[98] In India, however, on 22 February, 2021, the telecom service provider Vodafone Idea entered into an arrangement with the OTT video streaming service, Hungama Digital to launch PVOD services on its Vi Movies app and TV app though the movies offered in the platform are not the recent releases.[99]

Some channels available on platforms like YouTube also use sponsorship as a mode to monetize their content. This way they recover their production costs without losing the customers to intrusive advertising. TVF, before launching its own OTT video streaming service had Ola Cabs as the sponsor of the web series Permanent Roommates[100], another content creator, Dice Media too uploads short videos and web series on YouTube which have been sponsored by different advertising companies. As the gatekeeping positions

[97] Jack Cammish, "Is Premium Video on Demand here to stay?," *imagen*, accessed July 3, 2021, https://imagen.io/blog/premium-video-on-demand/.

[98] Chaim Gartenberg, "AMC and Universal agree to let movies go from theaters to digital rentals much sooner," *The Verge*, July 28, 2020, https://www.theverge.com/2020/7/28/21345713/amc-universal-movies-theaters-digital-rentals-pvod-streaming-agreement.

[99] PTI, "Voda-Idea launches premium VOD service on Vi Movies & TV app; teams up with Hungama," *The New Indian Express*, February 22, 2021, https://www.newindianexpress.com/business/2021/feb/22/voda-idea-launches-premium-vod-service-on-vi-movies--tv-app-teams-up-with-hungama-2267387.html.

[100]FICCI-KPMG, "The 'Digital First' journey: How OTT platforms can remain 'on-demand ready'," 23.

change rapidly due to the advent of video-streaming services, so the broadcasters and the content producers engage in building partnerships with multiple distribution platforms in the TV ecosystem in order to gain a competitive advantage in the industry.[101]

Distribution:

The OTT video streaming platforms have been building effective distribution strategy over the years to increase their subscriber base. Different strategies have been employed by these services to make their content available to a large number of audiences. One of the ways through which these professional video-streaming sites work is by advertising their content on YouTube and Facebook as these social media sites have a large user base. During the initial years, FICCI-KPMG report, 2017, 'Digital First' stated, the following strategies to improve the performance of the online video-streaming services and to monetize their content effectively:

Creating one's own platform: Majority of the OTT players create their own platforms to establish or retain its brand identity among the advertisers and consumers. The Freemium model works best this way. It also helps to "retain IP rights, control user experience and identify key user touch-points." Also, since creating quality content for the digital incurs high production costs which can be recovered mostly through subscription revenue so, a platform owner has to compete "with high customer/ traffic acquisition costs and the limited opportunities around content syndication with rival platforms." In India, many broadcasting platforms began initially with a content library before moving on to create original content for the web.

Building a presence across social media-based video platforms: This strategy has also worked for some Indian content producers like Chu Chu TV, All India Bakchod (AIB) and initially for TVF. Here, the content players with limited resources make their content available on sites like Youtube and Facebook. Hence, a large number of audiences can be reached at a fraction of customer acquisition costs. The revenue is usually shared with the platforms hosting the content retaining a substantial amount of the CPMs as platform access

[101]Tom Evens, "Clash of TV platforms: How broadcasters and distributors build platform leadership." (paper presented at the 25th European Regional ITS Conference, Brussels, June 22-25, 2014), 5, accessed April 6, 2021, https://www.econstor.eu/bitstream/10419/101429/1/795036078.pdf.

fee. Also, as these sites host a large library of content from a range of content creators, so sometimes it might become difficult for the viewers to find content which might lead to brand dilution, thus, reducing the CPMs and increasing the bargaining power of the host platform. It is important to also note that majority of the global and popular OTT video streaming services use social media sites to endorse their content through trailers and short videos promoting the film or series available in their OTT video streaming services. Like, Netflix, promotes its content via its Youtube channel.

Syndicating Content: In this model, the content is created by a content producer and distributed via other OTT video streaming services. The same content producer can enter into a contract with different streaming services to distribute its content. So, in this model the OTT platforms host the content thus, providing the content producers with an existing infrastructure and user base. The revenue structure between the parties is usually a minimum guarantee or based on fixed fee basis. This model doesn't lead to brand equity creation or user loyalty pertaining to a channel. The success of the content might further lead to more revenues which remain uncertain in many cases. Like Arre, a content producer which operates a YouTube channel had partnered with a number of other OTT video streaming services like Yupp TV and SonyLIV.

Telco Partnerships: In order to retain its consumer base, due to the falling revenues on voice and the gradual increase in data usage, the telecom companies are partnering with the OTT video streaming services and content producers. This way the video streaming services get access to the wireless internet subscriber base of the mobile companies. The revenue models followed are a mix of ad-based revenues with a fixed fee component. Though in this model, finding content might be easier for a consumer in comparison to YouTube but still retaining brand recognition might be difficult for the OTT service.[102] Also, the same video streaming service might be available in the bundle packs of the competing telecom companies. Like, Vi has entered into a partnership with Disney+Hotstar VIP on March, 2021 to offer its customers access to the OTT platforms content on some selected data plans.[103] Similarly,

[102]FICCI-KPMG, "The 'Digital First' journey: How OTT platforms can remain 'on-demand ready'," 21.

