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News judgement in the "click-thinking" culture: the impact of web metrics on journalism and journalists

Abstract

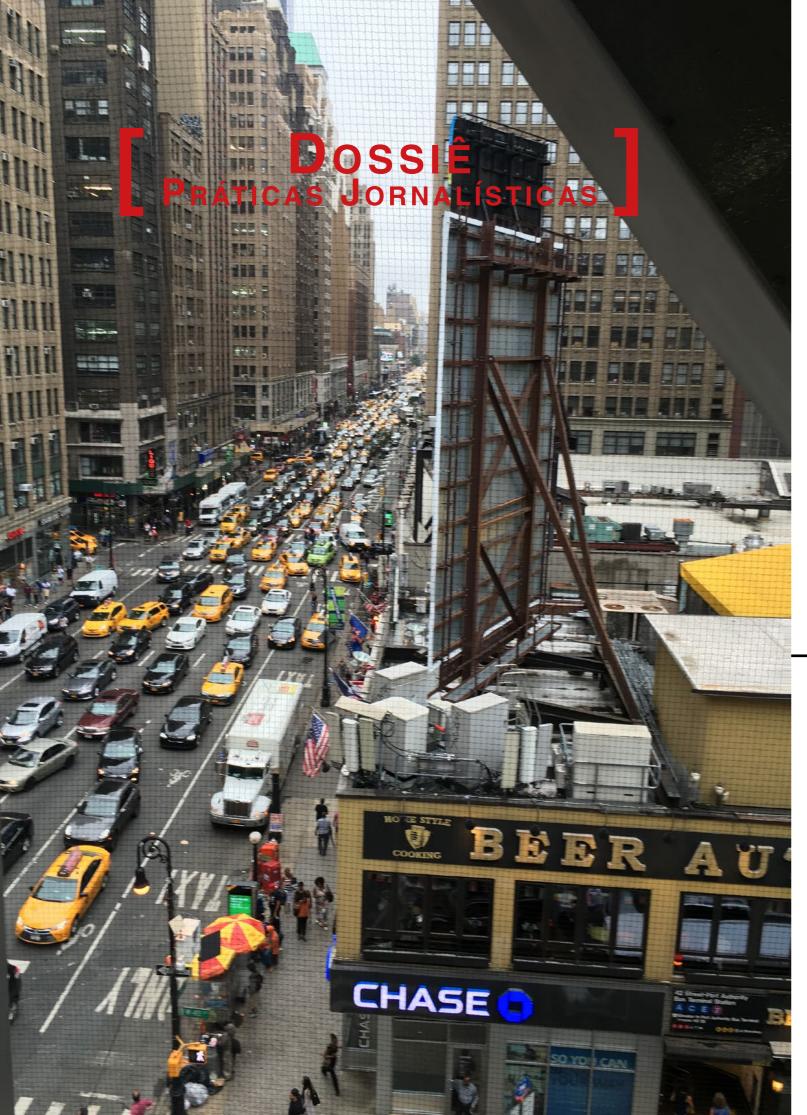
This paper offers a critical primer on the rise of web metrics (audience tracking data) and their potential impacts on journalism and journalists around the world. Online audience tracking creates an unprecedented opportunity for the media to collect natural, real-time data on what users do, and do not do, with the news and can serve as a helpful tool for editorial decisions and newsroom strategy development. However, they present a new set of challenges that, if not calmly addressed, could deepen an already critical crisis of journalism – the dumbing down of news – and bring newsroom tensions and conflicts to new heights. Journalists need to foster a strong professional culture that helps them to take confidence and pride in their autonomous news judgement and to resist, wherever necessary, the sentiment of the crowd.

Keywords: journalism; metrics; data.

