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ORIGINAL ARTICLE

The Power of Numbers: Four Ways Metrics are Transforming the News

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ABSTRACT

The benefits of analytics on news media organisations' revenues and traffic have been well documented, yet their consequences for news production and content remain double edged. To date, most empirical studies on their use and influence have focused on newsrooms in developed countries, with less attention paid to their impact on journalism practice in emerging and transitional media systems, which are often characterised by relationalism, informal economies, extensive state-owned enterprises and relatively low internet penetration rates. Building on interviews with twenty journalists, this study examines how journalists in transitional Egypt adapt to web analytics and how they perceive the influence of audience metrics on their journalistic practice. Based on their testimony, we identify four ways that metrics are changing journalistic practices and news content that relate to their role as *agenda-setters,* as *newsroom change agent*, as facilitators of *institutional capture*, and as *drivers of tabloidisation*. Each of these have power implications that are discussed in relation to ongoing debates in the field of digital journalism.

Introduction

Aided by the shift to increasing digital news consumption, one of the main developments in journalism in recent years has been the rise of analytics and metrics for tracking audiences' preferences about news content (Hermida 2020; Van Damme et al. 2020). While the benefits of analytics on news media organisations' revenues and traffic have been documented (i.e., Bodó 2019; Christin 2020; Diakopoulos 2019), concerns about their impact on working conditions, editorial decisions, and the quality of news content are at the centre of several ongoing scholarly debates (Tandoc 2013; 2017; Welbers et al. 2016; Nguyen 2013; Neheli 2018).

Most empirical studies on the use of analytics by news organisations have focused on newsrooms in developed countries (Allam and Hollifield 2021). But there is limited evidence regarding their use and impact on journalism practice in emerging and

transitional media systems, where the boundaries between new and old media are more distinct and the media markets are less developed (Jebril, Iordanidou, and Takas 2022). Such markets are often characterised by relationalism, informal economies and extensive state-owned enterprises (Cavusgil 2021), but can also feature relatively low internet penetration rates in addition to a host of political and market pressures on journalistic practices.

Previous studies on journalism analytics in the Arab region focus on the organisational factors influencing the adoption of analytics as a management tool (e.g., Allam and Hollifield 2021), the development and practice of data journalism (Fahmy and Attia 2021), or emerging business models in relation to digital platforms (Darwish 2022; Zaid, Ibahrine, and Fedtke 2022). However, studies on the influence of analytics on journalism practice and journalists' public roles in society are rare in the region. Building on interviews with twenty journalists representing several ownership models, this study examines how journalists in transitional Egypt adapt to the demands of metrics and how they perceive the influence of audience analytics on their journalistic practice and public roles. In-so-doing, we contribute to wider dialogues regarding the quality of journalistic content and its effect on the societal fabric in emerging and transitional media markets (Iordanidou, Jebril, and Takas 2022).

The Use of Audience Data and Analytics in Newsrooms

Journalism analytics refer to the tools that are used by different newsrooms to systematically track, record and analyse user information, different characteristics and online consumption patterns (Tandoc 2019). Despite historical accusations of journalists overlooking audience feedback and needs (Nguyen 2013; Tandoc 2017), the idea of collecting audience data is not new (Carlson 2018; Zamith 2015). Before digitalisation it was done *via* such means such as press circulation numbers, TV ratings, audience research, letters to the editor or complaints sent directly to the media outlet. However, these numbers were mostly seen by senior managers and rarely impacted the journalist's daily work. Media outlets were also reluctant to act based on audience feedback because of lack of trust in the collected data, lack of interest in following the audience's (often trivial) demands, and fears of compromising their autonomy and editorial judgement (Tandoc 2017).

In the digital age, the process of collecting audience data – such as website and social media clicks, shares, likes, attention and comments – became much easier, and is impacting journalists' daily work, with many news outlets installing digital screens showing traffic numbers, in addition to frequent emails sent to journalists highlighting stories that attract traffic (Tandoc 2017; Neheli 2018). The process of collecting audience data has also been facilitated by social media. New job titles such as – Engagement Editor, Social Media Editor, Analytics editor, SEO Editor have been created in the newsroom to "match the news content to the needs and wants of the audience" (Ferrer Conill and Tandoc 2018).

Graves and Kelly (2010, 4) argue that there is no "online currency" for measuring analytics, with major news outlets "subscribing to multiple, incompatible, and quite expensive sources of audience measurement" while smaller outlets often depend on

Google analytics. For example, many news organisations increasingly depend on social media shares and aggregator applications to generate more traffic to news websites (Dwyer and Martin 2017). These aggregators and search engines can serve as "demand predictors" (Napoli 2014, 348) of story popularity, with some news items automatically generated by algorithms (Coddington and Holton 2014). News organisations also often depend on external web analytics companies with no experience in journalism, for making algorithms that promote profit (Belair-Gagnon and Holton 2018) which can influence the mechanism of news story selection (Napoli 2014).