[103] Tech Desk, "Vi to offer free Disney+ Hotstar VIP subscription with four new prepaid plans and on postpaid," *The Indian Express,* March 11, 2021,

Reliance Jio and Airtel has also partnered with Disney+Hotstar VIP in 2020 to offer their customers an immersive experience.[104] Partnerships with telcos offer the companies a wider reach along with other marketing techniques like direct subscriptions, advertising and branded or sponsored content- all of which are primary streams of revenue for streaming services.[105]

Though these platforms offer the consumers access to all episodes of a show simultaneously but some video-streaming services (especially the ones that own broadcast television) like Disney+Hotstar have incorporated strategies to maintain the broadcast industry logic of appointment-based viewing by streaming episodes of some shows on a weekly basis. Many of video-streaming sites have also been adopting multi-platform strategies and techniques to produce and distribute their content over a range of distribution outlets like mobile, gaming etc.[106]

Technology:

The devices through which OTT video streaming services can be accessed are: Smartphones (iphones and androids), Tablets (iPad, Amazon Fire, Microsoft Surface, Galaxy Tab A), Smart TVs (Roku TV, Apple TV, Amazon Firestick, Chromecast), Gaming Consoles (XBOX, Play Stations).[107] All professional video-streaming services have a backend service

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https://indianexpress.com/article/technology/tech-news-technology/vodafone-idea-disney-hotstar-vip-membership-prepaid-postpaid-plans-7222176/.

[104] IANS, "Disney+Hotstar VIP partners with Reliance Jio, Airtel ahead of IPL 2020," *Business Standard*, September 5, 2020, https://www.business-standard.com/article/sports/disney-hotstar-vip-partners-with-reliance-jio-airtel-ahead-of-ipl-2020-120090501026_1.html.

[105]Lata Jha, "Telco bundles to contribute 50% to online viewers," *Mint,* April 1, 2021, https://www.livemint.com/industry/media/telco-bundles-to-contribute-50-to-online-viewers-by-2023-11617951858986.html.

[106] Gillian Doyle, "Multi-platform media and the miracle of the loaves and fishes," *Journal of Media Business Studies* 12, no.1, (2015): 49, https://doi.org/10.1080/16522354.2015.1027113.

consisting of a content-management system, user-management system, recommendation server and search server. Content Management System (CMS) is the database which holds all the metadata of the content that is to be played. CMS tries to tap in the user behavior of a particular streaming service. The recommendation server ensures to churn out the recommendations to multiple users and the search server just helps the viewer to search the content. These are the common backend services that all video-streaming platforms have though there might be some more depending on the requirements of the services. As most video-streaming services get content from content partners who provide high resolution, large size files thus, the files are then ingested into the server but the content that is eventually streamed for the users, are not huge chunks of data. They use a process through which the original file is converted into a streamable format and gets adequately compressed so that it can be streamed seamlessly. The video encoder and packager compress the data into a streamable format. Also, there is limited number of streaming servers for this streaming video content but in order to ensure minimum latency for the video there is the Content Delivery Network (CDN) which is usually a mesh of servers hosted by the datacenters of the telecom operators so that the last mile delivery of the content can be made. CDNs are distributed geographically to reduce distance between the server and the streaming server. There are multiple CDN providers as there are multiple video-streaming providers. Multiple CDNs might be required to operate in different geographical locations. The content streamed is encrypted which is decrypted by the user through his/ her viewing device. In order to restrict streaming of content on more than one device or to stop the copying of a content Digital Rights Management (DRM) tools are used.

Lotz builds her understanding about video-streaming services delivering professionally curated content by referring to the organization and delivery of content which services like Netflix, Disney Hotstar and Amazon Prime provide. While referring to these services as "portals", she foregrounds the role of these services to that of curation of content "based on the identity, vision, and strategy that drive[s] its business model." The interface of these services offers different experiences to the viewers unlike the traditional broadcasting where changing channels gave access to different content but the experiences of the viewer remained the same. The strategies used in organizing the content or designing the

[107] Emily Krings, "The Ultimate Guide to OTT Technology for Professional Broadcasters in 2021," *dacast,* March 25, 2021, https://www.dacast.com/blog/ott-technology/.

search and recommendation functions while offering customization to the subscribers makes these services different from the broadcasting model. Non-linearity has been an important characteristic of internet-distributed television which has focused mostly on a subscriber-funded revenue model in major countries of the world unlike broadcast television.[108] The algorithms of these services are designed in a way to push the audience to consume content during the first window of its availability thus facilitating a demand for a newly launched programme.[109] Thus, the interface of a video-streaming service is never transparent but is a lasting myth associated with layers of mediations and reflections.[110]

***Audience**:*

Majority of the Indian audience access online videos through telecom bundles and according to Ficci-EY media and entertainment industry report the numbers are going to be nearly half or 399 million of the total 818 million online video consumers by 2023. The report also specifically states that India is a value-conscious country and thus, Indians are more interested in choosing those telecom aggregators who offer multiple streaming services on either mobile, broadband or smart TV. Presently telecom caters to about 284 million online video of the total 803 million streaming video viewers in India. For understanding the customer segmentation, the FICCI_EY report has classified the customers into

a) digital only (customers who do not access television but consume content only on digital platforms),

b) tactical digital (customers using at least one paid OTT service along with pay TV),

c) bundled digital (customers accessing only the content bundled with telcos along with pay TV)

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[108]Amanda Lotz, *Portals: A Treatise on Internet-Distributed Television* (New York: Maize Books Michigan Publishing, 2007), Introduction, http://dx.doi.org/10.3998/mpub.9699689.

[109]Amanda Lotz, *Portals: A Treatise on Internet-Distributed Television* (New York: Maize Books Michigan Publishing, 2007), 3 Strategies of Internet-Distributed Television: Vertical Integration and the Studio Portal, http://dx.doi.org/10.3998/mpub.9699689.