Resumo

Este trabalho oferece uma análise crítica da ascensão das webmétricas (rastreio de dados de audiência) e seu potencial de impacto sobre o jornalismo e sobre os jornalistas ao redor do mundo. O rastreamento da audiência online cria para a mídia uma oportunidade inigualável de coletar dados naturais e em tempo real sobre o que os usuários fazem – ou deixam de fazer – com as notícias, e pode servir como uma ferramenta útil de decisões editoriais e desenvolvimento de uma estratégia para a redação. No entanto, tais ferramentas trazem junto uma série de novos desafios que, se não abordados com cautela, podem aprofundar uma crise que já é grave no jornalismo - o emburrecimento do noticiário - e elevar as tensões e os conflitos na redação a novos níveis. Os jornalistas precisam cultivar uma cultura profissional forte que os ajude a ter confiança e orgulho de seu juízo autônomo das notícias e a resistir, sempre que necessário, ao sentimento de massa.

Palavras-chave: jornalismo; métricas; dados.



1. Introduction

Since the inception of online journalism in the 1990s, the ability to track the move and the mood of audiences has been hailed as one of its greatest advantages. In recent years, this has come to fore of digital newsroom cultures and processes in the form of web metrics, generating fresh debates among both journalism scholars and news professionals (Anderson 2010; Boczkowski 2010; Cherubini & Nielsen 2016; MacGregor 2007; Macmillan 2010; Napoli 2010; Petre 2015; Peters 2010a; Peters 2010b; Tandoc 2015; Tandoc & Thomas 2014; Usher 2010; Vu 2014). As each and every user's IP address and mouse click can be easily and constantly tracked, recorded, aggregated and fed into newsrooms, journalists find it increasingly hard to sustain their power in setting the public agenda through the exclusive use of an established, quite esoteric set of professional values. In this new world, to play on a classic quote, news is no longer just "what newspapermen make it": it is also what the crowd wants it to be.

This enhanced presence of this "audience agenda", while bringing some hopes for a better journalism, creates a whole new set of professional risks and challenges. This essay attempt to discuss these in depth. It first reviews the rise of the "click-thinking culture" in newsrooms around the world as well as the different types of web metrics behind this rise. Then, against the backdrop of journalists' traditional detachment from audiences and statistics, the paper discusses the key professional risks that metrics pose to newswork and newsroom processes. As will be argued, such risks, if not calmly addressed, could not only deepen an already critical crisis of journalism - the dumbing down of news - but also bring newsroom tensions and conflicts to a new height. If the raison d'être of journalism is to inform and educate the public, journalists must foster a strong professional culture that helps them to take confidence and pride in their autonomous news judgement and to resist, where necessary, the sentiment of the crowd.

2. The emergence of the "click-THINKING" JOURNALISM CULTURE

One does not need to be an industry insider to realise the increasing prevalence of web metrics in journalism today. As an online news user, you might have noted this in the many "most viewed", "most read" or "most popular" lists out there. Indeed, it is now hard to find a news site that does not offer some lists of this kind. Behind the scene, the data that generate such lists are, in the words of some British editors interviewed by MacGregor (2007), watched "pretty obsessively" with "a hawk eye" and news judgment is made "on the fly" around the clock. In a survey of 318 US editors, Vu (2014) found that the majority keep a close eye traffic figures on a regular basis, with about half doing so every day, although their perceived importance of a story still plays an important part. It is now an established routine for many editors to begin news meetings with a rundown of audience data. In some newsrooms, emails are sent every day to all staff, with dozens of performance numbers for each and every story published on the day. Some go even much further, erecting fancy panels of data and graphics on the walls, so that reporters can "crunch the numbers" in real time and remain atop their individual and collective performance throughout the day. Hung over the reception desk of editorial floor of the famously metrics-driven Gawker Media are two big panels of data: the Big Board featuring top posts (those with the most concurrent visitors) and the Leader Board naming top writers (those with the most unique visitors in the previous 30 days), with red/green arrows showing their relative position change over that period (Petre 2015). According to Nick Denton, the founder of Gawker, writers are sometimes caught standing before those big boards "like early hominids in front of a monolith" (quoted in Peters, 2010a).