A large body of literature has shown that tracking audience analytics in newsrooms has become institutionalised (Anderson 2011; MacGregor 2007; Boczkowski 2010) with media professionals now using them to make real-time decisions on news story selection, placement, use of visuals and headlines based on a granular understanding of audience behaviour (Belair-Gagnon 2019; Dick 2011; Ferrucci and Tandoc 2015; Lee, Lewis, and Powers 2014; Usher 2013; Vu 2014). Analytics are also being used to inform longer-term decisions on which topics bring traffic to a news website, and how journalists might expand coverage on such topics (Lamot and Paulussen 2020; Moyo, Mare, and Matsilele 2019). However, the institutionalisation of metrics and analytics can differ from one organization to another depending on organisational and management factors as well as work practices (Bunce 2017; Petre 2015). Here, a strand of research documents the relatively limited impacts of analytics on journalistic behaviours and news content, with news editors willing to let audience analytics inform their news decisions, but only when it comes to "soft news" topics (Lamot and Van Aelst 2020; Nelson and Tandoc 2019). Other evidence suggests that elite or broadsheet news outlets may be less susceptible to the influences of metrics and analytics than their popular/tabloid counterparts (Bunce 2017; Dick 2011; Petre 2015; MacGregor 2007).

Theoretical and empirical perspectives regarding the use of metrics and analytics by journalists suggest that this practice can be considered both "a blessing and a curse" (Hermida 2016, 87). On the positive influences of analytics, the literature on "measurable journalism" includes the possibilities for connecting with their audience and improving their output (see Zamith 2018), and elevating "economic imperatives above all else by enabling minute tinkering aimed at extracting larger audience numbers" (Carlson 2018, 413). Here, it is argued that audience analytics which provide access to real-time data makes it possible to monitor traffic accurately, which can help in further increase traffic (Anderson 2011; MacGregor 2007) as well as predict audience behaviour and increase engagement. Studies have shown that audience analytics alongside SEO are crucial in increasing traffic and revenues (Bodó 2019; Christin 2020; Diakopoulos 2019) as they can be leveraged for advertising sales. Others have found that on the whole, digital news editors are convinced that audience analytics support rather than harm their journalism (Lamot and Paulussen 2020).

However, despite the potential positive impact of metrics on the finances of news organisations and their relationship with audiences, the idea of matching the content to suit audience needs raise several concerns about normative standards in journalism, which are mainly focused on the levels of news production, news content and news media effects. Concerns at the level of *news production* are mainly focused on the impact of analytics and metrics on editorial decisions, the public mission of journalists

and journalists' working conditions. Scholars argue that due to financial pressures, journalists treat "audience choice as an end for an economic goal rather than as means to a journalistic mission" (Tandoc 2017, 293), while analytics and metrics become a main element in budget meetings deciding which stories to pursue and prioritise (Tandoc 2013). Moyo, Mare, and Matsilele (2019) find that African newsrooms are not lagging far behind their Western counterparts when it comes to using analytics to inform editorial practice. They argue that the desire to narrow the "gap" between journalistic output and audience preferences using metrics has given birth to the untenable notion of "perverted public interest." Here, the demands of the market are superseding the needs of a prosperous and pluralistic public sphere (Moyo, Mare, and Matsilele 2019). Further, some have linked a reliance on audience metrics to the reduction of investigative and original reporting in newsrooms, where the resource allocated to producing such news is not matched by the audience interest, which is now more measurable (Tandoc and Thomas 2015). Boczkowski (2010) argues that the competition to attract audiences can affect diversity in news coverage, as journalists tend to copy stories that do well on other websites, hence reducing original content.

While some studies find that journalists tend to downplay the influence of economic pressures and analytics use on their editorial decisions, perhaps due to "occupational pride" (Vu 2014, 1106), most find some level of journalistic anxieties and newsroom tensions resulting from these changes (e.g., Bunce 2017; Moyo, Mare, and Matsilele 2019; Nguyen 2013; Petre 2015). These include concerns about metrics being used to inform both praise and discipline certain journalists on the "success" of their work as measured through analytics (Bunce 2017), to hire and then promote certain journalists (ibid), to evaluate journalists' performance (Tandoc 2017) and to push towards certain content strategies that journalists might be resisting (Lamot and Paulussen 2020). Together, these interventions can shape who is considered a "good journalist," and who is afforded cultural capital within the newsroom (Bunce 2017).