[110]Jinying Li, "The interface affect of a contact zone: Danmaku on video-streaming platforms," *Asiascape: Digital Asia* 4, no. 3 (2017): 237.

d) mass consumers (people who primarily use pay TV and may occasionally consume some OTT content, usually free) and

e) free consumers or those who do not pay for content at all[111]

The report further states that the fastest growing segment of consumers will be the bundled digital who are estimated to reach 399 million in 2023 followed by Premium customers comprising of Digital only and Tactical Digital who will cross 100 million by 2023.[112] The majority of the viewership of broadcaster-led streaming services comes from the telcos.[113]

The affordances offered by these video-streaming services are different from the broadcast television. However, some of the reasons why these services might attract the audience are:

Exercising choice: The constantly changing policies of the television broadcasting industry in India don't offer the consumers a range of options to exercise their choice. Though the range of options offered in terms of the number of channels broadcast are huge but the consumers have to often choose from a bouquet of channels prepared by the MSOs in consultation with the broadcasters and offered by the LCOs as packages. Though, for the majority of the Indian audience this might not be an issue as they are not totally aware of the existing broadcasting policies but for the niche audience subscribing to the video-streaming services having the liberty to exercise choice in choosing the services that grab their attention. They pay for only those services which attract them in terms of programming or pricing.

Creating one's own schedule: Broadcast television offers appointment-based viewing due to its technological limitation thus, leaving the consumer only with the option to view the programme according to the schedule created by the industry experts. The video-streaming services on the other hand have offered the consumers the option to watch content at their own chosen time thus offering them the convenience to create their own schedule. Audiences can also pause; fast-forward and skip content accordingly and get back to an

[111]FICCI-EY, "Playing by new rules: Media and Entertainment industry trends 2020," 15.

[112]FICCI-EY, "Playing by new rules: Media and Entertainment industry trends 2020," 15.

[113] Jha, "Telco bundles to contribute 50% to online viewers."

incomplete episode at a later time. So, the audiences create their own schedules based on their free time.

Variety of content: The availability of different kinds of content like original series, documentaries, films and even traditional broadcasting content including reality shows, television documentaries and television series, has attracted the audiences to this medium. Access to a variety of content via video-streaming service offers the consumers a range of options to choose from which in case of traditional broadcast is limited. In traditional broadcast, there is hardly any variety in content, even though there are a lot of channels available.

Quality content: In the Indian context, broadcasting content on television is limited to similar storylines will lower scope of experimentation in production and form. However, in case of video-streaming services the focus is more on experimentation with form and creating quality content as it caters to a niche audience.

Personal medium: As per a survey conducted by MoMAGIC invested platform mChamp in 2019 about 70 percent Indian audience use their smartphones to watch content provided by the streaming services.[114] Mobile phones have become the primary screen for the connected consumers in India as an average Indian consumer spends about 3.5- 4 hours daily on their smartphones.[115] Using mobile phones to watch content offers a more personalized viewing experience for the viewers compared to television; hence, people are using mobile screens to watch a range of content over video streaming platforms.

Though the viewing patterns and experiences of the video-streaming services might offer more choice and convenience to the audience, scholars like Gerald Sim reject the notion of consumer autonomy as a "manufactured fantasy."[116] These video-streaming sites try to hook

[114] ETBrandEquity, "55% of Indians prefer OTT platforms vs 41% that still prefer DTH: MoMAGIC survey," *Economic Times*, August 27, 2019, https://brandequity.economictimes.indiatimes.com/news/media/55-of-indians-prefer-ott-platforms-vs-41-that-still-prefer-dth-momagic-survey/70858815..

[115] Simran Sabherwal, "Mobile emerges as primary screen for connected consumers of India," *e4m*, December 4, 2020, https://www.exchange4media.com/marketing-news/mobile-emerges-as-primary-screen-for-connected-consumers-of-india-109401.html

the audiences by creating algorithms not only by making them binge-watch the series but also by showcasing a range of other programmes to choose from even after the culmination of the series. The interfaces of these streaming apps are designed in a way to showcase or push for the latest shows.

Towards platform governmentality

This proliferation of OTT services and the recent effort to integrate OTT and video streaming services with the set-top-boxes allow me to come back to the fundamental question related to the mandatory digitalization of cable broadcasting. In the light of these emerging practices and services, I suggest that mandatory digitalization of cable television broadcasting is the most direct and explicit attempt towards platform governmentality in the Indian context.

Continuing a Foucauldian study of various modalities of governance, a number of studies have argued in recent years that the digital transition is profoundly altering how people are governed and how they govern themselves. Several phrases, such as algorithmic governance, data-driven governance, or cybernetic governmentality, have been developed to describe this shift.[117] In this context, I tentatively suggest platform governmentality as a conceptual starting point to understand platform-based governing through mandatory set-top-boxes.

Foucault's emphasis on governance as the "conduct of conduct" and rejection of the notion that state power emerges from a particular source (the economy or the state) struck a chord with the developing focus on politics "beyond the state" and novel governance practices, such as an apparently new focus on public-private partnerships.[118] In addition to the conventional focus on the techniques actors use to address the problems they aim to govern,

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[116]Gerald Sim, "Individual disruptors and economic gamechangers: Netflix, new media, and neoliberalism," in *The Netflix Effect: Technology and Entertainment in the 21st Century*, ed. Kevin McDonald and Daniel Smith-Rowsey (London and New York: Bloomsbury Academic, 2016), 193.

