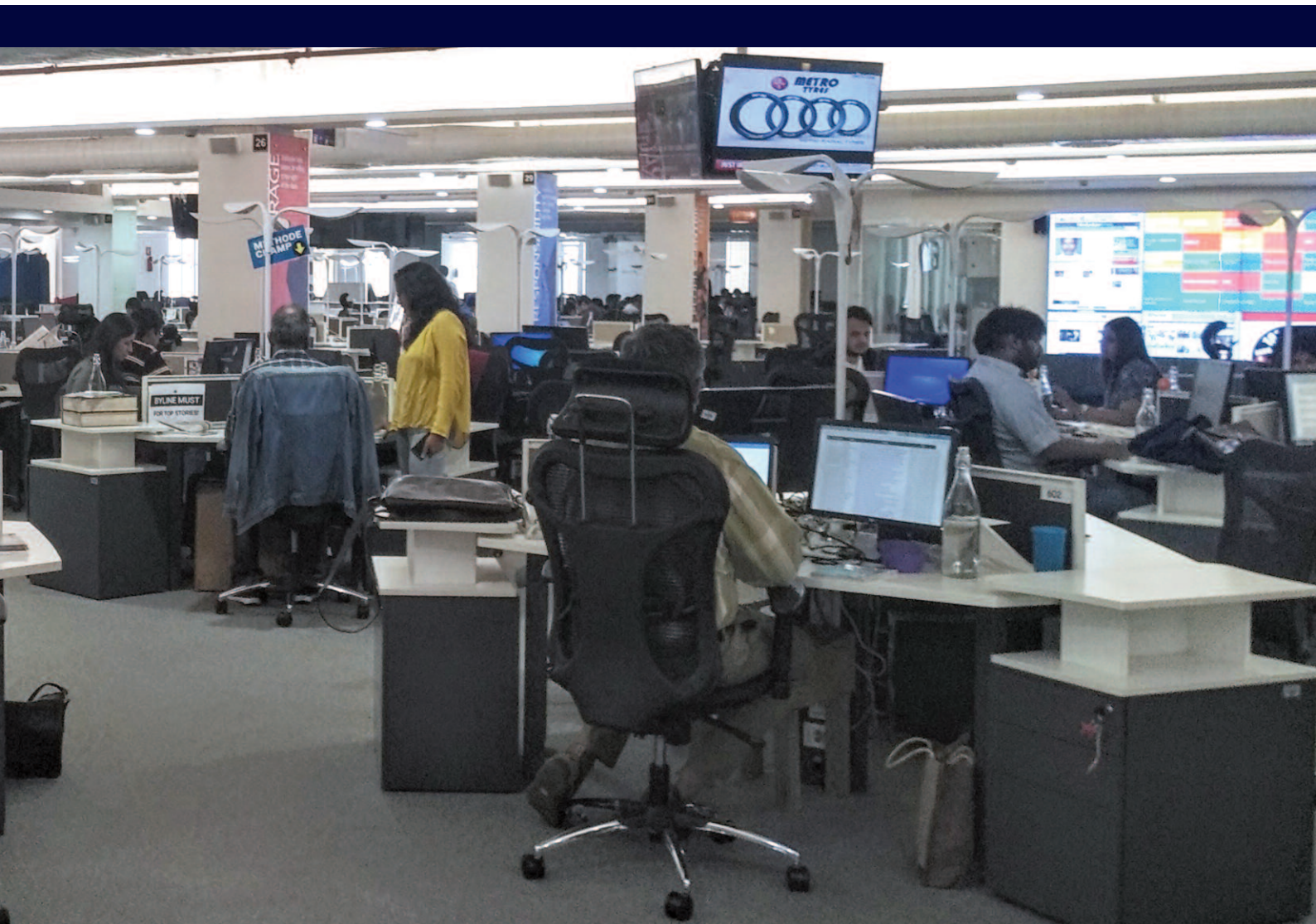


Indian Newspapers' Digital Transition: *Dainik Jagran, Hindustan Times, and Malayala Manorama*

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Executive Summary

This report examines the digital transition underway at three leading newspapers in India, the *Dainik Jagran* in Hindi, English-language *Hindustan Times*, and *Malayala Manorama* in Malayalam. Our focus is on how they are changing their newsroom organisation and journalistic work to expand their digital presence and adapt to a changing media environment.

The background for the report is the rapid and continued growth in digital media use in India. Especially since 2010, internet use has grown at an explosive pace, driven by the spread of mobile web access, also outside large urban areas and the more affluent and highly educated English-language minority that have historically represented a large part of India's internet users. Some analysts estimate more than 30% of Indians had some form of internet access by the end of 2015 (IAMAI-IMRB, 2015). With this growth has come a perceptible shift of audience attention and advertising investment away from legacy media like print and television and towards digital media. This shift has been accompanied by the launch of a number of new digital media start-ups in India and, especially, the growing role of large international technology companies investing in the Indian market.

These developments present Indian newspapers with new challenges and opportunities. Print circulation and advertising is still growing in India, but more slowly than in the past, and especially the English-language market seems saturated and ripe for the shift towards digital media that has happened elsewhere. From 2014 to 2015, the Indian advertising market grew by 13%. Print grew 8%, but English-language newspaper advertising only half of that. Digital advertising, in contrast, grew by 38%, and is projected to continue to grow for years to come as digital media become more central to India's overall media environment (KPMG-FICCI, 2016).

If they want to secure their long-term future and continued editorial and commercial success, Indian newspapers have to adapt to these changes. The three case studies in this report represent three different examples of how major newspapers are navigating this transition.

Based on over 30 interviews conducted with senior management, editors, and rank-and-file reporters from three major newspapers, as well as other senior journalists and researchers who have wider experience in the Indian news industry, plus secondary sources including industry reports and academic research, we show the following:

- All three newspapers are proactively investing in digital media technology and expertise, and adapting their editorial priorities, parts of their daily workflow, distribution strategies, and business model to the rise of digital media. Tools like Chartbeat and Dataminr are now commonplace; search engine optimisation, social media optimisation,

and audience analytics are part of everyday work; and some are experimenting with new formats (*Hindustan Times* was a launch partner for Facebook Instant Articles; Manorama Online has produced both Virtual Reality and 360° videos, an Apple watch app, and is on Amazon Echo).

- Given that the print newspaper industry is still growing in India, especially in Indian-language markets, these newspapers are innovating from a position of relative strength in comparison to their North American and European counterparts. However, this is done with the awareness that that print is becoming a relatively less important part of the Indian media environment, and digital media more important. Short-term, reach and profits come from print, but longer term, all have to build a strong digital presence to succeed editorially and commercially.
- All three newspapers aim to do this by building on the assets they have as legacy media organisations, and trying to leverage their brand reputation, audience reach, and editorial resources to maintain an edge over digital news start-ups and international news providers. Their legacy, however, offers not only assets, but also liabilities. As successful incumbents, all of them struggle with the inertia that comes from established organisational structures and professional cultures. To change their organisation and culture, and thus more effectively combine new technologies and skills with existing core competences, each newspaper is not only investing in digital media and personnel, but also trying to change at least parts of the existing newspaper to adapt to an increasingly digital media environment.
- They do this in different ways. At *Dainik Jagran* and *Malayala Manorama*, the focus has been on building up separate digital operations at Jagran.com and Manorama Online, apart from the printed newspaper itself. At the *Hindustan Times*, in contrast, the aim has been to integrate print and digital in a joint operation working across platforms and channels. *Dainik Jagran* and *Malayala Manorama* have thus focused mostly on building up new digital assets, whereas the *Hindustan Times* has been transforming existing assets to work across platforms. At *Dainik Jagran* and *Malayala Manorama*, much of the push for change has come from management, whereas there has been a stronger editorial involvement at the *Hindustan Times*, and a greater attempt to engage rank-and-file reporters through training sessions and other initiatives designed to demonstrate not only the commercial importance, but also the editorial potential, of digital media.

- All three newspapers have found that expanding their digital operations requires investment of money in new technologies and in staff with new skills. But it is also clear that this is not enough. Investment in technology has to be accompanied by a change in organisation and culture to effectively leverage existing assets in a digital media environment. In their attempts to do this, the most significant barriers have been a perceived cultural hierarchy, deeply ingrained especially in the newsroom, that print journalism is somehow inherently superior to digital journalism, and a lack of effective synergy between editorial leaders and managers, often combined with a lack of technical know-how. Money can buy new tools and bring in new expertise, but it cannot on its own change culture, ensure synergy, or align the organisation with new priorities. This requires leadership and broad-based change. Long-term, senior editors, management, and rank-and-file reporters will have to work and change together to secure Indian newspapers' role in an increasingly digital media environment.

Digital media thus present Indian newspapers with challenges and opportunities similar to those newspapers have faced elsewhere. Only they face these from a position of greater strength, because of the continued growth in their print business, and with the benefit of having seen how things have developed in more technologically developed markets. We hope this report will help them navigate the digital transition ahead.

1. Introduction

India's newspaper business is large and growing, with almost 15,000 registered newspapers and more titles and editions launched every year (Registrar of Newspapers, 2015). Unlike in other countries, print advertising and newspaper circulation continue to increase. With hundreds of millions of Indians online, and continued rapid growth in internet access, this industry is now confronted with a range of new journalistic and commercial challenges and opportunities. Indian newspapers have to simultaneously deliver their traditional print product and explore new opportunities in a constantly changing and increasingly digital media environment with new audience expectations and new competitors.

In this report, we analyse how newspapers in three major media markets – the *Dainik Jagran* in Hindi, *Hindustan Times* in English, and *Malayala Manorama* in Malayalam – are handling their digital transition. In particular, we focus on (1) how they are reorganising their newsrooms and (2) how journalistic work is changing in each organisation. We show that all three are proactively investing in digital media and adapting editorial priorities, distribution strategies, and parts of their business model to the rise of digital media. All do it from a position of relative strength in that they run profitable and robust print newspapers, but also with an eye towards a future in which print will be a less important part of the Indian media environment, and digital media far more important. Their goal is to build on the assets they have developed as dailies (audience reach, brand reputation, editorial resources), but do so in a way that allows them to pursue the opportunities of an increasingly digital media environment. In this process, they have encountered the kind of inertia common to many successful incumbents, where people are invested in structures, routines, and values developed in one context even when they are in some cases no longer viable (or even valuable) in a new context. In response, senior editors and management have worked together to change the professional culture, commercial strategy, and technological infrastructure of each newspaper, and to organise these different elements so they are aligned with new digital editorial, distribution, and business strategies.