Unlike financially stable outlets located in developed media markets (Usher 2013), the perceived influences of analytics on journalists and news organisations can be more pronounced in emerging and developing media markets (Iordanidou, Jebril, and Takas 2022; Moyo, Mare, and Matsilele 2019), albeit there is far less empirical evidence from such countries. These markets are usually characterised by idiosyncratic institutions, relationalism, inadequate infrastructure, informal economies, and extensive state-owned enterprises (Cavusgil 2021). Research in such media markets has shown that journalists can become increasingly disenfranchised with their work and that the influence of analytics on news organisations' survival is often shaped by the daily hunt for clicks (Darwish 2022; Moyo, Mare, and Matsilele 2019; Zaid, Ibahrine, and Fedtke 2022).

Concerns at the levels of *news content* and *news media effects* are inter-related and generally focus on the reduction in hard news and the turn towards tabloidisation to meet audience preferences and address financial challenges. In this regard, scholars have argued that a focus on analytics may give priority to stories that are of limited public interest, but are of a sensational nature such as sex, scandals, celebrities and crime, or other soft news topics (Christin 2015; Nguyen 2013; Neheli 2018). Existing content analysis studies would lend some support for this position, showing how the

news supplied for social media is adapted to user preferences, leading to an increase in soft news at the expense of harder, quality content (Lamot 2022; Lischka 2021; Steiner 2020). Additionally, outlets – which are limited in resources or struggling financially – may be following audience preferences and trending stories on social media resulting in the spread of misinformation or fake news (Moyo, Mare, and Matsilele 2019; Neheli 2018). Such outcomes therefore raise serious concerns about journalism's role in society, with potential downstream impacts on civic participation (Zamith 2015). Nguyen (2013, 147) for example, fears the dependency on metrics "might well lead to a disaster for public life in the long term," while Heinderyckx (2015, 256) describes the process as a "the triumph of soft news."

Digital Journalism and Metrics in "Transitional" Egypt

Several studies classify the Egyptian media system as transitional (see: Allam 2019; Amin and Allam 2022; Darwish 2022; Abdulla 2016, Elsheikh, Jackson, and Jebril 2024), with neo-authoritarian trends (Allam and Hollifield 2021). Scholars argue that the Egyptian media system remains within the "transitional" classification as it is still characterised by "slightly more freedom as a result of a fierce struggle by journalists," while having "significant government control" (Abdulla 2016, 4221). In this vein, Amin and Allam (2022, 65) point towards the uncertain future of the Egyptian media system saying that "it is unclear if these systems are in fact in transition to libertarian press or will remain as they are," or if they are "in transition to a different type of system that will stabilize or remain for a long time" (Allam 2019, 1274).

The current unsettled state of the Egyptian media system reflects the country's turbulent political, economic and social transformations (Allam and El Gody 2023; Allam and Hollifield 2021; Khamis 2011). More than a decade after the January 2011 revolution, the media system in Egypt remains unstable and volatile (Allam and Hollifield 2021), with prevailing authoritarian tendencies hindering the development of the industry and limiting journalists' autonomy (El Issawi 2020; Badr 2020).

One of the core objectives of the January Revolution in 2011 was to change the stagnant, pro-regime media landscape in Egypt. Owais (2011, 9) points out that initially the changes in the media landscape were so promising that the days after Mubarak had resigned, the pro-regime national newspaper, Al Ahram, published an unprecedented editorial in which it apologised to the Egyptian people "for all its bias to the corrupt regime." This period also witnessed a growth in alternative media and a proliferation of start-ups on a range of platforms, often aligned with opposition forces (Sakr 2013). El Gody (2020, 117) explains how this period allowed news websites to "become the playground for political parties, activists, and groups from various ideologies creating 'online spaces of flows' to cater for the emerging needs of the readers." But despite the enthusiasm and great expectations for digital media's impact on Egyptian citizens' ability to control the narrative and influence their governments, studies since 2011 indicate that such expectations did not consider the willingness of governments to fight back and re-control the media.

Abdulla (2014, 3) notes that following Mubarak's downfall, each regime that came to power seems to "have been more brutal on the media than its predecessor." The

challenging media environment in Egypt presented significant obstacles for journalists, such as censorship and self-censorship, arrest, and intimidation (El Issawi and Cammaerts 2016; RSF 2022), which have resulted in a steady erosion of professional standards. Reporters Without Borders ranked Egypt 168 out of 180 countries in its 2022 World Press Freedom Index, indicating a severe lack of press freedom in the country (RSF 2022).