[117] Christian Katzenbach,and Lena Ulbricht, "Algorithmic governance," Internet Policy Review 8, no. 4 (2019), 4. Also see Seibel, Benjamin, *Cybernetic government*, Wiesbaden: Springer, 2016.

[118] Michelle Brady and Randy K. Lippert, eds. *Governing practices: Neoliberalism, governmentality, and the ethnographic imaginary* (University of Toronto Press, 2016), 9.

governmentality studies also emphasized the ways in which government techniques contributed to the emergence of certain patterns or issues as "problems" that governments or other participants could and should address.[119]

Neo-Foucauldian work on governmentality is related to the most significant post-structuralist theorization of neoliberalism. These studies recognize a helpful difference between government and governance, arguing that while neoliberalism may entail less government, this does not always imply less governance. From one angle, neo-liberalism problematizes the state and seeks to define its limitations through the language of personal choice. On the other hand, neo-liberalism incorporates modes of governance that urge both institutions and people to comply to market norms.

Governing platforms on a large scale present a number of issues, which are frequently moulded by varying arguments over what it means by the term platforms, its responsibilities, and organizational limits. In regards to the definition, platform governance has been defined by its difficulties with governing a hybrid. As Gillespie points out, platforms are neither mere information conduits nor media content providers. Instead, they are "something new emerging from their convergence". We are now dealing with a third category, "a hybrid that has not been anticipated by information law or public debates".[120]

Several studies in the field of platform studies have explained that the creation and growth of platforms as a business strategy are frequently viewed as an integral component of the digital transition of capitalism, which is by itself a reaction to the challenges faced by capitalism.[121] Nevertheless, platforms are essentially considerably more than simple commercial models: they may be utilized for law enforcement, governance of state services, community-based organizations, and even the management of the national medical system, leading to the idea

[119] Randy Lippert and Kevin Stenson, "Advancing governmentality studies: Lessons from social constructionism," *Theoretical criminology* 14, no. 4 (2010), 473-494.

[120] Gillespie, Tarleton. "Platforms Are Not Intermediaries." *Georgetown Law Technology Review* 2 (2018), 199.

[121] Nick Srnicek *Platform capitalism*. John Wiley & Sons, 2017.

of a 'platform society'.[122] Thus, platforms can be considered an emerging alternative method of structuring social relationships.

The primary purpose of the platforms is to provide digital infrastructures that enable diverse interactions between people, organizations, and objects. The managing firms serve as socio-technical mediators that manage, regulate, and shape relations and interactions, thereby also collecting huge volumes of information and data through these digital services[123] It is important to note not always the consumers are the ultimate clients of such firms. Rather, there are a variety of data-intensive business strategies by which revenues may be extracted. For example, advertising platforms such as Google and Facebook provide free digital services to customers, but their clients are organisations and agencies that pay for tailored advertising.[124] Alternatively, product platforms like taxi-hailing applications and travel management applications give merchants and service providers targeted recommendations of prospective clients and collect substantial profits. Cloud platforms such as Google, Amazon or Microsoft lease their data centres' storage and computing capacity to clients where in return for a payment, complete daily operations of the company may be executed on such platforms. Industrial platforms, such as those supplied by Siemens, are increasingly becoming adept at digitally handling industrial data, including the complete data lifecycle. Every one of these businesses acquires information and data from users, clients, and other stakeholders, sometimes as ancillary operations.[125]

Recent articles on platforms underline that platform enterprises are transforming the economic sphere, modes of mobility, and methods of living and social interaction in cities and beyond. For instance, Leszczynski argues that platforms bind their users to particular services through a variety of affective strategies, such as promises of safety, connectedness,

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[122] José Van Dijck, Thomas Poell, and Martijn De Waal. *The platform society: Public values in a connective world*. Oxford: Oxford University Press, 2018.

[123] Paul Langley and Andrew Leyshon. "Platform capitalism: the intermediation and capitalization of digital economic circulation." *Finance and society.* 3, no. 1 (2017): 11-31.

[124] Shoshana Zuboff, *The age of surveillance capitalism: The fight for a human future at the new frontier of power.* New York: PublicAffairs, 2019.

[125] Nick Srnicek *Platform capitalism*.

and trust, and by conveying certain sets of values associated with using the platform.[126] The issue of set-to-box interoperability points to this aspect. In addition, platform firms frequently distribute their digital services via pre-installed software packages and factory settings on end devices such as smartphones, and smart TVs, in the context of set-top-box, the dispute regarding booting time and forced viewing of a particular channel points to this aspect. As a condition of usage, particular operating systems and applications may also be bound to end devices. Those who wish to get access to certain services, commodities, or infrastructures must thus rely on the technology and software that comprise the digital infrastructure of platforms. Similar to Google, it seems, increasingly, Jio is intending to set up such an infrastructure.

Thus, platform governmentality consists of several interrelated components. By cataloguing each individual viewer uniquely, the data of each viewer becomes the new object of governance. Amid the numerous socio-technical and cultural elements that assist in the formation of platform governmentality, three appear to be especially significant: Conviction in technology-supported, network-enabled access to individuals; (b) A hegemonic discursive formation that connects individuals' choices and desires with various promises, such as efficiency, variety, and safety; and (c) The establishment of a fragmented niche market based on technology-enabled personalization and the promise of choice. Not to mention, that this infrastructure is more than conducive to the idea of "surveillance capitalism" which has significantly advanced both data collection and the growth of machine learning as a production technique.[127] Therefore, perhaps it would not be far-fetched to think that set-top-boxes, similar to streaming video apps and social media, are able to collect and trade large amounts of behavioural data through these digital platforms.

