Audience metrics as disruptive innovation

Analysing emotional work of Finnish journalism professionals

LAURA AHVA & LIISA OVASKA

Faculty of Information Technology and Communication Sciences, Tampere University, Finland

ABSTRACT

Audience metrics in journalism can be seen as a disruptive innovation: a technological invention that boosts journalism but at the same time disturbs it. The use of metrics has therefore drawn journalists into a sensitive sense-making process: They do emotional work to be able to manage the metrics-related requirements of their work. To further assess why metrics in Finland remains a sensitive issue, in this article we ask: 1) What is the Finnish news professionals' emotional work about metrics directed at? 2) What is the relationship between this emotional work and the cycle of disruption and innovation? The empirical material consists of nine qualitative interviews with Finnish news managers and a set of open-ended survey responses from the editorial staff of the largest Finnish daily, Helsingin Sanomat. In addition, eight background interviews with third-party analytics providers were used as supportive material. We conclude that the emotional work is centred on relief, excitement, and stress, and it is directed at seeing the audience as an algorithmic conception, increasing the organisations' capabilities through learning, and maintaining autonomy, respectively. Emotional work thus alleviates and stimulates, as well as balances journalism's relationship with the disruptive innovation of metrics.

KEYWORDS: audience metrics, disruption, emotional work, innovation, journalism

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Introduction: Disruptive innovations in journalism

Introducing web analytics or "audience metrics" in newsrooms has created a situation wherein news professionals must adopt these mechanisms as a meaningful part of their work. Recent research by Christin and Petre (2020) shows that journalists have indeed accepted metrics and to a large degree have "made peace" with them. With this article, we paint a nuanced picture of this peace process by discussing the disruptive nature of audience metrics as a technological innovation and the emotional work demanded by it.

Digital transformation in journalism is often discussed in terms of crisis and disruption (Steensen & Westlund, 2021). Such disruption reaches almost every aspect of the news media, from gathering the news, through telling the stories and delivering the news, to engaging the public, not to mention funding the entire enterprise (Pavlik, 2021). One can regard disruption in journalism as an uneasy long-term condition, to which news organisations have been trying to adapt via regular enhancements to their innovation.

The disruption discourse hence often gets coupled with a discourse of innovation (Steensen & Westlund, 2021). In the news-media context, "innovation" refers to finding new, useful, different, or creative ways of doing things and solving problems to increase the news organisation's viability (García-Avilés et al., 2019). The logic, borrowed primarily from the world of business and management, is that in a competitive situation, a newcomer to the field may disrupt the market by offering improved services or products, thereby pushing existing businesses to adapt to the dramatically altered circumstances by accelerating their own innovation (Christensen et al., 2012, 2015).

Bossio and Nelson (2021) characterised digital innovation in newsrooms as having led to celebration intermingled with a sense of failure: While the idea that innovation promises the salvation of journalism has persisted, it has also occasioned wry amusement when "the inevitable jargon of innovation does not equate to real change or real engagement with audiences" (Bossio & Nelson, 2021: 1377). Because most news organisations either have not been nimble enough or have placed excessive focus on flashy new technology (Possetti, 2018), the field of journalism has found itself in a constant struggle with innovation (Ferrucci & Perreault, 2021; Steensen & Westlund, 2021).

Journalism's rocky relationship with both disruption and innovation is complicated by the fact that, naturally enough, news organisations have approached not just business consultants but also technology companies for help in managing digital transformation (Chua & Duffy, 2019). This has brought with it a framework from the technology culture. Namely, for technologists, disruption is a positive outcome of the activities with technology, so disruption is something that is *actively* pursued (Russell, 2019; Svensson, 2021). For example, Silicon Valley experts attempt to disrupt industries such as journalism deliberately, even aggressively, because this spurs them toward better solutions and ground-breaking innovation (Russell, 2019). In this context, a programmer is a disrupter who stirs up the field but who can also solve the problems caused by this (Svensson, 2021).