Some news organisations, including incumbents such as the Washington Post, have reportedly downsized news teams that produce low traffic so that resources are reallocated to more popular content areas. A growing number - Gawker Media, America Online, Bloomberg and Forbes among them - use metrics as the basis to evaluate staff performance,

calculate story royalties, determine bonuses and/ or set development targets¹. The CEO of America Online, Tim Armstrong, calls it a judicious use of web metrics, which he sees as the key to journalism's success in the future. "We really want to enhance journalism with technology," he said. "We feel like we have a strategic window to invest in quality content" (as quoted in MacMillan, 2010). This is echoed in a more recent survey by Newman (2016), which found three quarters of CEOs, news editors and digital strategists across 25 countries saw better use of web metrics to understand and serve audiences a critically important part of their future.

Undergirding this industry trend is, in a large part, the power of web tracking technologies and the surge of software such as Chartbeat, Omniture and Visual Revenue. For one thing, these technologies make it easy and simple to collect and deliver real-time audience data with a relatively high level of accuracy. Indeed, tracking audience behaviours is not something entirely new: it has been used for decades to generate ratings, the currency of television industries. But the absence of satisfactory measurement methods associated with ratings has been a key reason for the traditional journalist's dismissal of these data and ignorance of their audiences (Schlesinger 1987). Online, some serious drawbacks of television ratings methods - e.g. the use of unrepresentative panels to extrapolate to general audiences, or the inability of tracking device to distinguish between a turned-on and actually watched TV set - seem to be no longer a problem. Every user's IP address and web use history and every click on a news site can be easily stored in servers and aggregated into overall use patterns. The resulting data - which are often collected internally and/or by third-party tracking firms - are quite natural and reliable. Chartbeat, whose clients spread over 35 countries, including 80% of the most trafficked online publishers in the US (Petre 2015), markets itself as the tool for frontline newsroom teams to "track the second-by-second, pixel-by-pixel attention of your audience, wherever they are" (as of May 2016).

Tracking technologies also create more diverse data that can provide much richer insights into audience behaviours. Tracking software can collect data for hundreds of audience attributes to serve both editorial and commercial decisions. Broadly, these metrics can be classified into two major categories. The first - which can be called internal metrics - consists of data about behaviours before, during and after a specific visit to the site. These include a long (and sometimes confusing) list of indicators that can be further divided into two sub-groups:

- Data indicating traffic to/from the site: hits, visits, unique visitors, geographical origins (where in the map users are from), visit times, referral sources (which sites lead users here), whether they are a new or returning visitors, where they go next (after the session), and so on.
- Data indicating actual on-site use behaviours (what users do when they are on the site): 91 how many people read/watch/listen to an item (i.e. how many times a page is viewed); the number of comments a story receives; how many times an item is shared via email, Twitter, Facebook and other social media platforms; most searched keywords; average time spent on the site or a story; and so on.

Needless to say, editors and reporters can gain from these data a sense of whether, and how, a story, a topic, a section or the whole site attracts audience interests and attention. Vu (2014) found that his surveyed editors as a whole are quite prepared to use such metrics as a key factor in a variety of editorial decisions - e.g. whether to adjust story placement on home pages, to follow up and update stories "on the chart", to provide extra multimedia elements or develop editorials for them, or to run similar stories in the future. Some software also allows editors to do other things, including experimenting and testing different headlines for the same story. For those on the business side, internal metrics form the currency of online news, being sold to advertisers, either as

¹ Some "digital natives" whose success has been built largely on intensive and extensive use of metrics, such as the Huffington Post, however, do not opt for any metrics-based system of payment incentives or staff evaluation, because, in the words its former managing editor, Jimmy Soni, "tracking someone to a number ... seems to to suck the soul out of that creative process".

individual indicators or as composite indices of overall performance (such as "audience engagement" or "audience growth"). Some tracking programmes can even use real-time data to pin down to the pennies the advertising income that a particular story generates, based on the number of clicks on advertisements on the page.