In a dissertation on the shifting contours of television under digitalization, deliberation on the changes brought by OTT and video streaming services is necessary to etch out the wider changes in the field. In the above discussion, I have sketched out certain accounts that underline the shifting terrain of television in India, particularly with the emergence of OTT video streaming services. The transformations described here mainly pertain to the industry, market and technology. Since broadcast television is no longer the fundamental format that

[126] Bucher, Taina. "A technicity of attention: How software 'makes sense'." *Culture machine* 13 (2012): 1-23.

[127] Shoshana Zuboff, *The age of surveillance capitalism*

TV studies is expected to focus on, increasingly the emphasis is being focused on what Michael Curtin refers to as a media ‘matrix' that points to a more multifaceted setting in which transformations have been forceful yet patchy, and is often marked by regional, national and global conflicts in terms of policy, technology and implementation. The market, with the introduction of OTT video streaming services and new platforms almost on a weekly basis, can increase the adoption of streaming services, but public policy remains a crucial factor in organizing such shifts and to execute it from a collectively satisfactory standpoint. Within this context, as the above discussion illustrates, there can be a marked shift in the theoretical focus of television studies. Usually, the theoretical framework of media and communication studies looks at television within the context of a broadcast television system that is often tied to a national culture and a particular type of governmentality in accordance with that nation-state. It is indisputable that such a model, which focuses on “television's informative, national, and democratic institutional roles, is beginning to appear dated in several markets today”.[128] It definitely calls for a varying and more complex remapping of the modern television landscape.

[128]Turner, Graeme, and Jinna Tay, eds. *Television studies after TV: Understanding television in the post-broadcast era*. (London: Routledge, 2009), 4.

Conclusion

In June 2018, when the World Cup football tournament was going on in full swing, Sony pulled its channels off the MSO Manthan platform, sending more than two lakh football fans into rage and despair. The cable operators received incessant calls from irate subscribers after the sudden switch-off in the middle of the match. Fearing that the subscribers might create havoc because in the next match Argentina was supposed to play, cable operators illegally tapped into the DTH signals of the Sony Ten2 channel in order to allow subscribers to watch the match. "It forced us to tap the signal on Saturday so that our subscribers didn't miss the Argentina match" exclaimed a Manthan operator in New Alipore, "There would have been chaos had we not pirated the signal."[1]

The incident mentioned above illustrates a plethora of similar disorders that emerged during the mandatory digitalization of cable broadcasting. Even in nations that do not endorse authoritarianism, reaching a consensus among members of different strata of society is not easy. Before making judgements on technical standards, the distribution of spectrum, or the criteria for selecting multiplexes, governments could first publish documents or consultation papers inviting public comment. While these will be read by interested organizations skilled in lobbying and draw responses from those organizations, there may be a great deal of political unwillingness to induce a broad and well-informed public discussion across a more significant population for anxiety of inciting consumer resistance. The public, however, needs to understand the issues and debates to influence the path that the transition to digitalization takes or the possible results that may come out of it.

The early depiction of television emphasized its role as a broadcast medium. It was at the forefront in postwar depictions of consumer culture, watched in private settings, aimed for a national audience, and widely distributed. There have been significant shifts in these circumstances. The proliferation of delivery platforms and the subsequent proliferation of television/video displays in stations, shopping malls, vehicles, lifts, and even the exterior of

[1] Prithvijit Mitra, "Operators pirate channels after Manthan blackout," *The Times of India*, June 18, 2018, https://timesofindia.indiatimes.com/city/kolkata/operators-pirate-channels-after-manthan-blackout/articleshow/64630589.cms.

building structures signalled a gradual but steady break from the residential limitations of television. A familiar aesthetic of metropolitan open places now often includes enormous television screens. As time went on, more and more displays reduced in size, becoming dramatically more personal, as they were crammed into devices like cell phones, portable DVD players, and automobile dashboards. Due to its technological evolution, television gradually displaced its defining characteristics. Assumptions in the field of television studies on the development and meaning of the medium also began to be questioned.

Even though the television that any given community watches, depends heavily on the national, regional, or international context within which the communication systems in concern are embedded, most of the scholarly literature on the medium has been content to ignore this fact. It is now abundantly evident that, if we are to have any hope of properly comprehending television's modern social, cultural, and political roles, we can no longer speak of "TV" as though it were a singular object.[2] This contention is also true for television distribution as these mutations proliferate fundamental questions related to platforms of delivery that affect our understanding of television. The objective of this dissertation was to address some of those questions.

The purpose of this study was to examine the Digital Addressable System's deployment in order to better understand the intricate relationships that exist between the state, the neoliberal market, and media technology. To make sense of the gradual deployment of mandatory Digital Addressable System across the various regions of India, it was required to rethink broadcast regulations, the television industry, and distributary procedures. The research project hoped to offer a framework for understanding and analyzing neoliberal cultural sites of government interference. My major goal within this theoretical framework was to grasp the Digital Addressable System's deployment as a site of hegemonic endeavours symbolizing the promises of modernity and development, as well as its inherent shortcomings.

In the introductory chapter, an overview of the available research on various themes related to digitalization and/or television transmission in both the Indian and global context is presented,

[2] Graeme Turner and Jinna Tay, ed., *Television studies after TV: Understanding television in the post-broadcast era* (London: Routledge, 2009), 3.

along with a chronological evolution of significant developments. In order to appreciate the complexities of digitalization and digital transformation, it was required to locate them within the current academic scholarship on television culture and industry. With a focus on non-Western media cultures, I attempted to offer a critical review of existing studies on digitalization and the manner in which technology mediates the state's interrelations with its citizens, along with a short historical overview of the associated technological developments with television transmission in India. This unpacking of existing literature was necessary prior to engaging critically with several dimensions of the digitalization of television broadcasting in India, as well as investigating digitally mediated connections between the state, the market, and its citizens.