At the same time, Allam and Hollifield (2021, 7), explain that "the political challenges along with the digital disruption in Egypt have resulted in a decrease in newspaper circulation rates and advertisement revenues which have led many news organizations to shift towards digital content to increase website traffic and accommodate for the losses they had incurred." This shift – emblematic of the growing role of digital journalism in Egypt – provides an important moment at which to reflect on the influence of analytics and metrics on the practice of journalists in Egypt. Here, as found in Western contexts, early evidence suggests the adaption of analytics tools in Egyptian outlets can be uneven and based on organizational factors (Allam and Hollifield 2021). However, unlike their Western counterparts, new positions such as Engagement Editor (Ferrer Conill and Tandoc 2018) have not yet materialised, with these tasks being carried out by those in existing editorial roles. Existing research suggests that the platformisation of Arab news websites (including Egypt) led to a heavy reliance on revenue from global tech companies like Google, Facebook, and Twitter, and that this dependency has led to a shift in news production, distribution, and monetisation (Zaid, Ibahrine, and Fedtke 2022). As a result, fierce competition for audience attention and the integration of editorial, marketing, and analytics functions in the digital news industry have led to news stories being increasingly evaluated based on metrics rather than on public interest (Darwish 2022; Zaid, Ibahrine, and Fedtke 2022), with related concerns about a rise in negative and sensational news agendas (Allam and El Gody 2023).

Building on these early findings, we ask, from the perspective of journalists:

RQ1: to what extent are analytics shaping the practices of digital journalists?

RQ2: what impacts have analytics-driven journalistic practices had for journalistic ethics and standards?

Method

Through semi structured in-depth interviews, we recorded the experiences of 20 Egyptian journalists on how they adapt to analytics and how they perceive the influence of metrics on their journalistic practice. Following the operationalisation of Fusch and Ness (2015), this was the number of interviews by which the authors felt that no new themes were emerging, and that data saturation had been met.

Interviews were conducted by the lead author in October and November 2021 *via* audio calls (phone and internet apps), allowing us to bypass the physical restrictions caused by the ongoing pandemic. Participants were asked to choose the medium they prefer based on the quality of their internet connections and the security of the platform. While physical interviews can facilitate greater rapport between the researcher

and participant, we found no impediments to maintaining the key principles of semi-structured in-depth interviews (Morris 2015). These include flexible and free-flowing interaction between the interviewer and the interviewee, space to obtain more clarity and details from the interviewee on the questions asked, and a balance between a structured interview guide and scope for digression.

Each interview lasted between an hour and 90 min. The interviews were conducted by the lead author in Arabic, transcribed, and translated into English. Thematic analysis was used to analyse the interviews (Braun and Clarke 2006). Here, the analysis was influenced by the research questions (and indeed the literature review), but there was also an inductive element allowing for themes to evolve during the analysis process. We analysed each interview, developing overarching themes through a process of coding, broader categorization, and conceptual mapping (Coffey and Atkinson 1996). All authors were involved in the process of data analysis, with themes discussed between colleagues as "critical friends" establishing empirical validity in the process of qualitative analysis.

While our qualitative study does not aim for representativeness of the whole sector, we aimed to speak to journalists in a range of institutional settings and newsroom cultures. A purposive sampling strategy was thus employed to identify participants working across different *platforms* and *ownership models* in the news media sector. This includes: (1) established independent or privately-owned media organisations; (2) privately owned organisations that were recently bought by the state through a new established company called UMS; (3) national organisations that are funded directly by the state since the 1950s–60s; (4) new websites that were opened in 2020 and 2021, some of which are banned inside the country, and some of which don't have a license to operate, others were able to secure the license (our sample included journalists from all the three); (5) news media outlets belonging to opposition parties; (6) freelancers working for more than one outlet with various ownership modes. Given that our interviews drew on professional experiences, we required participants to have a *minimum of three years industry experience*. Resultantly, journalism experience ranged from 5 to 32 years with a mean of 18 years. Accordingly, our sample ranged from those at reporter level to senior editors, with the majority having worked as journalists from before the 2011 revolution, witnessing several regimes. Finally, participants were required to be *regularly involved in their organisation's social media pages*. Participants were recruited through the contacts of the lead author.

Identities of participants and the exact details of their employers cannot be given on account of the risk that authorities may identify them. Ethical clearance for the research was given by Bournemouth University's ethics panel in October 2021, where such issues were reflected on. Journalists gave consent to participate in the research and speak freely about their work based on the anonymity of both their identity, and their employer's.

Findings

Setting the Agenda

Participants explained how they are "controlled by the analytics," and how they are no longer able "set the agenda for the audience, priming the audience priorities and

gatekeeping" (freelance journalist). A journalist who has been working in an influential private newspaper and website since 2004, explains how they used to set the agenda for all citizens across Egypt and how this changed now because of social media: "In 2005, traditional media, mainly newspapers used to set the agenda for all Egypt. Now social media set the agenda for us." This was echoed by another journalist working in a private newspaper and website, explaining the cycle of news distribution among Egyptian media outlets prior to the Egyptian revolution – where social media was relatively new:

> We had editorial meetings to discuss what we will put on citizens' agenda, each of us has their own original story to choose from, which was later taken by talk shows and TV programmes. But now, we go to the editorial meetings asking what's trending on social media to follow it.