From this techno-economic framing, there emerges a cyclical interpretation wherein disruption leads to innovation that, in turn, leads to disruption, and so on. This results in the regarding of many innovations as disruptive by their very nature: They dramatically alter and shape the fabric of the field they are developed for or used in. Such inventions are conceptualised as disruptive innovations (Bower & Christensen, 1995; Pavlik, 2021; Svensson, 2021). Ferrucci and Perreault (2021) stated that computers, editing software, and mobile devices can be considered disruptive innovations in the recent history of journalism. With this article, we argue that audience metrics – journalism's use of web analytics for measuring online audience activity – is a digital tool that can be analysed as a disruptive innovation.

Web analytics was established not for journalism but for digital marketing; however, side effects of this innovation created a new market, where analytics companies could sell their services to newsrooms to support editorial decisions (Petre, 2018; Tandoc, 2019). News organisations in the Nordics and elsewhere have established partnerships with such companies with aims of understanding and gaining a foothold among digital news audiences (Andreassen et al., 2021; Heikkilä, 2022).

Ever since their inception in the early 2000s, audience metrics in journalism have maintained an association with both the innovation and the disruption discourses. For many practitioners, the metrics represent a new, game-changing digital tool for rethinking how news professionals can connect to their audiences and those audiences' presumed needs and interests (Costera Meijer, 2020). Yet, researchers have simultaneously noted that the stress on metrics has disrupted journalistic practice by bringing in the technology realm's logic, to the extent of realigning physical spaces in newsrooms to accommodate dashboard screens (Tandoc, 2019) and generating unanswered ethics questions about the right to monitor readers in a fashion akin to surveillance (Heikkilä, 2022). Hence, news professionals have been drawn into a sensitive process of sense-making surrounding the significance of metrics. This sense-making is here examined through the analytical lens of emotional work, which refers to the ways in which professionals must engage with emotions and manage them to fulfil work expectations (Pantti & Wahl-Jorgensen, 2021).

In this article, we focus on Finland, and we address two research questions: 1) What is the Finnish news professionals' emotional work about metrics directed at? 2) What is the relationship between this emotional work and the cycle of disruption and innovation?

Journalists and metrics: Towards peace-making

Over the years, journalists' reactions to audience metrics have changed quite dramatically. In the early 2000s, journalists across Europe who contemplated the then-nascent technology seemed to display "markedly weak interest in tracking usage of their sites, or employing the results to remodel their practices, or site design" (MacGregor, 2007: 283). In the early 2010s, metrics were clearly start-

ing to affect news-selection routines and, through this, were creating a sense of professional struggle and even resistance to metrics among journalists (Welbers et al., 2016). Just a few years later, however, Cherubini and Nielsen (2016) noted that journalists' general response to algorithmic audience analysis had shifted from resistance to curiosity and interest, and Belair-Gagnon (2019) soon concluded that analytics culture had come to permeate news organisations' everyday work practices and success assessments.

It seems that journalists are currently in the process of trying to "make peace with metrics" (Christin & Petre, 2020). Citing evidence from French and American newsrooms, Christin and Petre argued that this is happening via five distinct strategies focused on the relationship between journalism and business: 1) journalists draw moral lines between "good" and "bad" metrics, 2) journalists focus on moments at which metrics serve both traffic-related and journalistic goals, 3) news organisations are domesticating metrics via in-house analytics teams, 4) the organisations frame metrics as a source of knowledge about the public rather than the customer, and 5) journalists have started to see metrics as a resource for subsidies that enable conducting high-quality journalism by means of the income supplied by high traffic. Through these strategies, journalists downplay or justify the economic discourse underpinning metrics, which permits them to accept analytics without sacrificing their sense of professional integrity.

Nonetheless, Christin and Petre emphasised that the process of peace-making is not yet finished. In their study, this is exemplified by a sixth strategy – "over-spelling" – which occurred when "the profit-generating potential of journalists' activities was plainly spelled out and incentivized through metrics for its own sake" (Christin & Petre, 2020: 145). Here, the association between metrics and money was so plain that editorial staff grew alienated to the point of resigning.

We posit that, in addition to such conflicts related to blunt business goals, there is another reason for the peace-making process being incomplete: The programmers and data experts who develop the analytics tools are embedded in a tech culture that values continuous disruption. The technological innovation that is supposed to assist in surviving amid a disrupted market is at the same time itself a source of disruption, in that it transforms the field dramatically (Bower & Christensen, 1995; Pavlik, 2021; Svensson, 2021).