The ensuing chapter underlined the importance of policy in the transition to digitalization. Rapid digitalization and convergence of technologies have increased the relevance of studies in the area of media policy, compelling researchers to investigate related topics such as telecommunications and information networks. One fact is apparent that the issues related to the policy of the media is "highly political". It is clear now that certain people's opinions and interests are given more weight than others throughout the policy-making process due to power dynamics, ideological biases, and other political considerations. Therefore, it is critical to unearth such underrepresented perspectives. This dissertation reiterates the assertion that isolating politics from the policy is a false premise since policy-making is not value-free and is motivated by a variety of factors.[3] For that reason, improving one's analysis requires critical engagement with the mechanisms and settings that drive policy.

With the realization that it is essential to recognize the role that media policy plays in a developing nation like India before delving into the specifics of policy regarding the digitalization of cable television, it is necessary to complicate matters further by locating these new developments within the particular historical background in which such policies emerged. Looking back at the policies that eventually led to the digital switchover in India is essential if we want to grasp its rationale. In 2005, TRAI published regulations for the digitalization of cable television in India, in which TRAI declared digitalization as a 'growth driver'. It is worth noting that the transition to digital television was first implemented in the West. Even while

[3] Paula Chakravartty and Katharine Sarikakis, *Media policy and globalization* (Edinburgh: Edinburgh University Press, 2006).

regulators, broadcasters, and MSOs are convinced that digital technology is here to stay, the market has been instrumental in creating conditions favourable to the transition.

As I have indicated in chapter 2, it is feasible to develop a list of objectives that prompted TRAI to commence the digitalization of cable services by reading the policy papers connected to the digitalization of cable television. While I compiled such a list, it was evident that the projected reasoning behind the transition to a digital addressable system has been the reasoning to provide the 'consumer' with an abundance of alternatives, supplying them with improved signals, and offering them with original content, however, all of these have been envisioned to safeguard the interest of the industry. In other words, the transition has been motivated by the logic of protecting the interests of the industry. This is a definitive pattern of neoliberal economic growth, in which the government and markets collaborate to support and sustain one another. In the case of a digital addressable system, the customers or subscribers are largely disregarded since the broadcasters' interest in bringing transparency to the market is considered a priority. What is overlooked are the public interests. A closer look at the policy documents has revealed that the term 'public' or 'citizen' has not been used once; instead, the terms 'consumers' and 'subscribers' have been used ubiquitously. This underscores the neoliberal logic of transforming the public into mere consumers of various goods and services.

In the context of the digitalization of cable television, policy decisions were erratic, policy adjustments occurred hastily, and decisions were taken in a fragmentary manner as circumstances warranted. Using the theoretical framework of critical policy studies, I attempted to identify what kind of individuals and groups are involved in the discursive networks of policy that produce objects of economic governance. I argue that these kinds of policy reasoning have an effect on the governmentalization and disciplining of the structure of different publics and their practices. While these decisions contribute to hegemonic logic, different social forces continue to challenge them.

This study focused on the evolution of relationships between the players involved in broadcasting throughout the transition from analogue to digital. Even though television studies in India have usually focused on the content and audience of television, it is crucial to critically study this mostly overlooked area to learn how the television market and the political economy of a country interact and how the stakeholders negotiate the debates and issues raised by the market. In Chapter 3, I sought to do so by deliberating on the digital switchover deadline in West Bengal, which became a site of conflict between the central government and the state.

The case study on the politics surrounding the digital deadline was helpful for studying the link between the state, the neoliberal market, and digital technology. It was also valuable to analyze the particulars of the neoliberal situation under which these advances are taking place. I made an effort to understand how the theoretical separation between political economy, cultural studies, and studies based on governmentality shapes the theoretical notion of neoliberalism. I contended that we must reconsider how the idea of neoliberalism is usually denoted and look for ways to implement it more fruitfully. In reaction to what I see as an excessive focus on neoliberalism as a static notion, I argue that it may be more constructive to speak about neoliberal logics, which are continually and dynamically intertwined with other sociopolitical, economic, and cultural logics. I want to use the term "logic" to refer to the rules or structure of practice and the conditions that make a situation both possible and unstable.[4] By defining neoliberalism as a series of formative logics discursively linked with specific other logics, we can better see the shortcomings of limiting this research on the digitalization of television to the framework of neoliberalism. It may also make possible a way of critical evaluation that goes beyond merely labelling a complex social structure as "neoliberal" to assist us in building a critical perspective.

Important to notice in the backdrop of these arguments, initiatives, and claims is that, rather than focusing more carefully on the claims of advantages, the whole commotion is focused on the deadline. Because the political unrest in West Bengal revolves around the problem of the cable digitalization deadline, a rather in-depth explanation of neoliberalism was required. I argued that we could attempt to understand the emphasis on "deadline" as a preparedness question. It is an issue based on the welfare state's preparedness to deliver benefits uniformly and effectively using modern technology. Moreover, can the chasm between the planned and actual beneficiaries of development be bridged? In contrast to the traditional picture of a completely automated digital distribution system, cable digitalization reveals that the digital ecosystem of governance is rife with internal inconsistencies. Furthermore, I argue, analogous to certain other Digital India projects, especially the UIDAI project, it tends to evolve locally in a variety of ways, dependent on how diverse digitalization-related concerns are understood in a localized manner and how the system is implemented in a phased process.