The second broad group of data – external metrics - involves what is trendy on the web in general. These metrics help journalists to know what topics are likely to attract users and eyeballs and thus what stories might need to be covered on their site. They ultimately serve as a tool for journalists to improve and maximise internal metrics. AOL, for instance, has its own software to keep track of trends on social media - e.g. hot topics on Facebook or buzzes on Twitter - and, based on that, offer "on-demand" stories to users. For a while, the leader on the "big board" at Gawker was a "machine-like person" named Neetzan Zimmerman, whose job was to discover viral topics on the web and produce short posts about those topics for the site 92 (Phelps 2012). Zimmerman, once described as the "viral news genius" and "superhuman" (Moses 2015), has recently used similar practices to generate remarkable traffic boosts for a Washington DC-based political niche publication, The Hill, where he has been its senior editor since early 2015.

External metrics are also used to guide reporters and sub-editors in producing "search engine-optimised" headlines and stories - i.e. those containing certain trendy keywords that people are likely to use on search sites. For instance, if the data indicate that a person related to a news event is searched frequently on Google, it is better to use his/her name in the headline or somewhere in the top of the story, so that it has a better chance to come up on Google's search results. At TheStreet.com, there is a dedicated "SEO guy" whose job is to do just that: Search Engine Optimisation (Usher 2010). Many journalism training courses, including those by accreditation bodies like the National Council for the Training of Journalists in the UK, have integrated SEO as a compulsory part of their agenda.

3. A FORCED MARRIAGE?

By at least two traditional measures, the ubiquitous presence and relentless flow of audience metrics into the newsroom might suggest something like a "forced marriage". First, the newsroom is a rather odd place for web metrics, given its traditional hostility to anything numerical. Many journalists, suffering from a "blind spot" for numbers, tend to dismiss data and statistics altogether. Confessing that they hate math at school that data make them feel dizzy, they would not hesitate to admit that they choose a journalism career to work with words, not numbers (Maier 2002; Yarnall et al 2008). David Randall (2000, p. 73) observed that "quite a few" journalists see numeracy as "a kind of virus which, if caught, can damage the literary brain, leading to a permanent loss of vocabulary and shrivelling of sensitivity". In most newsrooms, "literacy is considered essential for reporters - or at least their subeditors - but not numeracy" (Wilby 2007). Meanwhile, numeracy is rarely or barely included as essential skills in journalism training and education. In a recent interview with Howard (2014), Aron Pilhofer, Executive Editor for Digital at the Guardian, sees this not just a low appreciation but "a cultural problem" in journalism. "Journalism is one of the few professions that not only tolerates general innumeracy, but celebrates it," he said. "I still hear journalists who are proud of it, even celebrating that they can't do math."

Second, journalism as a profession has been well known for turning blind eyes to its clients' needs and demands. In most of their venerable history, journalists write for an imagined audience of one - the editor - or, at best, of a few: their editors, professional peers, friends, family and relatives and so on. "Oh, we're writing for the editor, of course," said a British journalist in Heatherington (1985). "My wife, she's the critic," said another. In other words, the people who read/watch/listen to the news out there - and who directly or indirectly pay for journalism - are, bluntly speaking, weightless: they have little to no voice in the journalist's news decision (Allan 2010; Green 1999; Schlesinger 1987). And journalists do not seem to bother. "I know we have twenty million viewers but I don't know who they are," said one

American journalist to Gans (1980). "I don't know what the audience wants, and I don't care." In a similar vein, a French journalist told Guyot et al (2006) the following:

The reader is not the one who tells us what to write. The reader can tell us which issues are interesting. But about what we put in the paper, for example the death penalty, we don't give a damn whether the reader is for or against. We are against.

As such, although audience research has been done frequently and expensively, its results, more often than not, only reach people at managerial levels rather than individual journalists, who simply do not care and "tend to be highly sceptical of claims made on the basis of market research" (Allan, 2010, p. 123). Meanwhile, the minimal direct feedback from the audience – in such forms as letters to editors – is often dismissed as "insane and crazy" crap (Wahl-Jorgensen 2007) "from cranks, the unstable, the hysterical and the sick" (Gans 1980).