We suggest, then, that the nature of audience metrics as a disruptive innovation is among the factors that render peace-making a sensitive process in Finnish journalism culture. Teasing apart this delicate process here, we focus primarily on newsroom managers, but we also present findings from the open-ended survey responses from journalists at Finland's biggest daily newspaper, *Helsingin Sanomat* (*HS*).

From the outset, the informants revealed strong and highly contrasting emotional reactions to metrics. These reactions point to fragility of the peace that journalists in Finland are making with metrics. At its best, it is negative rather than positive peace – that is, absence of explicit conflict as opposed to the presence of structures that create and sustain a peaceful environment (Galtung & Fischer, 2013). In the discussion that follows, we analyse the process by which

professionals try to render audience metrics meaningful and manageable in news journalism work in Finland.

By focusing on Finland, we can contribute to knowledge about the role of metrics in journalism cultures that used to be socially and economically stable but where newspapers, especially, have faced steady decline in circulation (Hellman, 2021). The sense of competition, profit-making pressures, as well as technological requirements of the work have increased in the past decade in Finland (Väliverronen et al., 2016). The journalistic culture in Finland, like in other Nordic countries, is still framed by the traditions of the welfare state and democratic corporatism, but is in transition, due to decreases in public subsidies and regulation (Ahva et al., 2017; Syvertsen et al., 2014). However, the Finnish public's trust in journalism has remained relatively high, which has also rendered possible the development of the paywall model: The proportion of people paying for online news is higher than average in the Nordic countries (Newman et al., 2022). In terms of analytics development, Finland represents a region (with other Nordic countries) where, along with the US, metrics have been developed more vigorously than in the other parts of the world (Interview with a data specialist and section head at a large, international data company, 31 March 2021). It is in this setting where we study journalism professionals' emotional reactions to audience metrics.

Emotion as a methodological concept to address metrics

The role of emotion has been subject to considerable discussion in journalism studies over the past decade (see Peters, 2011; Richards & Rees, 2011), to the point that Wahl-Jorgensen (2020) identified an emotional turn in journalism studies. This phenomenon has drawn greater academic attention to the previously neglected role of emotion in the production, representation, and reception of journalism. Said turn in journalism studies is one manifestation of the humanities' and social sciences' broader-based interest in affect and affectivity, with the accompanying varied and debated conceptual terrain.

We find merit in applying Wahl-Jorgensen's (2020) distinction between the concepts of affect and emotion: Whereas affect is the immediate bodily sensation and a sense of intensity, emotion is an interpretation of the bodily affect. We restrict our analysis to the latter, mindful that, as Wahl-Jorgensen noted, emotion is a relational interpretation and therefore something that can be verbally expressed, narrativised, and circulated. Emotions bring affective experiences into social context. Sara Ahmed (2004) is among the scholars who have spoken against seeing emotions as personal experiences only. She has argued that emotions do not belong merely to individuals or even come from within and then move outward from the individual. Rather, emotions circulate and hence "*do things*, and they align individuals with communities [emphasis original]" (Ahmed, 2004: 119).

One such doing is manifested as emotional work (Pantti & Wahl-Jorgensen, 2021; cf. Hochschild, 1983, who uses the term emotional labour). This no-

tion refers to a way of engaging with emotions and managing them in order to comply with the profession's and organisation's work expectations (Pantti & Wahl-Jorgensen, 2021). For example, professionals in newsrooms carry out emotional work when they appropriate digital tools for their everyday work (Wahl-Jorgensen, 2020). For instance, regarding audience metrics, Petre (2021) has noted that journalists do not always understand what the numbers mean, why one article performs better than another, or how they should adjust their practices to master the metrics, which has caused them insecurity about their own professional expertise. Such moments require journalists to process their uncertainties emotionally. Indeed, Cohen (2019) has indicated how measurability brought about by metrics causes digital journalists to oscillate between excitement and anxiety. Even analytics provider Chartbeat has noticed that metrics evoke emotions, especially negative ones (Petre, 2021): The company has tried to manage journalists' feelings by carrying out emotional work on its part by creating a positive brand identity that appears in their workers' tone of voice and on their dashboard designs.