Printed newspapers are still an important part of the overall media environment in India, and a growing business, and they are projected to remain so for years to come. But in parallel, digital media, especially mobile and social media, are rapidly becoming more and more central with the spread of smartphones, which are now by far the most widespread way of accessing the internet in India. Newspapers are still favoured by many older Indians, but about 40% of India's population is under 20 (Census of India, 2014). Few of these read print newspapers, and more and more of them are coming online, especially as cheap smartphones and mobile internet access

spread. Print still accounted for 40% of the advertising market in India in 2015, compared to 13% for digital. But while print grew 8% from 2014 to 2015, little more than half of the advertising market overall, digital advertising grew 38% (KPMG-FICCI, 2016). To remain socially and politically relevant and to secure their future as a business in this changing environment, Indian newspapers need to adapt to these changes in media use and the media market.

The three newspapers we study have approached their digital transition in somewhat different ways – in part reflecting their different markets, in part different priorities. With headquarters in New Delhi, the *Hindustan Times* has worked to integrate print and digital operations and move to a digitally focused newsroom and workflow. *Dainik Jagran* and *Malayala Manorama* in contrast have invested in building up parallel digital operations that draw on the wider organisation, managed from Kanpur and Kottayam but remaining relatively separate from the print newspaper. With its direct connection with the journalistic legacy of the print newsroom, as well as the strategic priorities of the management, the transition at the *Hindustan Times* has a stronger editorial component than at the other two papers, where the journalistic component plays a smaller role, especially at *Dainik Jagran*, where digital initiatives seem more exclusively driven by management and oriented towards commercial objectives. The approach adopted at *Dainik Jagran* and *Malayala Manorama* is broadly in line with the idea from management studies that it is hard to develop new approaches in a big organisation, and that incumbents faced with rapid change should therefore set up parallel business units focused on developing new initiatives, separate from the core of the company (Christensen, 1997). The approach at the *Hindustan Times*, in contrast, is more in line with the idea that, once there is a clear view of where the future of an organisation lies – even if the precise path ahead remains uncertain – the focus should be on developing the ability to integrate existing core competences and new activities and to develop the capacity to constantly adapt to a rapidly changing environment (Teece et al., 1997).

We hope that the insights from this report will help Indian newspapers and journalists as they continue on their journey towards a more digital media environment. The three cases analysed show how the digital transition involves changing the professional culture, commercial strategy, and technological infrastructure of a news organisation, and underlines the importance of journalists actively engaging to ensure editorial concerns are part of the process and that the organisations invest to adapt news production to the changing environment. The three language markets and newspapers were selected due to their large market sizes and geographic distribution, and the newspapers chosen for either their pioneering efforts in adopting digital technologies, or their dominant position in terms of circulation. We also hope the report will be useful for providing an empirical analysis of how the digital

transition is playing out in a country that has much in common with other low- and medium-income democracies around the world, where the rapid rise of digital media presents journalists, media managers, policymakers, and academics with new, pressing questions of how to best engage with a changing media environment.

Newspapers' Digital Transition

Indian newspapers are not alone in facing a digital transition. News organisations all over the world see audiences and advertisers moving away from traditional platforms like print and television and towards digital, mobile, and social media (Newman et al., 2016). Editors and journalists are experimenting with new forms of storytelling and ways of reaching the audience, using their own websites and mobile apps as well as social media, video sharing sites, chat apps, and many other platforms (WAN-IFRA, 2015). Managers meanwhile are working to develop new business models to fund news production in an increasingly digital media environment where competition for attention and advertising is much more intense and where getting people to pay for content can be challenging (Cornia et al., 2016).

Newspapers face the digital transition from different starting points and in different contexts. In North America and Western Europe, internet access spread quickly, advertising moved online fast, and print circulation declined throughout the 1990s and 2000s (Nielsen, 2012). In some parts of East Asia, internet access spread quickly, but advertisers and audiences continued to value print and the newspaper industry did not experience the same dramatic downturn in revenues seen in many other high-income democracies (Villi and Hayashi, 2014). In many low- and medium-income countries, internet use grew more slowly at first – because many could not afford a personal computer and because the communication infrastructure did not provide access, especially in rural areas – and the impact of digital media on legacy media was modest initially. In India, for example, it took 15 years from 1995 to 2010 before a 100 million people (8% of the population) had internet access (World Bank, 2014). But since 2010, growth in internet access has accelerated, in large part due to the rise of the mobile web, and by 2016, some estimate that around 30% of Indians have some kind of internet access (IAMAI-IMRB, 2015). Digital media are now rapidly changing the overall media environment in India in terms of how people find information, engage with public affairs, and entertain themselves, and in terms of where advertisers invest their money.

How newspapers adapt to this change is shaped not only by the context they operate in, but also by their organisational structure and professional culture (Boczkowski, 2004). Legacy media enter the digital environment with important assets, including their brand reputation, loyal audiences, large newsrooms, and revenues from existing operations that can




be invested in new initiatives. But they also have liabilities that digital-born start-ups do not, including a combination of organisational inertia and a professional culture invested in the perceived superiority of existing products over new alternatives. This has led many newspapers across the world to approach digital media in a defensive and reactionary way, primarily oriented towards replicating the print product in an online environment. The most visible example of this is what some call 'shovel-ware', where articles produced for the printed paper are simply posted on the website and mobile app with little or no adaptation of content, distribution, or timing to the digital environment. This is rarely an effective way to stand out in a competitive digital media environment. Therefore, leading legacy news organisations all over the world are increasingly working to develop digitally native approaches to both the practice and the business of journalism, focusing on integrating editorial principles, new technologies, and the business realities of a changing media environment (Küng, 2015; Cornia et al., 2016).

Method and Data

Combining editorial principles, new technologies, and business imperatives in ways that adapt effectively to a changing environment requires changing both the organisation of the newsroom and the daily work of journalists, the two areas we focus on in the rest of the report. Our analysis is based on 32 semi-structured interviews conducted by the first author at three different newspapers each operating in a different language market in India, the *Dainik Jagran* in Hindi, *Hindustan Times* in English, and *Malayala Manorama* in Malayalam. In each organisation, we have interviewed both rank-and-file digital journalists as well as senior editors and managers to get different perspectives on their digital transition. Quotes from rank-and-file journalists are used anonymously, while quotes from senior editors and management are attributed by name. We selected these three newspapers due to their large market sizes and geographic distribution (to capture some of the internal variation within India), and chose these three newspapers as important titles recognised for their strong position in their respective markets and for their investment in digital media. Table 1 provides a basic overview over their audience reach across their print, digital, and main social media channels (we have not had access to independently verified numbers of unique monthly users, so report the figures provided by interviewees or on corporate websites).¹

¹ http://www.htmedia.in/brandPage_hindustanf61a.html?Page=Page-HTMedia-hindustantimescom (for HT), <http://jplcorp.in/new/Vertical.aspx?VID=2> (for *Dainik Jagran*). The numbers are significantly higher than those reported publicly by ComScore in 2013 (up 25% for *Hindustan Times*, four-fold for *Dainik Jagran*, and five-fold for *Manorama Online*), as one would expect given the growth in internet use since – see <http://www.comscore.com/Insights/Press-Releases/2013/10/Indias-Daily-Readership-of-Online-News-and-Information-Jumps-34-Percent-in-the-Past-Year>

Table 1. Print, web, and social reach

	<i>Dainik Jagran</i> 	<i>Hindustan Times</i> 	<i>Malayala Manorama</i> 
Print circulation	3.3m	1.3m	2.3m
Monthly unique users (self-reported)	30m	10m	10m
Facebook followers (main page)	10.5m	5.0m	1.6m
Twitter followers (main account)	247k	4.5m	91.7k

Source: Audit Bureau of Circulation, Registrar of Newspapers, Facebook, Twitter, interviews, corporate websites. Social media data (main accounts only) last collected November 2016.

Like many other newspapers in India, our three case organisations have had an online presence since the mid-1990s and have continued to invest time and resources in building a digital audience, drawing inspiration from international trends in news and journalism. Some of them have been recognised for their digital initiatives. In October 2016, for example, Manorama Online won the 'best news website award' given by the World Association of Newspapers (WAN-IFRA, 2016). Our case studies below aim to capture how in 2016 they are adapting to more recent changes in digital media in India, including the rapid rise of internet access, mobile media, and social media. Before we turn to the three case studies, we will briefly situate them in the wider context of the Indian print media market and the Indian digital media environment that they have to navigate.

The print media market in India

As of March 2015, the Registrar of Newspapers reported that India had 14,984 newspapers (dailies, bi/tri weekly) and a further 90,459 registered periodicals (Registrar of Newspapers, 2015). The number of registered newspapers has more than doubled since 2005 and the number of periodicals grown more than 50%. Of registered print publications in India 40% are in Hindi, 47% in regional languages, and 13% in English.

Given its size, the industry is unsurprisingly diverse, ranging from large titles like the three we focus on here to a large number of local and

hyperlocal publications. The market is structured on both language and geographic lines. English-language titles include both national dailies like the *Times of India* and the *Indian Express* as well as players with wide distribution but within one region like the *Hindustan Times* (North), *The Hindu* (South), or *The Telegraph* (East). Indian-language titles like *Dainik Jagran* and *Malayala Manorama* also operate from a regional base that they dominate (Parthasarathi and Srinivas, 2012).