Participants described changes after the 2011 revolution, usually known as the "Facebook revolution," with more Egyptians getting news from social media in recent years. But this phenomenon also intersects with important post-revolutionary media politics developments that have significantly curtailed the autonomy of journalists in Egypt (see El Issawi and Cammaerts 2016; Badr 2020; RSF 2022). One result of these is how sources and institutions increasingly refuse direct access to journalists for their stories. Instead, they are directed to press releases and/or their social media accounts, thereby amplifying journalists' reliance on social media for news material. A journalist in a private outlet elaborates:

> Sources including public figures refuse to speak with us. They publish on their social media accounts and ask us to take it from there … There are no scoops or exclusive news anymore. So, I become a second source of information, not the first.

The result is a flourishing social media environment, but a diminished gatekeeping role for journalists. While participants spoke of the many challenges social media posed for their epistemic authority and commercial viability, the role of analytics was central to these narratives about agenda setting, as it drives the analysis of what is "trending," which then informs news agendas.

Trending news topics, however, are open to manipulation. Journalists explained the dangers of following the social media agenda due to the influence of astroturfing campaigns (Elsheikh 2018), known in Egypt as electronic committees, which are usually fake social media accounts managed by other countries:

> These electronic committees are now deciding what will be the main story for traditional media and even the order of the stories. Most of these committees are associated to other states or political, economic, or religious groups outside Egypt (freelance journalist working for various outlets).

In this dynamic, journalists spoke of their fears that they "became a method or a mean for some groups on social media. We simply help them in disseminating rumours and fake news. We were not able to use social media in our favour to serve our aims" (journalist working in start-up website).

Institutionalising Metrics

As documented in Western newsrooms (Neheli 2018), participants explained how social media, metrics and analytics are having profound impacts on the physical layout in the newsroom, as well as the associated newsroom culture. As one editor at a private news outlet explained:

> The dashboards show the analytics. When they find that we are having low traffic at a specific moment, they start thinking how they can get the traffic up again. How to spice it up. So, they publish any sensational story to increase traffic such as a rape story.

As an editor of one of the most visited news websites told us, "analytics comes first, and journalism is the last." He explained:

> We do everything Google wants. The most important thing is to optimise your work with Google. Many of those working in the industry in Egypt don't understand this. That's why we are the second in traffic. I'm not speaking about Google search and SEO. I am also speaking about Google apps, Google News, Google Discover, Google Console, aggregator apps.

In many of the news outlets we spoke to, there is a clash between the social media team and more senior journalists inside the same organisation. Those working in social media are keen to compete with other outlets in getting the most traffic, and thus advertising income for their outlet. They are often rewarded by the leadership teams when their stories are viewed or shared a lot, regardless of whether it was original or editorially justified. The institutionalisation of metrics through pay and promotion has important implications for news agendas, and causes tensions between journalists:

> Journalists with stories that get most traffic get recognised with bonuses, or appreciation certificates from their organisations, even if their stories are not valid editorially. It's just about the money their story brings to the organisation. We can't compete or thrive in this working environment. We are being forced to lower our standards (journalist at a private outlet).

As an assistant editor for a well-known private newspaper and website explained, those working on the social media team are typically not trained in journalism, yet they are increasingly influential in the journalistic outputs of online news outlets:

> They were hired to upload the editorial content we produce on social media. They were just technicians and uploaders. Later on, they were asked to get content from social media by following celebrities and organisation accounts. That's how they started slipping to other departments, as they started producing content that can brings traffic to increase revenues. But they know nothing about journalism.

Senior journalists in private outlets told us of the falling editorial standards that result from empowering the social media teams (Elsheikh, Jackson, and Jebril 2024). For example, editors explained that due to time and workflow pressures, the social media teams in private outlets are working in isolation. Subsequently, their stories are published without being checked by the editorial team, often leading to inaccurate stories. One editor told us how they moved a senior editor to lead the social media team, with the hope that the standards could be upheld, "But after two days, you

find that the criteria to evaluate success is based on the analytics and the numbers. Numbers means the money will increase in front of the owners." Another editor spoke of how difficult it is to manage the social media teams when the organisational incentives favour viral content:

> You can lecture and train the team as much as you want. They will wait until you leave the office and publish trivial, sensational, and sexual stories. Stories like a father raped his daughter, or sexy red-carpet actress images. When you blame them the next day, they will say: 'we only did this for half an hour for traffic. As outlet X was higher in traffic than us'.