Looking at our material through the lens of emotional work enables us to identify the key issues or contradictions (Lünenborg & Medeiros, 2021) that journalists need to work through as they deal with audience metrics. As we zoom in on these, we can also discuss what exactly emotions do to the problematic process of audience metrics' assimilation in Finnish newsrooms. Do emotions help to accept or resist metrics? In our analysis, we have sought inspiration from previous studies on emotional work in media and journalism (Siapera, 2019; Soronen, 2018) to further identify the relationships (e.g., with co-workers or audiences), temporal dimensions (e.g., future work opportunities), and objects (e.g., tools or conceptualisations) that emotional work is directed at in the case of metrics. This emotional work, in turn, may have bearing for other journalistic practices and the building of social order in newsrooms (Lünenborg & Medeiros, 2021; Wahl-Jorgensen, 2020). Hence, we find emotion as a valuable methodological concept for the study of the process by which journalists try to make peace with metrics as a form of disruptive innovation.

Material and methods

Our empirical work focused on the perceptions among so-called metrics forerunners in the journalistic culture of Finland. We used two main datasets. Our primary dataset comes from nine semistructured interviews with news managers, digital-domain specialists, and leaders of analytics teams working in Finnish news organisations. Two of them represented tabloid newspapers, one a broadcasting company, and the remaining six represented the main national and regional newspapers. Two of the interviewees were female, and seven were male. This dataset gave us knowledge of professionals who are responsible for buying and implementing the use of analytics in news organisations and who thus have a position of leadership in the organisation. As a professional group, managers have been identified as forerunners who receive the most training by external

analytics companies and act as important internal influencers on how metrics should be used (Zamith et al., 2020).

This dataset comprises, in all, about 100 pages of transcribed interview material, which was collected between December 2020 and February 2021. Each interview lasted about 60 minutes, and the questions were organised under three main themes: 1) the managers' and their newsrooms' data-related work practices, 2) the role of audience metrics in Finnish news outlets more generally, and 3) the balance between in-house and outsourced data analysis in their companies.

Our secondary dataset consists of the qualitative responses to an online survey intended for the editorial staff of *HS* ($N = 39$). With this dataset, we captured the experiences of journalism professionals from a newsroom that has a particularly strong and unique position in the Finnish media landscape: *HS* is the largest-circulation subscription-based newspaper in the country and, in fact, the entire Nordic region. Measured by page-views as well as reach, its online services are the most viewed among paywalled news outlets in Finland (Media Metrics Finland, 2023). Being part of Sanoma, Finland's largest newspaper group, *HS* has also been able to secure resources for digital innovation, a domain where large organisation size seems to be an advantage (Helsingin Sanomat, 2020). Due to these reasons, *HS* has gained professional weight as a digital forerunner in Finland, and it has been able to increase its digitally based income and dedicate in-house resources to analytics. This dataset thus provided us insight into the views of journalists who work in a newsroom that can be regarded as a metrics pioneer.

The survey was executed in February–March 2021. Almost two thirds (24) of the respondents were reporters and journalists, and the rest (15) worked in management positions in the *HS* editorial office. Due to the low response rate, with only 10 per cent of the roughly 400 journalists returning the questionnaire, we are not able to draw representative conclusions of *HS* as an organisation. Instead, we utilise the findings to illustrate experiences of different journalistic actors beyond the managers. Moreover, our analysis focuses on the open-ended responses because they featured vivid emotional expressions that could be analysed in tandem with the interviews. The open-ended questions of the survey pertained to themes such as 1) reasons to follow or not to follow metrics, 2) the effects of metrics on journalistic work, 3) the newsroom's feedback habits, and 4) the emotions evoked by analytics. The answers comprise about 15 pages of textual material.

On top of these two main datasets, we have used the transcripts from eight background interviews with third-party analytics providers working with Finnish news organisations as supportive material. This material offered contextual information illuminating how the practices of third-party analytics providers frame the work and experiences within journalistic organisations, but it was not analysed similarly in terms of emotions as the two main datasets. The companies were identified in the interviews with managers, and individual informants were sought via snowballing. This source of data consists of about 120 pages of transcripts from interviews with representatives of three Finnish and five international companies. The interviews were conducted between March and October 2021.

To invite earnest responses in the relatively small professional circles of the

Finnish journalistic culture, anonymity was granted to all informants and their organisations in the qualitative interviews. Also, certain aspects of data analytics are sensitive for organisations as business secrets. In the Finnish context, *HS* is such a recognisable player that organisational anonymity was not considered to be necessary in relation to the survey. We obtained consent for the interviews after informing the participants about the details and purposes of the study.