Even as print newspaper circulation is declining globally, India continues to register a rise in circulation numbers (WAN-IFRA, 2016). This growth is almost entirely driven by growth in Hindi and regional-language newspapers, a part of the Indian newspaper industry that has been growing rapidly since the 1990s (Jeffrey, 2000; Ninan, 2007). A large part of this growth is driven by a concerted effort by a range of titles to expand their reach in what the Indian Census classifies as Tier II and Tier III cities (cities with a population below 100,000). This growth is primarily in Hindi and regional languages, and indeed a number of high-profile English-language titles like the *Times of India* and *The Hindu* have invested in launching additional regional-language papers.² The English-language market, by contrast, is seen as saturated and – because it caters to a more affluent and urban readership – more exposed to disruption by the rise of digital media (KPMG-FICCI, 2016).

These trends are broadly reflected in the commercial side of the Indian print media market. While overall circulation in the print market grew an estimated 7.6% from 2014 to 2015, this is primarily driven by high growth in the expanding Hindi (9.6%) and other languages (9.9%) markets rather than the plateau-ed English-language market (3.8%) (KPMG-FICCI, 2016). Across all three sectors, the growth rate is significantly lower than the growth rate for the media sector as a whole, which was 12.8% (ibid.). So India's print newspaper market is still growing, but more slowly than television and, especially, web and mobile.

The Digital Media Market in India

Even as newspapers continue to enjoy rising circulation, India is experiencing rapid growth in internet use. A 2015 report by the Internet and Mobile Association of India estimated that there were 317 million internet users by the end of 2015, about 30% of the population, and projected more than 400 million would be online by 2016 (IAMAI-IMRB, 2015). This is up from an estimated 100 million users in 2010, and 200 million users in 2013. One industry projection predicts more than 800 million users by 2020 (which would mean 60% of the population), led mainly by growing mobile web access (KPMG-FICCI, 2016). The growth is primarily driven by smartphone

² *The Hindu* launched a Tamil edition in 2013, the *Times of India* launched NavGujarat Samay in 2014, and large regional papers like *Dainik Bhaskar* and *Dainik Jagran* have launched editions in Tier II and Tier III cities.

and feature phone access and often intertwined with use of social media and messaging apps. There are currently a reported 142 million Facebook users in India and 2.2 million people with active Twitter accounts, overwhelmingly accessing the sites through their mobiles (Shah et al., 2015). News sites, by contrast, seem less popular. The digital-born aggregator DailyHunt is the only news-related app in the top 100 in India, despite offers from prominent news media organisations like the *Times of India*, NDTV, the BBC, and many, many others (KPMG-FICCI, 2016).³

As with the print market, these overall trends in media use are broadly reflected in the commercial side of the Indian digital media market. Digital advertising grew an estimated 38% from 2014 to 2015, and KPMG-FICCI projects annual growth rates of over 30% till 2020 and beyond (KPMG-FICCI, 2016). This is twice the projected growth rate for the media industry as a whole. In light of the slower growth in print, especially for English-language titles, and the rapid growth in both internet use and digital advertising, Indian newspapers are increasingly seeking to invest in their digital operations. They face competition from both domestic digital-born start-ups like Scroll and the Quint and aggregators like DailyHunt, as well as, perhaps more importantly, from large international non-news players like Google and Facebook, who account for almost half of digital advertising globally because of their large user base, effective targeting, and low rates – actors that other news organisations elsewhere have found it hard to compete with (Cornia et al., 2016; Sen and Nielsen, 2016).

Digital Transitions in Indian Newspapers: The Story So Far

The combination of a robust print business and an expanding digital audience puts Indian newspapers in an advantageous position compared to many of their peers elsewhere who have had to navigate a digital transition while managing a declining legacy business. Several of the people we interviewed, included Nic Dawes at the *Hindustan Times* and Mariam Mathew at Manorama Online highlighted this: Indian newspapers can invest in digital media from a position of strength, rather than anxiety. They have brand reputations, loyal audiences, large newsrooms, and money. This, however, does not mean that they automatically overcome the organisational and cultural barriers mentioned above. As Rajov Verma, CEO of HT Media wrote

³ Numbers on digital media use in India need to be treated with caution in multiple ways. First of all, they come primarily from often self-interested industry sources and are hard to verify. Second, the dramatic top-line figures risk obscuring the pronounced differences in what kind of access people have. Less than half of Indian internet users have broadband (defined as wireline or 3G or 4G mobile web access), and the majority are narrowband or 2G users with low data speeds and often limited data packages. In some cases, the line between full (even if slow) internet access and more limited access through a web-enabled feature phone with WhatsApp, Facebook and a few other apps installed can be hard to draw. Third, internet use in India is still overwhelmingly an urban phenomenon in a predominantly rural country. The World Bank estimates that about a third of India's population live in urban areas, but they make up about two-thirds of Indian internet users. And while internet use in urban areas involves smartphones, personal computers, and tablets for many, internet use in rural areas is overwhelmingly mobile. Some suggest the number of people with regular and reliable internet access may be closer to 100 million than the higher figure.

in July 2014 at the launch of 'Project Butterfly' – aiming to move the *Hindustan Times* from being a print newspaper with a small digital operation to an integrated operation working across print and digital – the biggest challenge involved 'is going to be helping our people to embrace the need for change'.⁴

And indeed, many early efforts towards integrating Indian newsrooms have, our interviewees say, been unsuccessful, owing primarily to the cultural hierarchy in the journalistic profession and, at the organisational level, the lack of effective synergy between management, editorial, and technical aspects of the transition. This tension between old and new, between established ways of doing things and potentially innovative experiments, is one of the main internal challenges all the three organisations we focus on here aim to handle in different ways as they continue to invest in and expand their digital operations. It is not enough to invest in new technology and in staff with new expertise. For a newspaper to effectively leverage its existing assets – its reputation, its audience reach, and its editorial resources – the whole organisation has to change. And change is hard, and often fails, especially if large parts of the organisation do not *want to*, or feel they *have to*, embrace it.

Culturally, at least half of our interviewees identify a deeply ingrained perceived hierarchy between print and online journalism as a serious obstacle to change. This problem has been identified in studies in other news organisations elsewhere (Boczkowski, 2004; Küng, 2015). The hierarchy is in part about what journalists consider prestigious. The internet, especially social media, was considered 'a less serious space' with respect to news until as recently as two years ago in some cases, says Kesava Menon, Editor of *Mathrubhumi*, *Malayala Manorama's* main Malayalam newspaper competitor. Several others echo this view, including Appu Esthose Suresh, from the Special Investigations Team at the *Hindustan Times* and Santhosh Jacob George, Editor of *Manorama Online*. Some of this has to do with perceptions of who the readership is. One journalist interviewed said his work was focused on a core audience of policymakers and politicians who read news in print, rather than while browsing the internet. The hierarchy is also in part rooted in journalists' recognition that the printed newspaper continues to be the core revenue generator and the core product of the organisation, with digital a less important part of the business (at least for now). The hierarchy has historically been reinforced by decisions that emphasise it. In the early stages, 1995 to 2005, digital operations at many newspapers primarily involved taking articles from the print paper and converting them into web copies. Although this has changed drastically for digital teams, who now break news, produce their own content, and experiment with storytelling formats, they are often still seen as derivative from and at best supplementary

⁴ <http://www.htmedia.in/HTMLCorpImages/HTMediaCorpSite/pdf/BUIssue29Full.pdf>

to the main print newspaper. This pattern has been replicated as newspapers build up a social media presence. Shoma Chaudhury, an experienced journalist and the founder of Catch News, explains:

We put a lot of care into the homepage but social media is handled by really junior journalists. The pitch of the story on social media should actually be handled by senior journalists [who know how to] put a story with responsibility, not creating a false expectation [of what it is about].

This cultural hierarchy is only gradually dismantled as more and more journalists come to see their digital audience across websites, apps, and social media as important in terms of informing the public and shaping public discussion, as digital becomes a more important part of the overall business, and as digital and social media editors become more prestigious within the newsroom.

Organisationally, a lack of effective synergy between editorial leaders and managers, combined with a lack of technical know-how, which can in part be attributed to the historically limited revenues generated by digital operations, have further hobbled digital operations, according to Subhash Rai, one of the earliest digital journalist in India and currently Digital Editor, *HT*, who has led digital operations in a couple of large news publications. This lack of synergy includes editors and managers having different priorities, and not resolving these differences before making major decisions, leading for example to major technological upgrades that were ultimately managerial decisions and overlooked some key editorial requirements, or to editorial decisions with little or no concern for management's focus on commercial sustainability. 'Big technology companies associated with news would try to sell expensive software and once the management acquires these proprietary systems at a great cost, they have to worry about their return on investment', Rai says, adding there is now a relatively broad consensus between editorial and management at the *Hindustan Times* with regard to these changes. As outlined above, internet use and digital advertising grew only slowly in India for almost 20 years, and it is only with the rise of mobile web access that the pace of change has picked up, both in terms of where the audience is to be found and where advertisers spend their money. Shoma Chaudhury says:

Though internet platforms are coming up, [news] is still a fairly expensive enterprise so you still have traditional money backing it, along with all the old mindsets of immediate returns, initial financial viability and not gestating something long enough for it to generate value ... there was a desire to pull it back to the 'known' and follow the herd, rather than tread unknown waters.

This too is changing as Indian newspapers see their print growth slow down and watch the rapid expansion of the digital media market, a transformation

that simultaneously gives journalists opportunities to reach new audiences and managers opportunities to explore new business prospects. This also indicates that large, traditional media organisations are inhabiting two distinct work cultures.

The three case studies that follow show how the *Hindustan Times*, *Dainik Jagran*, and *Malayala Manorama* are each trying to overcome the cultural and organisational barriers to developing digital news operations that fit their specific markets, editorial priorities, and commercial ambitions. All of them are investing in upgrading their content management systems to integrate workflows, building professionally diverse teams, and hiring new personnel to increase their technological know-how and capacity, and are experimenting with different types of digital news. Below, we analyse how each of them is changing their newsrooms and journalistic work and how each organisation handles the change.



2. *Dainik Jagran*

With a readership of over 16 million, *Dainik Jagran (DJ)* is the most widely read Hindi daily and one of the most widely read newspapers in India. Started in 1942, in Uttar Pradesh (UP), the paper now has about 40 offices, 240 printing centres, and 250 hyperlocal editions across nine Hindi-speaking states of India and produces 6,000–10,000 news stories on a daily basis. *DJ* is the flagship paper of Jagran Prakashan Limited, a media publication company which also has several other English and Hindi publications such as *Naiduniya*, *Midday*, and *Sakhi*, as well as a few other businesses not directly related to news and publication.