Participants explained how the dependency on analytics is negatively influencing journalism ethics in general. They explained how journalists – especially juniors – no longer abide by legal and ethical rules, to gain more viewers. A freelance journalist working in various outlets explained:

> Searching for the trend, trying to get money from the number of views. These make you not adhere or abide by the rules and the ethics. That's why you see a crowd of journalists entering tombs filming the dead person while being buried as live videos on Facebook. Where did they learn this?

Participants explained how stressful the job became due to what they described as "running after the trend" and "competing to get more traffic." A journalist in a private outlet described how "Those who are still professional are stressed and have lots of pressure on them." Speaking to journalists who have worked in social media teams in private outlets and outlets owned by UMS, we found that those who are not considered "professional" also feel the same pressures.

> We need to bring traffic. We bring money for the outlet. What we do, helps in paying our colleagues salaries. Yet, they deal with us as if we are the only reason behind the deteriorating the outlet. Yes, we do mistakes. But no one taught us (former social media journalist who moved recently to the website team in the same private outlet).

Tabloidisation of Content

The top two outlets in terms of traffic were accused by participants of deliberately publishing trivial, sensational and controversial stories, tabloidising the journalism industry, to distract the public from other important matters. Yet while interviewing both editors and journalists from these two outlets, they confirmed that social media is the main challenge they face in upholding journalism standards. They explained how they are driven by metrics and analytics and how they are unable to get out of what they described as "a trap." According to them, changing their topical focus means losing traffic and thus money which they get from Facebook videos and Google ads, which helps pay journalists' salaries.

An editor of a website and newspaper owned by a company affiliated with the government explains the dilemma they face as they have to adapt to what audiences want:

> Social media changed the mood and taste of the audience. They need quick, short pieces. So, they go to social media which became our competitor. This affected journalism and its sources of income. The main source of income is the advertisement, which we depend on. Now advertising goes to social media. We can't find a solution for this.

Such testimony echoes classic political economy-informed accounts of tabloid-isation and "dumbing down" (McChesney 2000; Jackson 2007), where editors spoke of the necessity of following audience wants, arguing that if they did not appeal to the audience, they will not exist. One editor told us how they both hired an external market research agency alongside their own experiments with publishing specific types of content and checking its analytics. They concluded that "Egyptians are bored of political news, regardless of its type." In order "to continue and be present," they therefore follow audience tastes. Participants were aware of criticisms aimed at them, but defended their decisions based on the audience data they were gathering:

> People attack us saying we provide trivial news. I go and check the analytics. I find the numbers are increasing and the curve is going up. Maybe the elite doesn't like it. Maybe they think it's political. But for me, it's related with analytics and what audience like to read … Some videos get more than 15 million views. Others are watched 57 million times (Editor of an outlet owned by a company affiliated with the government).

One narrative amongst participants – mirroring that of literature (e.g., Carlson 2018; Zamith 2018) – is that by following audience tastes, news organisations can better connect with their audience. However, and somewhat paradoxically, journalists told us that depending on metrics, analytics and appealing social media content can simultaneously disconnect them from audiences. Here, outlets that succeeded in securing larger audiences acknowledge that their overall reputation is often harmed, as one assistant editor working in a private organisation told us:

> This makes journalists more prone to criticism. Yes, these stories are viewed more, and get more engagement. But the audience's comments are usually criticizing, insulting, and mocking. Yes, these stories are seen and followed, but in a negative way … If the aim is more traffic and more money, then yes, do it. But they don't get respect or trust. And they are losing their reputation.

Discussion and Conclusion

This study examined how journalists adapt to online analytics and how they perceive the influence of audience metrics on their journalistic practice in the current Egyptian political and media system. From interviewing twenty Egyptian journalists, our findings show a predominantly pessimistic account of the impact of analytics dependency on both news production and news content. In terms of news production, analytics dependency negatively impacted agenda-setting functions, newsroom dynamics, working conditions and journalistic ethics. In terms of news content, it led to tabloidisation of content and a lack of original, in-depth reporting. While these findings will be read as a troubling assessment of the state of digital journalism In Egypt, in the following discussion we use them to reflect on some of the wider consequences of metrics for digital journalism that go beyond our case and connect to ongoing debates in the field. In so doing, we identify four ways that metrics are changing journalistic practices and news content. While each of these will be familiar to most readers, we bring particular attention to a common thread that connects them all – *power* – and how metrics are reconfiguring the exercise of power in newsrooms and beyond.