Because the study was conducted amid pandemic-linked restrictions, we had to rely on remote interviews (via Zoom or MS Teams). Video recordings of the sessions allowed the interviewer (one of the authors) to note any non-verbal emotional cues. However, our detail-level analysis of the interviews relied on textual transcripts, which was in line with the textual survey responses.

We did not aim to compare the datasets but to trace shared emotional registers. Here, we focused on the verbal expressions of emotions (e.g., "I was annoyed", which we interpreted as irritation) and on interviewees' descriptions of emotionally intense moments (e.g., describing a moment when "all the data-related tasks were thrown at me", which we interpreted as stress and irritation). So, we first analysed our material inductively by conducting qualitative content analysis on these direct and indirect references to emotions, and to what they were directed at.

In the next stage, we identified and focused on the most explicit emotions expressed in the manager interviews and in the responses in the open-ended items of the *HS* survey. We grouped the emotions into three main clusters: 1) relief, contentment, and confidence; 2) excitement, curiosity, and motivation; and 3) stress, worry, and irritation. Then we identified deductively (based on categorisations from previous research on media work and emotion), the objects (the main domain), relations (between people or practices), and temporal dimensions (the time frame) at which the emotional clusters were directed in the material. Lastly, we reflected on these clusters against the backdrop of the analytics-provider interviews. Next, we discuss what this emotional work tells us about metrics as a disruptive innovation.

Findings

Relief, contentment, and confidence: The algorithmic audience

The first cluster we identified in our material features positive emotions of relief, contentment, and confidence. Firstly, especially among the managers, contentment was expressed with how the use of metrics had evolved in Finnish journalism. The other Nordic countries and North America were regarded as the typical benchmark areas to be followed in metrics development. The role of metrics was thus evaluated through international benchmarking, and managers did affirmative emotional work in concluding that Finnish newsrooms have "nothing to worry about" (Manager 8) in this comparison. Also, the analytics providers in our supportive material cited Finland as among the leading countries in the utilisation of audience data. Moreover, all leaders interviewed expressed

satisfaction with the progress in their own newsrooms. For example, Manager 7 indicated that the newsroom he led had by this time found "focus and direction" in how metrics are deployed, or at least they "have a grip on the basics now" (Manager 7). And as the quote below indicates, a sense of satisfaction with the pace of innovation was apparent in the material:

> All data-related things have evolved enormously during the time I have been observing this field. For example, compared to where we were ten or eleven years ago, we are now on a totally different level, which is awesome, of course. (Manager 9)

So secondly, this was connected to another emotion in the cluster: relief. The relief was expressed by *HS* staff especially. They displayed the above-mentioned interpretation in which newsrooms have found a better focus with metrics, but for them, this created a sense of relief rather than contentment. This was due to the strong temporal dimension of this emotional interpretation: Relief was expressed against the backdrop of the newsrooms' early years with metrics and the disruption that was created. For example, one collective interpretation in the material was that the Finnish news media have become able to get past the most blatant click-baiting. The latter legacy was something that clearly required emotional work among the professionals. Professionals at *HS* were relieved that the hype around metrics was gone and there was now a sense of "everydayness" (HS respondent 33) of metrics, because "the atmosphere is now calmed down" (HS respondent 10) in their organisations. Even the managers – as well as the analytics providers – reminisced with some humour on the days when all data generated were collected "just in case" (Manager 7), without a sense of what to do with the data or how to store them purposefully.

The key relationship in this cluster of emotional work is connected with differences internal to news organisations. The managers had toned down their enthusiasm, and the reporters had gained hands-on experience with the benefits of audience metrics, which moderated their harshest criticism. Managers stated that the previous friction between early adopters and sceptics of metrics had waned, though it had not disappeared altogether. Even though some *HS* journalists were still not that satisfied with the newsroom's habits of utilising analytics, especially as a part of feedback practices, they still considered both their own and the organisation's competence in analysing audience data to have increased. Moreover, they were pleased that this competency was now directed toward developing other aspects of reporting than mere headline optimisation.