DJ's initial foray into the digital space was through a partnership with Yahoo in 1995, a time when most of their readers were outside India: such a partnership was seen as the safest way to enter and be successful in the international market. Seven years ago, they changed their strategy and set up a separate entity called MMI Online to manage all of Jagran Prakashan Limited's digital offerings. MMI Online is currently headed by Sukirti Gupta, CEO of MMI Online, who has previously worked with Dell and Nokia and has considerable experience in business development and emerging markets.

Their flagship website, *Jagran.com*, was launched four years ago and is the space where all of *DJ*'s news content appears. While the editorial staff and news content remains the same for both *Dainik Jagran*, the newspaper, and *Jagran.com*, the related website, the latter is managed by MMI Online.

At first, 50% of their traffic was from an NRI (non-resident Indian) audience but, currently, only 20% comes from an international audience while the remaining is domestic, with about 40% coming from the Delhi and the National Capital Region (areas surrounding Delhi in neighbouring states of Uttar Pradesh, Rajasthan, and Haryana) alone, according to Sukirti Gupta. The readership of their digital products remains small, in comparison with their print newspaper. However, as internet access in the country improves and more people are reading news online and via mobile, efforts are underway to capture the emerging market and experiment with revenue strategies. While currently a large part of their revenue comes from digital advertisements, they also retail related products and frequently do native advertisements or advertorials. (For instance, *Jagran Josh*, which includes a lot

of resources and tips on preparing for competitive examinations, also retails related study material.)

'Until a year ago it was a trial strategy, but last year we decided to get serious,' says Gupta, adding that MMI Online has recently been making pointed efforts to capture opportunities that are opening up in both Indian Tier I and Tier II cities.

This included expanding the existing team of journalists and editors to include content producers and technical staff to develop news products, a change in content strategy keeping in mind the tastes and vocabulary of consumers in emerging markets, the use of a streamlined CMS, an overhaul of the workflow to cater to the demands of a faster, more competitive news cycle, aggressive use of metrics and data in order to aid decision-making with respect to content strategy and audience engagement, and finally, the adoption of several digital tools to improve digital storytelling.

The following section describes the management and editorial strategies of MMI Online, their relationship with the editorial team of *DJ*, the impact they have on the process of creating news, and how senior and junior editorial staff perceive and respond to these changes.

Physical and Organisational Changes

The main newsroom for *DJ* is in Noida and houses about 200 reporters and editors who are responsible for the Hindi daily and supplements such as *Sakhi*, a Hindi-language women's magazine. It also includes a team of people who operate a real-time desk and features desk for Jagran.com. Most of Jagran.com's editorial staff, including the Digital News Editor, sit with their print counterparts in Noida. 'We feel that editorial should be with editorial. The best way to leverage our skills is to have dedicated online desks in each of our centres,' says Gupta. Each bureau, hence has a small online desk which manages breaking news and content from their respective coverage areas during the day; news that breaks at night is handled by the 24/7 real-time desk in Noida. Though they operate out of the print newsroom, this team of writers and editors is considered part of the MMI Online team, which includes about 270 content producers and a technical team of 250, who are distributed between the Okhla and Noida offices. The office in Okhla includes about 30 content creators, who create original material for Jagran Josh, Jagran Post, and Only My Health. It also houses a 16-person video team and the sales and product teams. While those on the digital desk in Noida have intermittent personal interaction with reporters going in and out of the newsroom, those sitting in Okhla interact with them online or over the phone.

The team of writers, producers, and a large team of technical and product people have been hired in the last two years as part of expansion efforts. The content team consists of those designated as 'content producers' who do not necessarily possess any journalistic training but are trained in

producing content for the web. One associate content producer has previously worked in radio and as a content producer for a leading fashion e-commerce site. Sukirti Gupta says:

When we started thinking of our digital strategy, we were not looking so much at news but asking if there are new areas of growth as a media company and content was the first thing that seemed exciting for us. We looked at two genres that we thought would be great – health and education.

A consulting firm was hired to do a study of MMI Online's market landscape.

Based on their findings, we went back and produced a business case on what it was that we wanted to accomplish. And we expanded based on our strategy translated to a revenue number to a page view number to a desk number. This helped us [the board] decide how we wanted to expand, what kind of product to put out, and if we are doing news, what genres of news we want to participate in.

The management has also taken measures to get their existing reporters and editors to contribute to the digital-first agenda. Gupta comments:

Our Chief Editor has made digital part of the Key Result Area (KRA) for them. So it's not just the digital team's responsibility but now everyone has it in his list of duties and responsibilities to support digital. . . . The response has been positive because they now understand that this is very important for themselves, their career and for meeting their targets. They are excited but there is also a lot of fear. Some want to block their stories, not mark them for web immediately for example.

'First our policy was print but now online is our first priority, but not at the cost of print,' says Digital Editor, Shekhar Tripathi, who constantly works with both print and digital editorial staff. 'I have the right to ask a reporter to file the story immediately for the website,' he adds.

In the case of *DJ*, the move towards digital has not involved a convergence of the digital and print newsrooms, rather an expansion of the digital operations of Jagran Prakashan Limited to include a range of other products which build on their existing brand as a news provider and media company. Although the separation between print and digital operations exists and print reporters are not directly involved with the publication and distribution of content online, they are the primary source of news for the website and have had to adapt their work processes according to the demands of the online space as explored in the next section.

Workflow

The impact of the transition is more evident in the change in workflow or the way in which news is gathered, written, published, and distributed. The nature of the medium demands the use of various new tools and processes starting with how reporters communicate with the newsroom. Though the reporters, editors, and content creators for Jagran.com are spread across several newsrooms, their workflow is streamlined through a common, in-house content management system (CMS), managed in Noida. This is different from the more integrated approach at the *Hindustan Times*. 'All stories have to go into this central reporting system and reporters have a choice to mark to web – if they want to exclude the story from the web because it's an exclusive, they are free to do that,' explains Gupta. Those stories that are marked to web are then sourced, edited, enhanced, and published by the digital editors of Jagran.com.

According to the majority of the interviewees, the most obvious change in workflow has been the addition of breaking news as an important component and the pace at which stories are published. 'With print there is no competition, you know you have the whole day to file the story but now, if two reporters speak to a person, they have to compete for who puts it out first because that's the link which appears first on Google,' says a chief sub-editor for the features desk. 'We have to be very quick and prepare key-word-stuffed, trending news in a matter of minutes. It's a race not just to get clicks but to retain the audience,' informs a junior content producer. 'The company has hired you to be alert for 24 hours – I need to update the newsroom and my editors as soon as I wake up and the process is not over even when I go back home in the evenings,' says an editor on the national desk.

Digital Editor Shekhar Tripathi agrees:

News is news and not much has changed in the way it is shaped but the digital platform is very fast. If a story breaks at 8 a.m., it first comes to me on WhatsApp. If I'm interested, I ask the reporter for more details and then to file the story. Our print reporters have gotten into the habit of filing stories online, they give us the facts first and add perspective later.

For the last two years, they have also been using a value system to streamline workflow of this nature. Each story is designated values or 'levels' with respect to the subject and each level demands a different kind of treatment. Tripathi explains:

We have levels 1 to 5, and each level has a checklist of what needs to be done for the story so when something breaks I just need to tell my staff which level the story is and they proceed accordingly. For instance, for a level 1 news, the first thing to do is to push mobile notifications.

Breaking news makes up about 20% of the content while the remaining 80% is planned stories. 'The night shift updates the plan at 11 p.m. and passes it on to those on the morning shift who update it again at 9 a.m. We follow that plan for the day,' says Tripathi. They also make weekly plans, and advance plans for big news events.

Once the story is entered into the common CMS and marked for the web, it is up to the team in Okhla to add tags, optimise for SEO, and publish. 'The online team picks it up from the CMS, assigns categories and publishes it according to the data we have on what the best time to publish the story is,' points out Puja Sethi, Digital Head, Jagran New Media. There has also been a change in the type of content that works. 'The audience profile on digital is much younger, hence our content is also prepared that way. The language and taste of the new audience is different – they want their news in bullet points,' reveals Tripathi.

Journalists and content producers are provided access to an in-house editorial dashboard which scrapes social media networks and competitors' websites to find trending stories, displaying them all in one place. This allows them to keep abreast of trending topics, follow their competitors, and gather news. 'We've been using this dashboard for over two years now and have been training our team to use it so you don't have to go anywhere to other websites looking for stories,' discloses Gupta. Apart from being a source of news, the dashboard is also a source of information on how their own stories are doing. The dashboard functions as a way to observe performance and deliver feedback to journalists, editors, and management.

Another aspect worth noting is the use of data to manage workflow within in the newsroom. A data-based monitoring systems helps section heads and senior editors keep a tab on the stories generated by their newsroom. 'If we are expecting 35 stories from UP and it doesn't happen, I get a system generated email saying so,' informs Tripathi, opening up a colour-coded spreadsheet.

The sheet gets automatically updated according to performance. If the field is in red it means we are below our targets and I have to take a closer look at what's going wrong. If we find that Delhi has a dip in traffic, I can check here and see how many stories were written or how many photo galleries were published and analyse all these things before dealing with the problem.

Audience Engagement

As one of the most visited Hindi-language papers in India, about 55% of Jagran.com's traffic is organic. However, audience engagement via social media and search is also a priority. The audience engagement team includes a team for social media, a team that does SEO, and another that is dedicated to assigning tags to stories. Though they work from the Okhla office, the team

works in tandem with editorial to define their strategy. 'We propose stories for social media; we make a priority list and schedule it accordingly,' details Shekhar Tripathi. In Gupta's words, Jagran.com relies partly on social media networks, especially Facebook where they have a following of 10.4 million and through which they receive about 20% of their traffic.