Metrics as Agenda-Setters

Existing literature documents how journalists incorporate web analytics to inform editorial decisions about the topical focus, placement, packaging, planning and even imitation of news stories (e.g., Lamot and Paulussen 2020; Lee, Lewis, and Powers 2014; Zamith 2015). Together, we characterise these as agenda-setting functions that historically were enacted by editors but have witnessed the encroachment of metrics.

Driven by a dependence on analytics, our findings showed how journalists surrendered their roles as agenda-setters and gatekeepers, by following stories already published on social media rather than developing their own original stories. This coincides with previous literature suggesting that there is a decline in journalists' gatekeeping role due to increased reliance on analytics (Tandoc 2013; Neheli 2018; Vu 2014). Yet it is the intersection of the media politics of post-revolutionary and transitional Egypt that make this a particularly troubling case. Here, we firstly found that journalists' dependence on social media for news content was partly a result of sources refusing access to journalists, and instead directing them to social media accounts. Obviously, this deliberate avoidance of scrutiny has democratic consequences beyond the focus of this paper, but it partly accounts for the primary role of social media (and its associated analytics) in shaping the news agenda. The second troubling dynamic is how a reliance on trending news topics leaves the news agenda open to manipulation, particularly because of its implications for who exercises power. Here, participants spoke about the deliberate use of fake social media accounts and bots by political and religious organisations – often allegedly foreign-based – with the aim of influencing public opinion (also see: Elsheikh 2018). Some journalists we spoke to were aware of the potential manipulation of trending topics, but this awareness does not enable them to change the data by which editorial decisions are being based on.

While we document some Egypt-specific dynamics behind the manipulation of public agendas on social media, previous research suggests that all kinds of political and media systems can experience such phenomena (Woolley and Howard 2018). Further research might therefore explore this important link between the manipulation of "trending" news topics, metrics, and editorial decisions, given the power implications.

Metrics as Institutional Capture

Depending on analytics to increase traffic and thus revenues is a common theme in various literature (see: Bodó 2019; Christin 2020; Diakopoulos 2019), yet we found that some private outlets depend on money coming from social media as the *main* source of income, directly linked to journalists' salaries. In Egypt's case, this is a consequence of the media politics environment that independent news organisations are operating within, where they have been financially throttled by successive governments. Alongside our other findings, it depicts a news media sector that is increasingly dependent on social media platforms for shaping the news agenda itself, for content distribution strategies, and for financial viability. Yet in very different media politics contexts, we have also seen the growth of digital-native news outlets, particularly

those whose business model is built around social media distribution (Küng 2015). Buzzfeed, for example, became an internet powerhouse through its exploitation of Facebook's incorporation of news content alongside an understanding of audience analytics (Tandoc 2018).

While we would not argue that this growth is solely a result of the growing influence of metrics but reflects a broader shift in business models, we argue that they have contributed to a process of infrastructural capture. Nechushtai (2017, 1043) describes this process as "circumstances in which a scrutinizing body is incapable of operating sustainably without the physical or digital resources and services provided by the businesses it oversees and is therefore dependent on them." While social media platforms have provided a seemingly essential income stream for news organisations, the former's infrastructural capture of the latter has consequences for their ability to scrutinise the activities of some of the most powerful and valuable companies in the world. It also appears a potentially short-sighted business strategy, as it has left such news organisations at the whim of an algorithm change that they have no say in, as the recent demise of Buzzfeed would suggest. This is not to suggest that infrastructural capture is a universal or inevitable consequence of a reliance on metrics, but that it is a risk that both scholars and practitioners should be mindful of.

Metrics as Newsroom Power Agent

Our findings sit alongside a long line of studies that find the institutionalisation of metrics (as with many other innovations) to have disruptive influences on newsroom hierarchies and relationships (Bunce 2015, 2017; Tandoc 2017; Welbers et al. 2016; Vu 2014). Here, we draw attention to the important power dynamics that underpin such developments. We found that journalists reported how their work is often evaluated based on analytics regardless of story content, and how they are being controlled by the digital dashboards installed in some newsrooms. This process is facilitated by editors who have seemingly bought in to the value of metrics, thus exercising some agency, but who spoke in disempowered terms of the existential threat they face if they follow any other path. In such circumstances, therefore, we witness a transfer of power from journalists to computers, and ultimately, the market. Of course, this can also be seen as a (welcome) transfer of power to audiences, but here, critics argue it is based on a narrow definition of consumer choice that does not necessarily empower audiences (Tandoc and Thomas 2015).

Consistent with several other studies (Bunce 2015, 2017; Tandoc 2017; Welbers et al. 2016; Vu 2014), our investigation also revealed how digitalisation and analytics-led newsmaking created new power relations within newsrooms, with resultant tensions between colleagues. As with other studies (e.g., Bunce 2017; Lamot 2022), there was a generational aspect to this. We found how the creation of social media departments, staffed by young and untrained media professionals, were now at the leading edge of news content creation at Egyptian news organisations. Established journalists resented both the power now wielded by social media teams, and the financial rewards they were reaping.