Against the historical and cultural backdrop of this "deliberate, technologically enabled ignorance" (Anderson 2011, p. 553), the move from gut feelings to web metrics in news judgement - or the "rationalisation of audience understanding", as Napoli (2010) calls it - represents quite a dramatic, radical transformation in the way journalists perceive and relate themselves to audiences. With the aid of new technologies and the commitment to web metrics at top management, individual journalists no longer can safely ignore and leave audience data to their managers as they would in the "old days". For many, this enhanced presence of audiences in the newsroom is a healthy move towards a more caring and more democratic journalism than ever before. Nikki Usher (2010) - a former journalist and now an academic - argues that audience tracking "turns journalism from elitism of writing for itself and back to writing what people are actually looking for". In a similar vein, a young US-based British journalist sees metrics as a top reason for online journalism to be better than others: "Being a successful journalist means paying attention to those numbers and responding to what people want and need, rather than

what we *think* they want and need or – worse – what we think they *should* want and need" (Henry 2012). For others, the issue is not that simple. If journalists forwent their traditional autonomous judgment in deciding what is and what is not news, they might end up going with whatever the crowd wants. This could lead journalism to facing a further decline in its standards and other critical problems, which is the focus of the next section.

4. A NEW RACE TO THE BOTTOM?

When Tim Armstrong declared in *Business Week* that metrics provide a "strategic window (into) quality content" at AOL, he raised more eyebrows than enthusiasm among observers. A reader labelled "AOL's play" as a "new death of journalism" while another called it a dance between the editorial and the commercial, asking: "How long would it take to sweet-write your audience into accepting pandered palaver?" Meanwhile, a media blogger was quoted as saying:

My fear is that once they start analysing where their traffic comes from and where their dollars come from, they decide maybe journalism should go after Hollywood celebrity and sports figures who are doing dope (Macmillan, 2010).

These worries are legitimate. Web metrics, internal or external, have the ultimate aim of attracting the largest possible audience attention to news sites. This might sound perfectly desirable: what can be more rewarding for journalists and news outlets than having their output reach the largest audience? The problem is that the kind of news that can maximise audiences is often the so-called "news you can use" - news that caters to the lowest common denominator of all tastes, addressing the most basic, least sophisticated and least sensitive level of lifestyles and attitudes. In practice, it often means soft news with high entertainment and low information values (McManus 1992). People want this news in massive numbers partly because they can be consumed at ease. Meanwhile, hard news about serious public affairs – which is believed to be what people should and need to consume in order to function

well in democratic societies - does not always have such wide appeal: it demands, among other things, a serious cognitive effort and a sustained interest in public life that a substantial portion of the audience might not have or feel the need to have. Evidence of this abounds. In the 19th and early 20th century, the popular press thrived in England with a service philosophy that is aptly captured in the following widely circulated rhyming lines on Fleet Street:

> Tickle the public, make 'em grin. The more you tickle, the more you'll win. Teach the public, you'll never get rich. You'll live like a beggar and die in a ditch.

Today, tabloids like the Sun and Daily Mail are sold in millions of copies per day in the UK while its bestselling broadsheet, the Daily Telegraph, has a circulation of just over 480,000 (as of May 2016). A similar trend is happening online: recent research shows that most read/viewed lists on news sites feature mainly trivial, sensational and entertaining stories - i.e. sex, crime, celebrities, "how-to" advice, human interest and the like (Bird 2010; Boczkowski 2010). As users are more and more exposed to those lists, this trend is likely to continue in the long term.

It is because of this that critics warn of a rather immense threat of the seemingly "forced marriage" between newswork and audience metrics: in the absence of statistical competency and of solid knowledge of the socio-psychological dynamics of news consumption, journalists can easily fall into the trap of faithfully and uncritically following the sentiment of the crowd that metrics carry. If metrics were to reign our increasingly intense and deadline-driven newsroom, journalists would think about providing people what they want to consume and can consume at ease, rather than what they need to consume and must consume with effort to become informed and self-governed citizens. That would translate into an intensification of an already perennial problem of journalism: the dumbing down of news, or the tendency to make news, in the words of a British journalist, "bright, trite and light" (quoted in Franklin, 1997). In other words, if metrics were to dominate online journalism, they would be likely to stimulate a massive online migration of the many traditional

tabloid practices. These include, among others, "the sensationalisation of news, the abbreviation of news stories, the proliferation of celebrity gossip, and the more intensive visual material such as large photographs and illustrations" (Rowe, 2010, p. 351).