The management is yet to take a decision with respect to whether or not to encourage journalists to actively use social media. 'We don't expect our journalists to be social media savvy. This is also a brand call, if they are totally social media savvy you have to be careful what they say so we are debating whether to encourage it,' says Sukirti Gupta.

A couple of journalists interviewed were however quite active on social media and dedicate some effort to packaging stories especially for a social media audience. 'We are trying different headlines for people coming from different channels. The content stays the same, but what we showcase to readers on different social media sites is personalised,' informs Sethi.

The ultimate aim of social media strategy is, of course, to increase traffic to their website and build the brand. Gupta points out:

It's a great traffic acquisition strategy for us and that's how we always thought of it. Ultimately, people should come to us because they want to read Jagran news. The clicks on Facebook are transient; you snack on a piece of content but you don't associate with the brand. Our goal is that when someone comes through Facebook, how do we make him a regular consumer.

Metrics and Feedback

According to interviewees, MMI Online's most significant innovation is in their use of data and metrics to plan and execute their daily content strategy. From monitoring the performance of their stories in real time to observing competition and managing their own reporters and producers, Digital Editor Shekhar Tripathi explained that Jagran Online takes a 'scientific' and data-driven approach to decision-making in the newsroom. Gupta gave us an overview of the different metrics and feedback mechanisms used:

First we have our balance score cards which gives us a break-up of revenue, break-up of page views and a break-up of users. This is a management metric which we get monthly. On a daily basis, we use Google Real Time which constantly gives us real-time information. We have made dashboards for every desks or section. This helps us know exactly what is happening with each section at any given point in time.

'The processes are more streamlined now than a decade ago. One clearly knows the user patterns, their demographic, which country or state they are

coming from and what their other interests are so it's much easier to serve them content,' discloses Puja Sethi.

Apart from this, they also have an internal editorial dashboard which is available to persons heading different news desks and shows exactly what stories are running on the homepage, what traffic they are generating, and when the last updates on stories took place. Gupta says:

At any point we can judge the performance of a single story, a single desk, or a single journalist. Since we have given our desks access to the dashboard and to Google Real Time, the quality of our content has gone up a great deal because there is constant feedback. If we know a story is working then one of our journalists immediately puts it in all our feeds.

Puja Sethi explains:

A lot of competitors are not sharing their data with journalists but we believe the more you empower them, the better their performance and this is translating to better results. We are still tweaking our editorial dashboard and making it more engaging; the idea is for the team to be able to take quick decisions by seeing the real-time performance of their stories.

Journalists are hence accustomed to getting constant feedback on the stories that they are publishing online, leading to a better sense of what their audience wants to read. Asked what stories perform well in the digital space, an editor working on the national desk responds 'The worst kind of stories perform . . . we would hesitate to talk about which of them performed the best,' he reveals, adding 'the youth' like off-beat news, crime news – and in crime news, articles about rape and gender violence garner a lot of views.

These metrics are also used to set targets for performance. 'We set targets for [the] number of stories, page views that each desk needs to have. We also have exclusivity targets and viral story targets. They are being measured constantly,' Gupta says. Every month, an email goes out to the editorial staff with a list of the top performing stories and the number of hits garnered. Those journalists whose stories generate more than 150,000 hits are awarded with a cash incentive, a scheme that one sub-editor found was useful in motivating the journalists to write better targeted stories.

New Tools in Daily News Work

Even as *Dainik Jagran* gears itself towards making news for digital platforms and an increasingly young audience, it does not demand that print journalists transform themselves accordingly. 'They are used to filing stories on the CMS and we did have to augment some skills, for instance, how to get better photos, how to tag better, and how to give better titles,' recalls Gupta. Instead,

a large portion of the technological gap between the journalists and the end product is filled by new hires who are stationed in the Okhla newsroom.

Social media have also gained precedence as a source of information and photographs, and those doing breaking news or features are familiar with using Facebook, Twitter, and Instagram. 'Twitter is a big source of news for us. Politicians and other important people put their reactions on Twitter and this becomes a news story for us,' says Ramesh Mishra who sees a tweet as the equivalent of holding a press conference.

Lastly, WhatsApp has emerged as an important tool for internal communication and file-sharing, not just by journalists but by senior editors and management as well. 'We are constantly receiving messages – I never switch off my phone,' reveals Tripathi, adding that there are about 100 WhatsApp groups and everyone in the organisation from the senior editors to the junior reporters is in at least one WhatsApp group.



3. *Hindustan Times*

Started in 1924, the *Hindustan Times* (HT) has a combined circulation of over 1.3 million in print, as of December 2015 and is circulated widely in Northern parts of India (Audit Bureau of Circulation, 2015). It is owned by HT Media which employs over 2,000 journalists working in newsrooms across 23 editions of three newspapers, namely their flagship paper *Hindustan Times*, English business daily *Mint* and Hindi daily *Hindustan*. About 750 editorial staff work out of Delhi, Noida, and Gurgaon alone. Apart from their newspapers, HT Media has a diverse set of print, digital, and radio business which include a job portal, a mobile marketing and engagement analytics firm, and a radio station. The *HT* newspaper can currently be accessed through their website, ePaper, Android, iPhone, iPad, and Kindle applications. Aside from this, the newspaper also has a strong presence on Facebook, Twitter, and more recently, Snapchat.

While *HT* has been re-evaluating their workflow and processes since 2008, the push towards digital, and plans for a total reorientation of the newsroom began in early 2013. According to former Chief Content Officer Nic Dawes, the driving force behind the most recent transition was a team of editors including himself, Executive Editor Rajesh Mahapatra, and Group Creative Director Anoop Gupta. Their objective was three-fold: to change the physical space, to update the underlying technology with respect to publishing and workflow, and lastly, to change the organisational structure of how *Hindustan Times* worked with people and processes. Though editorially led, the project received ample management support due to overlapping objectives and potential returns.

'We started talking to architects, looking at editorial systems and thinking of how to frame a project that would bring root and branch change to editorial processes supporting digital and print journalism,' recalls Nic Dawes. Dietmar Schantin of the Institute for Media Strategy was consulted during the initial stages of the physical and organisational transition, and International Center for Journalists (ICFJ) Knight fellow Nasr Ul Hadi was brought in to identify and procure third-party digital tools, and help with training and hiring of personnel.

The primary goal of this transition was to create a news machine that is not just tuned to producing digital journalism in 2016, but can quickly adapt

to audience demands for new kinds of journalism in the future. Capacity building happened in two areas: first, building a team and designing a workflow that allows the newsroom to work across platforms operating in a non-linear, 24-hour news cycle, and second, developing resources and skills that can harness digital tools to create news content for the web.

Physical and Organisational Changes

The newsroom at Hindustan Times House, New Delhi, currently houses over 200 journalists working for *Hindustan Times*, *Mint*, and *Hindustan*. Forty of them work exclusively on digital platforms. 'The previous layout, common to most traditional newsrooms, offered little space for meeting and collaborations, it made quick decision-making tough and reinforced hierarchy,' says Nic Dawes. The newsroom, previously a warren of cubicles and offices is now a large open floor where the desks of section heads, reporters and sub-editors are arranged in a hub-and-spoke manner which makes collaborating between teams easier; live data about performance are displayed on screens; and there are only three offices where there used to be many. Meetings happen in the centre of the floor in the presence of the entire newsroom. Journalists interviewed agree that the new floor makes decision-making quicker and promotes transparency in the newsroom.

The redesign also reflects the integration of digital and print; the floor houses a small studio in which videos can be shot, and the digital team sits at the centre whereas previously they sat in a separate room. 'The tech guys were never taken seriously; we were always at the basement. I didn't expect such a change to happen in my lifetime,' says Subhash Rai. 'Earlier, the online desk would be in a corner and they were considered literally like "human shovels" but for the past few years they have just been constantly trying to get rid of such an attitude towards them,' echoes a member of the multimedia desk.

A digital-first newsroom requires additional desks to function in tune with the 24-hour news cycle of the internet. The primary news-gathering function for the website is performed by the real-time desk and the integrated desk who get their news from reporters, wire services and other online sources such as social media and other publications. The real-time desk focuses on breaking news while the integrated desk works with the print and digital desks to produce special stories. Apart from this, there is a features desk which focuses exclusively on entertainment news and a special investigations desk which does in-depth, investigative stories. A multimedia desk and design desk work with journalists to plan, produce, and publish multimedia news stories and an audience engagement team manages the newspapers social media presence. These desks work in collaboration with a team of about 12 who manage and curate content on the website. Lastly, the

newsroom also includes copy-editors and designers who are dedicated to bringing out the daily print paper.

The reorganisation of personnel, along with the new integrated content management system (CMS) discussed later in this section, enables them to avoid the duplication of work that arose from the compartmentalisation of print and online content. It also goes a long way to flattening the unofficial status hierarchy between print and digital journalists, although not completely.

A recent addition to the newsroom is the News Apps team, which consists mostly of recent hires and operates outside of the daily news cycle (typical production time for a story is over a month), experiments with different storytelling formats, and reports directly to the Chief Content Officer. According to team member Anand Katakam, their goal is to build up 'prestige products' to show the newsroom the possibilities of the online space and show people that serious journalism can be done on the web. Other hires include former managing editor of Quartz, Bobby Ghosh, as Editor-in-Chief and former Internet Editor of *The Hindu*, Subhash Rai, as Digital Editor. Another low-profile yet key hire is Yusuf Omar, who recently joined as mobile editor, to kickstart HT's push towards mobile journalism.

The transition demands that journalists take the initiative to adapt to and make use of the new tools and resources to produce better stories. However, these changes affect journalists to varying degrees. A member of the special investigations team felt that some changes did not have any effect on his daily work. 'Our stories were never part of the daily news cycle so these shifts don't affect our team much,' he says. Others, like those of the news apps team or the integrated desk are doing things significantly differently in terms of news-gathering, production, and distribution of news. While there is a general appreciation of the alterations, those working on shifts agree that there has been a tremendous increase in workload because the volume of content has increased so much.