[4] Jason Glynos and David Howarth. *Logics of critical explanation in social and political theory* (New York: Routledge, 2007).

It is not uncommon for India to embrace the most advanced technology and presume that it can now touch the country's most remote regions. The infamous 'last mile problem' focuses mainly on the fact that intended recipients of state benefits do not receive what is intended for them, primarily owing to systemic flaws on the receiver's end.[5] Similarly, in relation to the UIDAI project, it may be claimed that, in the area of cable digitalization, there was substantial evidence that the issue principally stemmed from the inability of a centralized state to grasp or create acceptable procedures to define or control this new environment. Even in this case, the contrast between citizen and beneficiary has a direct bearing on the issues that have dominated all debates of DAS, namely for whose benefit digitalization has been made mandatory.

In policy documents, I restate pledges of 'good governance,' 'inclusive technology,' and 'participatory development' seemed to be empty rhetoric. A more thorough and rigorous investigation exposed a basic problem from the standpoint of the stakeholders themselves, who habitually overlook the key fact that technology must be at the service of individuals and not the other way around. It is essential to assess the level to which these policy innovations align with the tools of successful governance so that they may be utilized to create fresh opportunities in the domain of personal growth, welfare, and individual well-being.

However, the ethnographic fieldwork helped me gain important insights into the various issues and conflicts encountered during the digital transition of broadcasting. While gaining access to most of the stakeholders has been somewhat challenging, mainly because during the transition era, the stakeholders have been distrustful of one another and uncertain about the continual technological and regulatory developments in the industry, the majority of them were first hesitant to speak with an 'outsider'. As I have mentioned in Chapter 4, although the cable operators were the most reluctant, other prominent industry people, such as equipment makers, suppliers, and MSOs, were equally reluctant to speak with a researcher about the trade practices. Making my way through these indispositions, in Chapter 4, I tried to comprehend the contentious interaction between local cable operators, multi-system operators, broadcasters, and customers in managing the mandatory digitalization of cable television.

Using multi-sited ethnography, which entailed formulating a plan to trace the links, ties, and assumed interconnections among the study's participants, my aim was to identify the concerns

[5] Ashish Rajadhyaksha, *The Last Cultural Mile. An Inquiry into Technology and Governance in India* (Bangalore: The Center for Internet and Society, 2011).

and viewpoints of stakeholders at various levels of the cable television digitalization's chain of importance. As the stakeholder's influence depends on their place in the hierarchical system, it was effective to interpret their interactions and ties through ethnographic narratives. A number of important points of contention emerged from the ethnographic interviews performed with local cable operators, multi-system operators, broadcasters, and consumers.

One of the key insights was the sense of unpreparedness. Since the digitalization process began in early 2000, this lack of readiness seems suspicious and can be read in line with Bhabha as an "intentional, political and policy-based feeling of unreadiness, which provides them full freedom to work with whatever they want, to amend whatever rules they want, and to issue executive orders whatever they want."[6] The scarcity of set-top boxes, the anxiety among customers, and the confusion around the switchover date all speak to a perception of unpreparedness that might have been averted if the state had not adopted what seems to be unpreparedness as a policy of governance.

Furthermore, I argue that the apparatus of the set-top box has been instrumental in shaping television as a social and cultural phenomenon. While the set-top box has changed throughout time to incorporate additional services and features, taking into account worldwide regional, technical, and legislative disparities, it has remained at the centre of all the transformations. Nonetheless, as I have tried to illustrate, while the viewers were informed of how to use the STB, many were either unaware or disinterested in the adjustments it offered them in terms of channel selection and receiver sensitivity. They remained to rely on local cable companies for channel and package selection. My objective was to highlight the financial consequences that have developed as a direct consequence of technological developments through the set-top box and to expose the ambiguity that could also prompt or exacerbate conflicts of interest in the cable television ecosystem.

Logically, this discussion paved the way for bringing forward the issue of 'choice'. Referring to industry practices, I argued that if an ordinary citizen wants to use their freedom of choice, it will collide with their financial ability. Despite the fact that the digital transition has been time-consuming and costly for the common individuals involved, industry experts underlined in their comments the significance of encouraging customers to purchase set-top boxes in order to participate in the digital switchover. The MSOs first imported set-top boxes from

[6] Homi Bhabha, "The state of unpreparedness," *Expeditions*, 2021. www.joinexpeditions.com/exps/113.

Korea and China since India lacked sufficient production facilities. However, because of the high cost of set-top boxes for low-income households, the MSOs promised to give discounts. It is vital to note that the Indian government did not provide its citizens with any subsidies to keep the digitalization initiatives on track. In reality, this prevented many individuals from viewing television, particularly those from low-income homes.

The idea of making things as affordable as possible has been floated around as both a legislative goal and an economic limitation. Over the course of its history, technology has seen a number of advancements that have led to an increase in both the product's quality and affordability, making it more accessible to the vast majority of consumers. However, in the case of India, attaining affordability for customers is dependent on the MSOs and broadcasters, both of which were private corporations that initiated the digitalization effort that the government ordered. Therefore, as I hoped to explain, for the average viewer, the predicament between 'choice' and 'affordability' in the context of the digitalization of cable television remained an unresolved dilemma.