Indeed, a visit to some current popular news sites, such as BuzzFeed and the Daily Mail, will reveal the look of such practices: celebrity stories are given prominent space; stories squeezed to minimal lengths; content chunked into news snippets; audio/video material broken into nuggets; photo slideshows offered intensively for fun; headlines bizarrely worded to match the algorithm of search engines; and so on. Thus, rather than acting as a "strategic window (into) quality content", audience metrics might add insult to an already critical injury. A metrics-driven race for audiences could further push the news towards self-destruction. It is a "race to the bottom" - in the words of Phu Nguyen (2010), a respected Vietnamese journalist who laments about the use of sex and sensationalisation to compete for revenues in his country's online news sector. If most news decisions were guided merely by day-to-day traffic figures, journalism would risk becoming yet another entertainment trade, rather than a profession that should exist primarily to inform, educate and ultimately enlighten people². As Tandoc and Thomas (2015, p. 249) observe, ubiquitous metrics bolster "a media ecosystem that panders to, rather than enlightens and challenges its audiences".

It would be naïve - I hasten to add - to think of the future of journalism in terms of such worst scenarios, for reasons that I will discuss later. It should also be noted that soft news is not always a bad thing: it has its social functions and serves certain human needs - such as the need to escape from daily routines, to gossip, or to address other private concerns³. But, given journalism's recent dismal past, the risk

of its standards and practices being dumbed further down in the wake of web metrics is real and high. That risk is even more critical in the context of an online news industry that is still struggling to find a business model for itself. Despite the phenomenal growth in the size and substance of audiences, online journalism finds it hard to convince users to pay for its content. Having been offered for free since its very beginning, online news seems to have been taken for granted as such by users. Meanwhile, according to recent research, online news is yet to convince advertisers, with the majority of online advertising expenditure being allocated to non-news platforms, especially search sites. In that uneven race for advertising and under the pressure to survive, many news sites have had to resort to the traditional weapon: soft news. This trend is particularly strong among multimedia firms that are merged between news and non-news providers. These firms, as Currah (2009, p. 88) point out, opt to maximise their appeal to the attention-scarce online audiences with a "digital windsocks" strategy - i.e. maximising traffic and holding users' attention for as long as possible, which "by default, ... favours a softer and more populist orientation to the news agenda".

5. Tension, tension everywhere?

The issue is not just about the dumbing down of news content. The ubiquitous use of web metrics brings other dramatic challenges to newswork, with new types of tensions and conflicts being likely to be added to the already chaotic and intense newsroom processes. Some of these have unpredictable but chilling prospects. If, for instance, the aforementioned metrics-based payment and staff bonus system - which is in essence a newsroom discipline mechanism - becomes common, where would it take journalism? The idea of journalists striving and competing for audiences to gain monetary rewards, rather than to fulfil a sense of public duties, is quite scary. But let us hope that this new mechanism would not follow the dark path of incentive systems elsewhere - such as that of the banking industry, where lucrative bonuses encourage many unhealthy and outrageous practices that, in part, led to our current global economic crisis.

While that remains to be seen, many immediate effects are now readily observed. For one thing, occupational stresses are likely to come to a new height and on a more permanent basis. Whether they love or loathe metrics, journalists will have to accept a relentless exposure to those data in their daily job and to develop a click-driven thinking routine among themselves. "At a paper, your only real stress point is in the evening when you're actually sitting there on deadline, trying to file," said Jim VandeHei, the executive editor of Politico.com. "Now at any point in the day starting at five in the morning, there can be that same level of intensity and pressure to get something out" (quoted in Peters, 2010a). Meanwhile,

> Young journalists who once dreamed of trotting the globe in pursuit of a story are instead shackled to their computers, where they try to eke out a fresh thought or be first to report even the smallest nugget of news - anything that will impress Google algorithms and draw readers their way (Peters, 2010a).