In addition to these direct, structural changes, there are efforts to change organisational culture to become more open and collaborative. A weekly training programme, 'Digital Fridays', has helped nudge journalists into exploring the use of digital tools. Another measure to promote the exchange of ideas includes banning hot food in the newsroom to encourage people to take lunch breaks in the cafeteria. 'We encourage everyone to go and eat together. A healthy culture like that helps more ideas to get shared,' says Nic Dawes.

Workflow

In the reconfigured newsroom, the news-gathering and writing functions are performed by the journalists and reporters as in a traditional newsroom, except that there is an emergence of new tools with which to gather news, for

example, applications like Dataminr that help aggregate information from online sources such as social media or even the smartphone which allows journalists to take photographs and record audio and video. The chief difference is that, rather than being limited to reporting, writing, and copy-editing, all aspects of news production including publication, design, and distribution are part of the daily routine of the newsroom.

As a result of these additional tasks and priorities, significant alterations had to be made to the workflow. The main editorial meeting takes place at 9:30 a.m., as opposed to 5 p.m. as in a traditional newsroom. The meeting is attended by all the senior editors and section heads and allows them to pay attention to the different rhythms of the digital news cycle and programme news according to the peaks of the day rather than work towards the early morning deadline as in a print newsroom. A second meeting is held at midday. The last meeting of the day, which happens at 5 p.m., is more focused on print but also allows discussion of what is to be carried online the following morning. Those stories chosen for the broadsheet are then sourced from the integrated Content Management System (CMS) between 6 and 11 p.m., by when the piece has grown into a more complete article.

In line with this, reporters are expected to file their stories immediately, and these stories are published either as they come in or at whatever time they are expected to garner the largest audience. Those who work on shifts now operate on a 24-hour news cycle and are responsible for sourcing news from newswires and other online sources.

The medium demands that reporters often work in collaboration with the multimedia team, design team, and the audience engagement desks in order to put out a complete digital news product. Some journalists, like Prashant Jha, have also done Facebook Live explainer videos, while others like Senior Journalist Harinder Baweja and Zehra Kazmi have done stories with rich multimedia content. However, the opportunity to do this is not available for all stories. There are a lot of bottlenecks between capturing the content and publishing. For instance, getting a video edited correctly and published in the right manner requires a lot of follow-ups on the part of the reporter. 'While it makes sense for me to learn how to edit stories myself, as a daily reporter, I don't have the time,' says one reporter who files stories remotely. Besides, 'The digitally embellished high tech stories are allowed to be done only when the story is that important . . . there are so many stories for which you can do multimedia – but you may not be able to.' He adds that organisational and political biases can creep into the news-making process through these small decisions.

Changes in workflow are not geared solely towards prioritising the online space but also towards streamlining print production. *Hindustan Times* previously published 23 separate editions from an email-based news feed. With the redesign and the centralisation of some key functions, the paper now

has just one national paper but with 23 local expressions, saving time and resources spent on basic pagination.

The transition also involved shifting to a more digital-friendly CMS called Method (a product of Eidos Media). While the entire digital team is already on Method, the print pages are still in intermediate stages of this shift. Though primarily a print CMS, Method allows for easy embedding of multimedia content and enables pushing stories in a mobile format.

Audience Engagement

HT adopts a fairly aggressive social media strategy, primarily through Facebook, Twitter, and more recently Snapchat. They were beta partner for Facebook Instant Articles on Android and have also begun to publish short videos through Facebook Live. While Instant Articles do generate some revenue, there is not yet a revenue model for Facebook Live videos, which is cause for concern to senior editors, especially given Facebook's emergence as a dominant player in the news ecosystem.

Social media strategy sometimes informs editorial decision-making with respect to when and where stories should be published and to what extent a story deserves coverage. Although social media trends don't completely set their agenda, there is an attempt to be part of conversations occurring on social media. 'We are a news organisation and we have a set of values which remain unchanged but how we give expression to these values differs across platforms,' says Nic Dawes. Members of the news apps and multimedia desks work closely with the audience engagement team to plan posts and publish content in the best way possible. Similar attention is paid to search, which continues to be a major driver of traffic for Indian news sites. The effort here is geared towards quality of content, user experience, and speed.

While there is a team for audience engagement that curates and manages social media content, individual journalists are also encouraged to be active on social media. 'Journalists no longer need to compete for space in print as now you can push your stories and are not restricted by constraints from the circulation department,' says Subhash Rai, 'it is also a way for journalists to connect directly with people.'

The degree to which social media are used by journalists, however, varies greatly. One journalist from the multimedia desk, for instance, carefully plans social media strategy for each story she produces, sometimes deciding content and timing of each post or tweet. Reporters like Prashant Jha, who already have large Twitter followings, share stories and engage with readers in their personal capacity. Others, like a member of the special investigations team, prefer to leave social media to the audience engagement desks and spend their time chasing leads and writing articles.

Increased dependence on Facebook does raise some concerns. *HT*, among many other news publishers, say they lost a lot of traffic when Facebook changed their algorithm earlier this year. Despite this, *HT* believes that backing away from Facebook would mean backing away from readers and is hence not an option. There is also a growing need to make their own websites technically lighter and cleaner. 'The reason we need Instant Articles is because our websites are clunky and take much longer to load,' says Nic Dawes. According to one journalist, the solution lay in adopting a multi-platform approach, with customised strategies for each platform, thereby not depending too much on one. Subhash Rai on the other hand, feels that it is a temporary phase:

Things like this keep coming up. Yahoo was big at one point, so was AOL and MySpace but news organisations have been around for decades. You need not get overwhelmed by the market capitalism of Facebook or Twitter. If we take the right kind of approach, we don't need to worry about it too much.

He notes that while a large chunk of traffic is via Facebook, due to the newspaper's brand, most of the traffic comes from elsewhere.

Metrics and Feedback

As with most digital newsrooms, data and web metrics are starting to play a big role in editorial decision-making and performance evaluation. The metrics most commonly used at *HT* include 'unique users', 'page views', 'time spent', and a composite engagement metric that includes time spent and social sharing. They also use metrics from third-party sources like Comscore and Alexa and keep a close eye on internal metrics like page load time. These metrics are displayed on screens in the newsroom and are part of the daily meetings.

They are also in the process of training journalists to use Chartbeat, a real-time web analytics platform that will enable each of them to see the performance of each story online and also provide more in-depth reports about performance. The training sessions not only illustrate how to use Chartbeat but also provide context for the numbers and data it provides. Nic Dawes clarifies that the intention behind training journalists to follow their performance online is not to send them chasing after page views. Journalists are encouraged to follow the performance of their stories on web analytics tools in order to optimise decisions regarding what stories to write and where and when they should be published.

Given that most stories are distributed through social media, journalists can see their stories being read and shared in real time on the platform itself. While most people see this as motivational, some view these numbers with caution. 'I look at the metrics out of curiosity, not out of

practice. When the paper sells about 35 lakh copies, it does not make sense to celebrate 2,000 tweets,' says one reporter. 'If you dig deep into Facebook analytics you'll find that people are interested in serious news. You may not have 200 people reading the story at the same time but 60 people reading it across 6 days,' says one editor who says studying social media reactions has improved his news sense and keeps him sharp. 'It gives you an idea of what people want and someone is also pointing out our mistakes,' he says. For another reporter, numbers and reactions on social media help justify his choice of subject to the editor: 'My career has changed because of the fact that I can show the editor numbers, show that people are interested in certain stories,' he says.

New Tools in Daily News Work

As the newsroom adopts new technology and adapts to changes in the media ecology, a certain degree of digital literacy is expected from journalists. This includes the skill to use technology for gathering news, new ways of framing and producing stories for the web and familiarity with new channels of distribution. Attendance at the weekly training sessions was voluntary and required a degree of initiative on the part of the journalist. 'This helped to open up the journalists to using digital tools and being voluntary sessions, also helped to identify those people interested in engaging with more digital modes of storytelling and analyses,' says Nasr Ul Hadi who oversaw these sessions.

In line with the fact that internet use in India is increasingly shaped by mobile, smartphones and supporting applications are often co-opted for the newsroom. Reporters are encouraged to use cameras or their phones to produce multimedia content: this includes audio clips, videos, and photographs. The smartphone also makes 'multi-skilling' a reality. As one experienced member of the newsroom puts it, 'with mobile, we are all multi-skilled'. The newly hired mobile editor has been using his smartphone to make explainer videos, produce first-person reportage and also make and distribute stories entirely on the multimedia messaging application, Snapchat. He is also tasked with training a team of reporters in doing the same.

'People are consuming news on the same platform that you are developing [it]. That native nature of production and consumption is quite powerful,' says Nic Dawes, adding that it may not be the best choice for all stories and journalists.

Experiments with project management tool Trello and real-time collaboration tool Slack to manage workflow and encourage collaboration are also underway, although these tools are used by a very small number of people. According to one journalist, however, most members of the newsroom are most comfortable using WhatsApp direct and group messaging for connecting with collaborators and exchanging multimedia. The

majority of the journalists, especially special correspondents and field reporters who work outside the newsroom, rely on Whatsapp for internal communication and quick file transfers, making it something of a necessity. Given the emergence of social media as an important ally of newspapers, journalists are encouraged, though not required, to have accounts and be active on major social media sites such as Facebook and Twitter.

While expecting every journalist to be 'multi-skilled' may be an unrealistic expectation, according to Subhash Rai, efforts of the multimedia desk and news apps team have resulted in collaborations that have produced news content with audio, video, interactive graphics, and maps.



4. Malayala Manorama

Kerala-based, *Malayala Manorama* has a circulation of about 2.3 million spread primarily across the state of Kerala and the Middle East (Audit Bureau of Circulation, 2015). Started as a weekly in 1890, the paper is now one of the most widely read Indian language dailies in the country, with over 20 subsidiary publications including *The Week* and *Vanitha*. The paper, which focuses primarily on stories from Kerala or stories for a Malayali readership, currently employs over 1,000 journalists, mostly working out of newsrooms in Kerala, with a small team operating from a bureau in Dubai. Additionally, they also employ a large number of correspondents and stringers who operate from the field. Apart from their print and online publications, *MM* also operates two television channels, one for news and the other for entertainment, besides a radio station. Another popular product is their yearly compilation of current affairs and general knowledge. While revenue from the news sites is solely from advertisements, readers have to subscribe to access digital versions of their subsidiary publications, like *Fast Track* and *Vanitha*.