In this dissertation, I have strived to explicate the ethnographic accounts that span multiple levels of inquiry, diving deeply into meaning-making procedures while admitting the difficulties of interacting with scattered, opinionated, and contested accounts. Instead of concentrating on only one of the segments, the purpose was to elicit from each participant a more in-depth analysis of the dispersed, multiple, and incoherent aspects of the deployment of the digital addressable system. Considering the interruptions and nonlinearities in the introduction of the digital addressable system, an evolving procedure that is constantly changing in terms of technology, policy, and distribution, the intention was to explore the temporal intricacies of the digitalization process by participating in events as they occur in the present.

Digitalization has brought many changes to the conception of television— its form, technology, and distribution, but the advent of OTT (Over the Top) services is one of the most significant ones. In Chapter 5, I tried to look into what characteristics may be identified under the category of OTT, with the term OTT appearing in so many policies, regulations, practices, and business strategies. One of the characteristics of the post-broadcast age is the uncertainty around the terminology of specific phrases, such as OTT, as I explored in my attempt to distinguish between communication-related OTTs and non-communication-related OTTs.

I further complicate the issue by bringing in the idea of the platform as a concept that has been utilized alongside OTT services, most often by trade journals as well as recent academic researchers. In the age of digital media, the phrase has become increasingly vital to comprehend the development, circulation, and commercialization of media and cultural material. However, after reviewing policy papers and scholarly studies focusing on platform research, I suggest that the word OTT has been employed to describe more technical features of software or hardware. In contrast, the term platform comprises a more anthropocentric or abstract policy category. The platform is used more accurately to refer to the industry, network, and interactions that grow around it, whereas OTT (as underlined in policy papers) is a far more technical term that primarily deals with the underlying infrastructural aspects of the software and hardware. My objective was to examine how extremely distinctive forms of distribution, technology, and audience arise compared to traditional forms of television services by reviewing the different kinds of business models adopted by OTT video streaming services in India.

This development of over-the-top (OTT) services and current efforts to integrate OTT and video streaming services with set-top boxes allow me to return to a core question regarding the mandatory digitalization of cable television broadcasts. In light of these evolving practices and services, I suggest that mandatory digitalization of cable television programming is the most unequivocal and explicit attempt at platform governmentality in the Indian context.

If we agree that broadcast television is no longer the primary template on which TV studies are presumed to concentrate, giving way to a more multidimensional configuration in which transitions have been aggressive but inconsistent, and is frequently characterized by geographic, national, and global struggles in terms of policy, technology, and application, then we encounter a number of questions. Addressing such concerns, I tried to examine if television is now inextricably linked to the concept of platforms and OTT, then in what way the technological, social, and policy-related functions have changed. Can we still differentiate between the two words in terms of their sociopolitical and commercial functions?

With the advent of OTT video streaming services and the arrival of new platforms virtually every week, the industry can expand with the introduction of streaming services. However, the public policy continues to play a critical role in organizing such transitions and executing them in a mutually agreeable manner. As I have already indicated, there might be an apparent change in the analytical focus of television studies within this framework. Typically, the

conceptual model of media and communication studies examines television from the perspective of a broadcast television system, which is frequently linked to a national culture and a particular pattern of governmentality in line with that nation-state. Such a concept undoubtedly necessitates a more varied and intricate remapping of the current television environment.

This dissertation is primarily an effort to articulate a moment of change. The dissertation makes no decisive recommendations or attempts to address these quandaries with definite solutions. However, the dissertation's arguments bring our focus to an understudied facet of the television industry: distribution.

Notwithstanding the centrality of distribution to the financial and strategic accomplishment of television broadcasting, relatively not much has been published in the academic sphere about this attribute of the industry, primarily since the publicity, promotion, and distribution of television programmes were incredibly unwavering in the latter decades of the twentieth century.[7] Undoubtedly, the introduction of cable television was disruptive in its own manner, but the current magnitude and ambit of transformation seem much larger, sparking considerable conversation about the momentous transitions currently taking place. Accordingly, this research offers insight into the unfolding of new distribution practices.

Digital distribution is a fluid and multidimensional phenomenon that influences nearly every part of the television industry. It is altering how television is conceived, developed, budgeted, created, promoted, bundled, marketed, distributed, monitored, valued, and recirculated. It is altering our television viewing practices and television-based social interactions. Therefore, distribution is foregrounded in conversations among the broadcasters, regulators, and the general populace. As these deliberations continue, it is increasingly evident that the profound adjustments materializing now represent one of the most noteworthy in the evolution of contemporary television. To consider distribution merely as a cog in the wheel or as a financial attribute is to overlook their genuine importance. What makes distribution so significant is its direct connection with the paying viewers.

While this dissertation encompasses a wide range of concerns in terms of mapping out different issues about the television ecosystem going digital, it ultimately arrives at the

[7] Kurt, Sutter, *Distribution revolution: Conversations about the digital future of film and television* (California: Univ of California Press, 2014), 14.

following contention: broadcasters, MSOs, and cable operators need to reconfigure themselves around new delivery methods fundamentally, or they would possibly lose their viewers to a slew of potential competitors in the digital environment.

Contentious arguments over the value of television content, changes in audience behaviour, and the creation of easy, intuitive access are the markers on which the category of distribution is being shaped. Perceptibly, agency and authority are central to each of these concerns. More critical attention must be paid to the distributary infrastructure supporting this shift, particularly the role of ISPs and independent distribution platforms that handles the 'pipes' that carry digital television signals.

To comprehend the present volatility in the television broadcasting environment, it is evident that the roots of transition have been planted in distribution systems and technology. Consequently, media distribution paradigms are shifting from mass to niche and from synchronous to asynchronous, a transformation that is simultaneously driven by competitive forces, government policies, popular desires, and technical innovation.

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Signature of the Candidate