Metrics as a Driver of Tabloidisation

A wider concern is the quality of resultant news made under such circumstances, which connects to ongoing debates around metrics, tabloidisation and soft news (Christin 2015; Nguyen 2013; Moyo, Mare, and Matsilele 2019; Neheli 2018). Existing studies of newsrooms in Western contexts have found mixed evidence for the tabloidising power of metrics, with many journalists reporting being shielded from the worst commercial pressures they might entail (Anderson 2011; Bunce 2017; Dick 2011; Petre 2015; Lamot and Van Aelst 2020; MacGregor 2007). Content analysis studies, however, offer more support for the tabloidisation thesis, particularly in news distributed through social media, albeit with nuanced differences between more elite and popular outlets (see Lischka 2021; Magin et al. 2021; Steiner 2020).

The relatively little that we know about how metrics are embedded in African contexts suggests a more concerning picture. In line with Moyo, Mare, and Matsilele (2019) three-country study in sub-Saharan Africa and Allam and Hollifield (2021) study of analytics adoption in Egyptian newsrooms, our participants described a shift towards tabloid content, a lack of original or investigative reporting, and the copying of content from other outlets including social media. Most worryingly, we found that Egyptian newsrooms are placing (journalistically) untrained and inexperienced staff at the front line of online news production with license to follow the trending topics of the day and to maximise eyeballs. While this may drive audience attention to the news brand, participants also spoke of concerning ethical aberrations alongside basic mistakes. When editors justified such practices, they were invariably on the grounds of the (analytics-informed) popularity of soft news topics amongst audiences rather than journalistic value.

An important question here is whether such tabloidisation is the continuation of an established trend or something that the turn to metrics has accelerated. Each context will be different but for Egypt, we would suggest the latter. During the supposed rise of tabloidisation in Egypt in the 1990s, it was largely limited to publications known in Egypt as the "Cyprus press" (referring to private outlets issued abroad); a trend that extended gradually to certain opposition and specialized press outlets (AlBaz 2010). However, our data suggests a shift where – driven by the need to attract audiences and generate revenue – even the previously daily private independent press, known for its in-depth hard news coverage, has succumbed to sensationalism and adopted tabloid elements. This is not to say they have abandoned hard news altogether, but that their online news agenda – particularly that distributed through social media – is dominated by soft news topics and a sensational tone. This has consequences for the diversity of the information environment in such countries where all outlets are engaged – and competing in – some form of tabloidisation.

Looking forward, the evolution of news production in digital environments would appear a potentially successful short-term survival strategy, but could leave long-lasting damage for trust in the journalistic profession and the health of Egyptian public sphere (Jamal 2019). In many ways this is a classic political economy account of what happens when the profit motive is allowed to go unchecked, and audiences are treated as consumers not citizens. It also reminds us why so many scholars articulate the need for muscular media regulation that can rein in the excesses of the market,

and a strong public service media sector that is not subject to the same market demands (e.g., McChesney 2000; Jackson 2007). While transitional Egypt does not lack state intervention in the media sector (Elsheikh, Jackson, and Jebril 2024), this is primarily aimed at controlling independent voices rather than curtailing market excess, and it also lacks a public service media system (RSF 2022). Such context, we argue, is not unique to Egypt, with evidence from several emerging media markets suggesting that there are similarities in the way they respond to digitisation effects on journalism practice (Jebril, Iordanidou, and Takas 2022). This suggests that news organisations in other non-democratic and transitional systems may be susceptible to some of the same forces identified here, but only through further research can we confirm this.

Our study opens several avenues that further research could explore. The framework of impacts we present can be adopted and adapted in future research using several methods. In relation to tabloidisation, for example, our study provides an *explanation* for a rise in quickly produced tabloid-style content in Egypt. But only through content analysis (or similar methods) can we understand the *extent* to which hard news has been side-lined by lowbrow content in digital news environments, how this has *evolved* over time, and *what forms of tabloid news* prevail in news content. Our study also touched on the role of *metrics as the voice of the audience* but conceptually and empirically there is still work to be done here. In the Egyptian context, according to those participants who observed analytics data, there is little audience appetite for hard news content. But we suspect it is more complicated than that, and so it becomes imperative to pursue a more layered approach to news audiences, that involves primary data collection beyond analytics. Finally, research is needed on how financially challenged news organisations working in transitional contexts can break the cycle described by our participants, offering diverse content, fulfilling their democratic functions, and balancing between audience needs and audience wants.

Disclosure Statement

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