Like *Dainik Jagran*, *MM*'s response to shifts in media consumption and advertising was to launch a separate entity, 'Manorama Online', that manages all their digital operations. Manorama Online's operation in Kottayam includes a print newsroom, a digital newsroom that works exclusively on Manorama Online which includes two websites, over 30 mobile applications, and is led by Mariam Mammen Mathew, who has a background in business administration.

Despite their high brand value and grip on the newspaper market in Kerala, the web remains a challenging space for a couple of reasons. One of these, according to Mariam Mathew, is that the Malayali web is not that rich to begin with. 'There are not enough people creating content in Malayalam,' she says. Another is that Search Engine Optimisation (SEO) can be difficult, although *MM* has recently taken steps to address this. 'SEO was a pain when we used Manorama fonts, but we shifted to unicode last year. The new CMS also has good SEO features'.

Although there is no physical convergence at *Malayala Manorama* (print and online newsroom operate from separate floors), the paper has been diversifying content and experimenting with digital products from a very

early stage according to Mathew – a point also made by Nic Dawes, former Chief Content Officer at *Hindustan Times*.

Their website was launched in 1997, around the same time as all major Indian newspapers, and initially catered primarily to audiences in the United States and West Asia, regions containing a large Malayali diaspora. Playing to their niche, the website was branded as a 'home' for all Malayalis, and focuses on diverse content about Kerala and news that will interest Malayali audiences. This content is distributed through several verticals under the umbrella site, Manorama Online. Anumon Antony explains:

Keralites who are outside Kerala read at least one Malayalam newspaper and the website reaches audiences the paper doesn't. With a newspaper, you will only have access to the local pages of the edition you subscribe to. But with the website, if I am from Kasargod, I can go to that section of the website and get local news.

He notes that digital operations have brought the focus back to hyperlocal news, adding: 'If you want global news, you can go to the BBC website.'

Apart from this, in 2005, MM also collaborated with Nokia to develop an on-device portal for news. The product evolved into NewsHunt, now DailyHunt, an Indian-language news aggregator. More recent experiments include an Apple watch app and an Amazon Echo product.

Physical and Organisational Changes

There has been no major physical reorganisation at MM: newsrooms for print and digital remain separate, except for a small digital team that sits in the print newsroom. However, other efforts by the management and senior editors suggest that there has been a strong organisational push towards digital since the last decade.

Since 2007, the number of people working on Manorama Online has increased ten-fold, from 20 people who managed and curated the website and related activities to a team of 200 which includes content producers, developers, designers, and video editors. The content producers who used to be scattered across six different offices until two years ago now sit together with the tech team on the same floor at the Manorama Online office in their headquarters in Kottayam.

The new newsroom houses about 75 content producers for Manorama Online and On Manorama, their English-language website, 15 developers who maintain the website and develop new products and three people dedicated to managing mobile applications. It also has two video editors and graphic designers, two camera men, and a two-person team for audience engagement.

Although writers and editors for Manorama Online are journalism graduates who have also undergone journalism training specific to MM's writing styles and journalistic values, they are designated as content producers. 'We never had sub-editors for online, we always had content producers to keep things interesting,' says Mariam Mathew. Apart from this, a few members of the digital team for Manorama Online work out of the print newsroom which is housed in the same building and also the broadcast newsroom situated in Aroor, Ernakulam.

While compartmentalisation exists with respect to newsrooms, there is a degree of convergence when it comes to content. Content producers, who perform the primary news-gathering function for the websites get almost all of their material from print reporters and Manorama News, their broadcast news service. The organisation hence has a wide network of both print and video reporters. However, Manorama News, which according to Mathew, caters to a slightly different niche, also has a separate website in which most of their content is published.

Convergence, says Mariam Mathew, is mostly a question of changing mindsets. A lot of effort has been directed at training and orienting the digital and print newsroom towards streamlining content and producing good journalism for the web.

Despite limited integration in terms of print and digital operations, their capabilities as a multimedia newsroom are quite advanced. A multimedia team, which consists of trained camera persons and video editors, is responsible for editing and publishing news videos taken by reporters, on their smartphones or cameras, and also for producing high-quality video features to be published on their website and YouTube Channel.

Special news events like the elections, the Olympics, or FIFA World Cup are handled by a special team made up of content producers, designers, and developers within the newsroom. Anumon Antony explains:

We prepare a module in advance and train the entire team. A core team of four or five people start working on it about three months in advance, collecting background data, photographs, while the developer team starts working on the back-end that enables us to push live-election data for instance.

The project team includes journalists who are trained to maintain the site, tech-support, and a couple of consultants if necessary. The end product is an interactive microsite that focuses exclusively on covering that particular event.

Workflow

The Manorama Online team produces Malayalam and English news content and entertainment features for two websites and over 30 mobile applications.

Unlike previously, when the online team primarily copy-and-pasted stories from the print newspaper to the website, content producers working for Manorama Online now report and write their own stories in addition to those they lift from the paper. They are also responsible for gathering news from social media sources and wires. The content team for On Manorama, the English website, produces their own content, apart from that sourced from the print and broadcast sections of *MM*. Their own content mainly consists of Kerala-specific features including travel articles and lifestyle features. Stories that come from the Malayalam print edition are sourced, translated, and then published on the site. In addition to this, content producers are also expected to produce 160-character push notifications for their mobile application.

To a certain extent, *MM*'s workflow was already geared towards digital. For instance, they have always had planning meetings in the morning, during which the tentative schedule for the day, prepared the previous day, is discussed and assigned to different reporters. For the past 15 years, reporters have also been expected keep the newsroom updated about developments in a story throughout the day, recalls Mathew. However, the organisation undertook many direct and indirect measures to upgrade their workflow in a way that aids digital operations.

About three years ago, they began using Adobe's Adobe Experience Manager for their web, mobile, and tablet publishing. Currently, the print and digital newsrooms operate on two different but integrated content management systems – Adobe InDesign and Adobe CQ5 – with a team of digital editors operating from the print newsroom acting as a bridge between the two. According to Mariam Mathew, the aim of the CMS is to make editors and journalists less dependent on the technology team who can then focus on larger, more sophisticated projects. 'Right now, the team here can do a microsite without too much technical help,' says Santhosh Jacob George, Editorial Head for Manorama Online, who was headed to Dubai to train the team there in the new CMS.

They have also made breaking news a priority for all reporters on the field. Jacob George says:

The journalism remains the same. The only difference is that we have to break the news ourselves while print has the whole day to produce the story. We've requested our print reporters to file first for online, either directly into the CMS or via WhatsApp.

According to him, about 5,000 stories are published by Manorama Online on a daily basis and over 60–70% of them come from original stories filed by their own reporters and freelancers, with the remaining ones coming from wires.

During the initial stages of the transition, there were many rigidities with respect to what content from the print paper can be published online

before printing. However, about two years ago, *MM* introduced a clear set of guidelines to streamline workflow; 'They called in senior people from print to have detailed discussions on this and our senior editors also visited individual bureaus and spoke to reporters there,' informs an associate content producer, recalling efforts to sensitise print journalists to the demands of digital news. 'The reporters have a mandate to send us stories – we have a joint meeting with them every six months to go over our plans and see how we can collaborate better with them,' says another associate content producer from the Malayalam section.

According to most interviewees who have spent time working for a print daily, the most challenging change in daily workflow was in the pace at which stories have to be filed and the shift from a daily news cycle to a 24-hour one; the Manorama Online news desk, for instance, is operational 24/7 for 365 days a year. 'We are given a cap of about 20–30 stories if it's breaking news. Sometimes you do about 15 stories but five of those would have been updated throughout the day,' explains a team lead and content producer. 'For the online desk, every moment is a deadline,' says an associate content producer, explaining that the change in pace was a struggle at first.

There is also a need to generate large amounts of content and ride the wave of what is trending on the internet. 'Whatever news breaks, we try to do a related story in our own channel,' says a content producer for the health channel. 'The aim is to get traffic. This is easy if you are writing about movies but with health whatever we write has to be credible, has to have a doctor's comments or contribution,' he adds. Planning a story often involves planning a few related stories to keep readers on the Manorama Online website.

The transition has also changed how the print newspaper functions. 'The paper now contains follow-up stories, not breaking news. We synchronise with them so if we are doing a series online, we get a brief on what they are going to do and how we can contribute to that and vice versa,' says a senior content producer for Manorama Online.

Audience Engagement

MM was fairly cautious when it comes to social media strategy and only established a social media presence about two years ago. 'We thought it was something that lacked seriousness and wasn't good for us, but now we've started using social aggressively for audience engagement. The next generation is not loyal to brands, social media is where discoverability lies,' says Mariam Mathew. 'Facebook is big, Twitter is quite low and we are also on Pinterest and Google +,' informs Jacob George. Currently, 10–20% of traffic for the newspaper website and 30–40% traffic for the television news site come through Facebook. 'Most of our traffic is organic, directly through the page. . . . The stories that perform well on social media are breaking news, entertainment news, and those stories that readers can debate around,' adds

Jacob George. With nine channels, YouTube has emerged as a prominent part of MM's social media strategy.

The audience engagement team consists of two people in the Manorama Online newsroom in Kottayam and three people working out of the television newsroom. 'We have a dedicated team and have also given rights to the page to selected people,' says social media coordinator Jithu Thomas.

Mariam Mathew is wary of creating a dependency on Facebook. 'Facebook has recently become more unfriendly to publishers. We are not yet convinced about Instant Articles and Facebook Live videos. At the end of the day, we want people to come back to our site,' she says. 'We want people to come directly to us for our content. The strategy is to bring traffic back to the website,' says Jithu Thomas.

Though social media numbers serve as a metric during editorial meetings, they do not affect final editorial decisions too much. Mathew says:

The kind of traffic that comes from social is very different so we try to curate the experience accordingly. There is no one-size-fits-all. Looking at social media statistics can be very misleading because it can be very tempting when you see numbers. If I listen only to social, I wouldn't be doing news. The brand stands for good journalism and we insist on keeping that intact.