And whenever key indicators, especially those 95 rudimentary traffic numbers such as page views, visits and visitors, do not fare well, the newsroom could be taken over by a rather sombre, frantic and even panicking atmosphere. As exemplified in the following memo to staff at the Philadelphia Inquirer and its Philly.com in 2008:

> We're in a summer slump - and we aggressively need to find a way to end it. We will protect our growth in page views! Everybody here should be thinking of "what can I get to Philly.com now" in terms of content. And what can I add to the story that's good for the web. There should be an urgency around the idea of sending stuff to Philly.com (quoted in Anderson, 2010, p. 560).

Indeed, the "rationalisation of audience understanding" has morphed into a new emotionalisation of the newsroom. In some respect, emotion is in itself an aim of some audience tracking software. As one Chartbeat employee told Petre (2015): "It's not the identity of the number (but) the feeling that the number produces ... that's important." At Gakwer Media, for example, Petre observes that editorial work along constant ups and downs of Chartbeat figures can be

² It should be noted that from an economic perspective, soft news has another appeal to the industry: it is often much less expensive to produce than hard news. This creates a "perfect combination" for those on the business side: it maximises the output (audience attention) while minimising the production cost at the same time. For a news industry that is still striving for revenues, that combination could serve as a strong motivating force.

³ See Nguyen (2012) for an overview of the debate on the function of soft news.

an "emotional roller coaster" and can be as "addictive" as gaming or gambling. Anyone trying to escape the tyranny of those big panels of data, in the words of a Gawker writer, is like "a cocaine addict on vacation in Colombia." Some writers, in dealing with the unpredictability of traffic figure, attempt to produce and post stories as frequently as possible as a strategy to improve their chance to appear on one of those boards (just like lottery playing). Competitiveness is the name of the game: nearly all the Gawker staffers that Petre interviewed saw this as the single most important personal quality to survive and thrive at their company.

For some journalists, however, the most painful impact of web metrics lies in the "conscience crisis" that they experience. Research by Anderson (2011) and Tandoc (2014) in the US, Boczkowski (2010) in Latin America and MacGregor (2007) in the UK has produced substantial evidence that dilemmatic situations arising from the tension between serving people with the news they need and the news they want are now commonplace. One Philly.com reporter, citing a thoroughly researched story about a local army firm that "just bombed ... and did terribly" on the site, lamented: "You want to throw fear into the heart of journalism professionals? That's a way" (quoted in Anderson 2011, p. 559). In the three newsrooms studied by Tandoc (2014), striking a balance between the perceived professional duty and pride of a journalist and the constant urge to generate traffic with the so-called click-baits is a tricky thing to do. One editor told Tandoc that it has become a "luxury" for him/her to think along the normative dichotomy between producing quality journalism and drawing the largest traffic "because if the company's not making money, then I might be get laid off ... (and) that's just the way it is" (p. 12). "Sometimes you have to hold your nose," said another (Tandoc 2014, p. 12).

In that context, it is not surprising journalists at metrics-driven newsrooms have been reported to often quit jobs or even change careers for being unable to stand the constant pressure of producing news to the chart. At Politico, roughly a dozen out of 70 reporters and editors left in the first half of 2010, while at Gawker, "it is not uncommon for editors to stay on the job for just a year" (Peters 2010a)⁴.

6. BEYOND HEAD COUNTING: **JOURNALISM PROFESSIONALISM AS A PANACEA**

This paper is by no means a call for a dismissal of metrics in newswork. Neither is it to encourage the continuation of journalists' traditional ignorance of audience in the digital era. Rather, it is an urgent call for journalists to take to the challenges of web metrics and integrate them into their editorial processes before it is too late. Whether journalists love or loathe them, metrics will continue to be woven into news organisations as indispensable technological, commercial and editorial solutions, and the slowness of the journalist in this process could give the commercial and technological an advantage to editorial.