Social media are not the only point for audience engagement. Manorama Online plans several local activities like medical camps, local award shows, and campus film festivals with the aim of increasing the visibility of the brand and directing traffic to their website or social media.

Metrics and Feedback

Metric and web analytics are emerging as an important measure of performance in the newsroom. The most commonly used metric is Google Analytics which is visible on screens in the newsroom and in other spots in the *Malayala Manorama* office. They also use website management and digital analytics tool Web Trends and services like Chartbeat or Site catalyst to monitor their performance. 'These all provide different numbers so we cross-reference all of them,' says Mariam Mathew. Team leads and some journalists have Chartbeat logins. Third party measures like Comscore are used for sales and marketing purposes, especially in the Middle East, reveals Jacob George.

In the digital newsroom, journalists feel more responsible for the performance of their stories and, subsequently, revenue. A senior content producer says:

In print, your job [is,] you write your story and you are done. With online we are more responsible for the outcomes. A well-researched story may not garner

too many views so we have the option and the responsibility to package and redistribute the story until it finds the audience.

He takes on these responsibilities for each story he publishes. An assistant content producer says: 'We have to keep a tab on how our stories are doing so we can change the strategy accordingly, like giving it a better display or showcasing it in a different way. If the story is good, we try to promote it more and get more visibility.'

However, their reliance on the data is not all-consuming, although the age-old tug-of-war between editorial and sales exist. 'This tension between editorial and sales is good and has to happen. In fact, digital works best with sales because there is no constraint for space. But data are not the overarching factor when we do stories,' says Mariam Mathew.

New Tools in Daily News Work

Manorama has a history of experimenting with technology, as evidenced by their projects with Nokia, Amazon, and the Apple watch. Similarly, they expect their digital journalists to be familiar with digital tools and social media. 'Individual journalists have been requested to be active and share stories as well. We have a quarterly training [session] where we tell people how to go about it,' says Jithu Thomas. They have also sent journalists for workshops and training on digital tools held by industry bodies such as WAN-IFRA. Such expectations are not placed on print journalists who continue to operate as they did previously, although some of them are active on social media. Content producers are also encouraged and given the liberty to use third-party tools like Mapbox.

Content producers and some reporters are also motivated by senior editors to shoot photographs and video using their smartphones. 'We do shoots on our own, sometimes outside and sometimes in the in-house studio and we have access to the video editors and designer if we want to do a story with a lot of multimedia and interactivity,' says an associate content producer for On Manorama.

A lot of resources are being directed towards increasing the quality of video production. The multimedia team shoots high-definition videos using high-end video technology that is either owned or rented and often in their own studio in the newsroom. The videos are produced keeping in mind audiences that use smart TVs or webcasting. 'This video can be cast onto a 50-inch TV,' says Jithu Thomas who also heads the multimedia team. Recently the team released a Virtual Reality news product titled Manorama 360. These videos, which are shot with GoPro cameras, are published on their YouTube channels. They are also experimenting with podcasts.

As in the case of the other case studies, WhatsApp is emerging as an important tool for communication and file sharing. Breaking news is often

communicated through the service. Press secretaries of politicians and persons of interest create WhatsApp groups to disseminate important information in lieu of press releases.

5. Conclusion

In this report, we have analysed how the *Hindustan Times*, *Dainik Jagran*, and *Malayala Manorama* are changing their newsroom organisation and journalistic work to adapt to an increasingly digital media environment.

Our analysis shows that all three newspapers are investing in expanding their digital activities to pursue new opportunities as digital media become more important in India, and print relatively less so. All are investing significantly more effort in digital operations than they did in the past, and more than many other Indian newspapers. This includes investments in new technology and staff with new expertise, as well as training of existing staff.

We find important variations in how they are changing. At the *Hindustan Times*, senior editorial and managerial leaders have worked together to integrate print and digital newsrooms into one cross-platform operation equally adept at serving audiences across print, website, mobile app, and social channels. At *Malayala Manorama*, and especially *Dainik Jagran*, the transition seems to have been led more exclusively by management, and the focus has been on expanding parallel digital operations that are not part of the print newspaper organisation.

By creating a brand of their own, distinct from but built on that of their print newspapers, opening up new offices and hiring new personnel to perform digital news work, *Jagran Online* and *Manorama Online* partially circumvented the inertia that often hampers attempt to change an incumbent organisation where people are proud of what they have accomplished in the past. Because they are building parallel units, they do not have to deal with the issues that arise when moving from a print to a digital or platform-agnostic newsroom, though both have to continuously motivate their print reporters to work according to the new workflow, and the question remains whether their approach allows them to fully leverage the core competences of their existing organisation.

In contrast stands the convergence pursued at the *Hindustan Times*, which aims to integrate print and digital operations. An important aspect here has been the physical transformation and reorganisation of the print newsroom. Senior editors say that it played an important role in communicating the organisation's vision and 'hacking' organisational culture to reflect their new vision. This also involved making space for programmers and product developers in the newsroom and creating a space where journalists, designers, and developers could work together, an approach also pursued by leading digital news operations elsewhere.

In the case of *Dainik Jagran*, the old print newsroom in Noida remained the same except for the addition of a few content writers who worked for *Jagran.com*. The product, tech, sales, and audience engagement teams worked out of a new newsroom in Okhla and were part of a new organisational set-up.

Hence, the print newsroom did not need to undergo a significant cultural change, and much of what is published online comes from people designated as 'content creators' (not journalists). Similarly, with *Malayala Manorama*, the fact that Manorama Online operated separately from but in addition to the broadsheet meant that they did not require major transformations of the existing print newsroom. The traditional structures that *HT* attempted to break with its transformation did not yet exist in Manorama Online. However, the challenges of changing a professional culture sometimes still oriented towards its print legacy exist here too, as Manorama Online has hired a number of people with a print journalism background.

With respect to the *Hindustan Times*, the idea of undergoing a structural transition was born in editorial and carried through with the support of the management. Interviewees say that the fact that the idea came from the editorial side, and was constantly discussed in the newsroom, helped to play a part in ensuring that every member of the newsroom knew their role in the process and felt ownership of the change. This is an example of a change process that involves both senior editorial and managerial leadership as well as concerted efforts to build a broader base of support for the new strategy across the organisation. In the case of both *Dainik Jagran* and *Malayala Manorama*, the process was different. Both are family-run newspapers where members of the respective families occupy senior positions in editorial and management and led the transition process. Both these newspapers chose to separate their digital operations from the print operations, giving them a certain degree of editorial freedom from the main paper. They have not attempted the kind of broader-based culture change that the *Hindustan Times* has pursued and instead are building digital-only operations in parallel. Change there has been more top-down and more about investing in new assets than about transforming existing ones.

With respect to changes in the workflow, while journalists from the online side have made a significant effort, much of the change has been pushed top-down. At all three newspapers, workflows have changed drastically to accommodate a 24-hour news cycle with a priority for breaking news and include audience engagement by way of search engine optimisation and social media strategy. Improvements with respect to news-gathering were carried out by individual journalists working in collaboration with the multimedia and design teams and taking initiative to experiment with design and storytelling formats.

At the start of the study, we assumed that changing to a new content management system formed an important part of the transition process. But as one senior editor put it, 'a CMS is a useful tool for driving change but you can't have a CMS-led digital transformation'. While changing their CMS is a part of the transition, it is minor compared to the changes in working patterns and culture. Updating technological infrastructure is hard. Changing organisational structures and cultures can be even harder. While *Dainik Jagran*

uses their own CMS and has an internal dashboard to track their workflow and the performance of their stories online, both the *Hindustan Times* and *Malayala Manorama* rely on third-party software. As important for the transition in each case has been attempts to change production routines – at *Dainik Jagran* through the expansion of the team of content creators, cash incentives for good traffic numbers, and a focus on health, education, and fashion, at the *Hindustan Times* through the recruitment of a number of prominent digital journalists and editors, training of existing reporters, and investment in the news app team and their stand-out pieces of digital journalism, meant to impress colleagues and readers alike and show what the *Hindustan Times* can do online.

All three newsrooms are adorned with screens displaying real-time user engagement metrics. Tools like Chartbeat are increasingly becoming integral to daily work and decision-making. The performance of the website and of single stories is measured constantly. These metrics form an important part of editorial meetings and most individual journalists frequently follow the performance of their stories online and change content strategy in order for the story to reach the preferred audience. The fact that each story is attached to specific metrics which translate to revenue has alerted journalists to be mindful of audience while writing their stories. How much these numbers influence editorial decisions and investments in content over the longer term is still unclear.

Lastly, in terms of economics, all three newspapers are operating from a position of strength unlike their Western or many Asian counterparts as their print papers continue to bring in significant revenue which can be channelled towards strengthening digital operations and building a long-term future. The print newspaper, hence, continues to be viewed as the core product and revenue generator, by both senior and junior members of the newsroom. The profitability of their print product gives Indian newspapers a much longer runway than newspapers elsewhere in terms of developing their digital operations, but perhaps also means that change is felt as less urgent by some. It would, however, be dangerous to be complacent. As outlined from the outset of this report, the pace of change in Indian media is picking up with the very rapid rise of internet use and especially mobile media use in recent years, projected to continue for years to come. This growth presents Indian newspapers with new opportunities, but also brings them into head-to-head competition for attention and advertising with both digital journalism start-ups like Scroll and Quint, aggregators like DailyHunt, as well as large international technology companies who are investing heavily in India. Newspapers in many other countries have struggled to adapt to this new environment, in part because they have had to invest in new initiatives even as they cut costs elsewhere to stay profitable. Indian newspapers are in a sense more favourably positioned as they pursue their digital transition, in that their print business is still growing and will remain robust for some years

to come. This means they will have resources to invest in new assets. But money will not in itself give them the will and ability to change. Transforming their professional culture, commercial strategy, and technological infrastructure, and organising all of these elements so they are aligned with editorial priorities and organisational imperatives in a new environment, is a harder challenge, and one we hope journalists, managers, and technologists working in Indian newspapers will take on together.

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