A good starting point is to bear in mind that, although I have been quite negative about their potential impacts on journalism and journalists, web metrics per se are not a negative development. While an uncritical use of them can be disruptive and might lead to professional and social disasters, a direct, real-time access to such data, by nature, adds an unprecedented, healthy element that can work to the advantage of journalism, both as a profession and as a business. These natural data provide a considerable amount of accurate and reliable information for journalists and news executives to understand certain important aspects of the audience and use that understanding to serve people in a more considered, perhaps more scientific manner.

In addition, the problems reviewed above should be seen as indicators of what might - not necessarily will - happen on a large scale in the future. The newsroom is not a no-man land for web metrics to conquer without resistance. Research has found that most traditional editors and reporters still tend to be adamant and firm on established professional standards and are not that ready to accept and internalise the click-thinking mindset as those mentioned throughout this paper (Anderson 2011, Boczkowski 2010; MacGregor 2008; Petre 2015; Usher, 2010; Vu 2014). For example, the New York Times, which is considered a "laggard" in the adoption of metrics, restricts its reporters from accessing those data for fears of them being misinterpreted and misused as well as interfering independent news judgement (Petre 2015). Similar attitudes are found at other news outlets where a professional ethos is deeply woven in the culture and fabric of their day-to-day operation. For journalists at such organisations, their "gut feelings" in deciding what's news, and what ought to be news, have always been essential in making and shaping journalism as an indispensable component of democratic life. In fact, producers of some tracking software understand this very well. To appeal widely to the news industry, for example, Chartbeat "expends considerable energy and effort" on designing a dashboard that not only communicates rigorous data but also "must demonstrate deference for traditional journalistic values and judgment, ... must be compelling, ... must soften the blow of bad news, and finally... must facilitate optimism and the celebration of good news" (Petre 2015). Indeed, a deference to journalistic authority is also a working principle for Chartbeat staff in direct interactions with clients.

This leads to my final point: the crucial role of journalism professionalism in preventing the negatives and promoting the positives of web metrics. If journalists think of themselves as administers of a specialised and complicated public service to humanities, they would not be vulnerable to the potential destructive power of web metrics. In the absence of this "public service" ethos, the audience would be no more than a homogenous set of mere consumers that can be turned into a soulless commodity to sell to advertisers. Which would in turn give amble space for the negatives of web metrics to come into play on a large scale. On the other side of the coin, a professional culture that breeds, fosters and protects journalists' autonomy in exercising their specialist knowledge, skills, values and standards would

keep them in heathy distances from the crowd sentiment that web metrics carry. We need a culture in which journalists are encouraged to take confidence and pride in, among other things, their own news judgment and are, if necessary, able to stand up for it against market or management forces. This is not just an idealistic principle but a very practical business brand matter. For news judgment is what makes, or does not make, it unique to an audience. People come back and forth a news site in part because they trust - or at least expect - that the content on the surface is the outcome of a sound, reliable judgement of what is important and relevant to them.

The job for journalists, in conclusion, is not to dismiss web metrics altogether but, in the word of the deputy editor of a US news site, is "to sit down on the table and have an honest conversation about what the goals are" and to strike a balance between "having the money and being a respected journalist organisation" (as quoted in Tandoc 2014, p. 13). From this perspective, there is nothing like a "forced marriage" here. Rather, as suggested by Cherubini and Nielsen (2016), journalists must work hard to find 97 ways to turn those mere numbers as "editorial analytics" - i.e. to go beyond crude, generic and additive real-time data such as clicks and visits to tailor the aforementioned diverse range of metrics to strategic editorial priorities, goals and imperatives.

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⁴ Petre (2015), however, observed that some Gawker writers and editors decided to leave only to return later - a pattern dubbed the "Gawker boomerang" by Capital New York - because they are too used to the Gawker way of work that they could no longer fit into those newsrooms that are less obsessed by traffic figures.

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