Thirdly, the emotion of confidence in the material was concentrated around online subscriptions, which have long been expected to become a source of significant income for media companies (International Centre for Journalists, 2019). This ties in with the latest shift in paywalled newsrooms, toward giving attention to such metrics that tell the newsroom about conversion: how much the online transactions convert into registrations, trial subscriptions, or paying customers. The trend evoked a sense of increased control among respondents. For news professionals, subscription metrics seemed to underscore the stability of the journalism–audience

relationship, especially when compared to page-view metrics.

Managers were satisfied that with these parameters they "finally" (Manager 6) know what the readers want and, especially, what readers are willing to pay for. The *HS* material attests also that analytics, by helping professionals to avoid misses, had boosted their confidence, especially in how the content should be conveyed. Accordingly, subscription metrics seemed more acceptable to the journalists than page-view metrics, with such metrics therefore appearing to be the latest and rhetorically most powerful "good" metrics that could be accepted (Christin & Petre, 2020). However, as the *HS* journalist quoted below expressed, even if subscription metrics provide confidence as to what users are willing to pay for, they are not fully embraced as proving the whole truth about the audiences' intentions (see Costera Meijer & Groot Kormelink, 2015):

> Metrics tells us what people have clicked on that day, what they are ready to pay for, and partly what they want to read. But even subscription metrics cannot really tell us what people generally want from journalism. (*HS* respondent 22)

That said, a manager described the introduction of subscription metrics as having been a "watershed" in the process of metrics becoming an accepted everyday tool in the newsrooms:

> When our strategy changed such that subscriptions are the most important factor for us and we are particularly interested in the kinds of stories that convert into subscriptions and so on, then I think it has been a lot easier for individual journalists to accept that metric, to see it as something that provides valuable information. (Manager 6)

The extracts above indicate that subscription metrics seem to fulfil the managers' needs for information about their audiences as customers, while the journalists would have liked to know more about them as the public (see also Christin & Petre, 2020). This points to a fundamental discrepancy lying beneath the positively coloured emotions in this cluster. Still, as the emotion of relief indicates, the journalists had accepted the current way of utilising metrics as better than the alternative of page-view-oriented usage, and hence also the commodification of the individual article (Cohen, 2019). In this register, the *HS* journalists appeared somewhat indifferent with regard to the everyday use of metrics; they did not see a necessity of either strongly supporting or objecting to the uses.

In sum, the general object of this emotional register is a shared conception of the audience as "algorithmic". Journalism professionals realise that metrics, even if not providing information about the audience as the public, create an appropriate or at least satisfactory notion of the empirical audience: one that is atomistic, quantifiable, and appearing predictable through algorithmic analysis (Anderson, 2011). The key relations emerging in this cluster are intraorganisational, involving disagreements between early adopters and sceptics, but the main temporal dimension of this cluster is retrospective, and these tensions were considered for the most part as having eased – at least on the surface. The emo-

tions in the cluster were expressed relative to the click-bait hyperbole, which was interpreted as by now largely absent, since metrics have become more fine-tuned and routine. Through this retrospective gaze, and the everydayness of metrics, the algorithmic audience construction operates ideologically so that it is more difficult to question than before. Metrics have, accordingly, given newsrooms a firmer grasp of their audience and a sense of regained control over audience behaviour after the early years of disruption.

Excitement, curiosity, and motivation: A tool for learning

We grouped the emotions of excitement, curiosity, and motivation into the second cluster. These cohere around views wherein audience metrics are alluring and inspiring. Firstly, it was evident that managers, as well as third-party analytics-service providers, were excited and curious about the scale of the promise of datafication in journalism, a promise rooted in the effective use, storage, and utilisation of data en masse. Data lakes were mentioned as one option for storing and combining masses of data, of multiple kinds, and predictive analytics empowered by machine learning was seen as holding the potential to enhance the insight gleaned from audience data for journalists already at the stage of planning and compiling the stories. There were also hopes that metrics in the pipeline could aid in measuring the social impact of journalistic stories instead of mere usage.

This register's temporal dimension is forward-looking. The professionals in the management positions were looking forward with eagerness to the next wave of disruption in data analytics, in which the quantity and complexity of data are increasing, and effective innovation is needed (Hao, 2018). However, managers as well as analytics providers did interpret some promises, such as those connected with machine learning, as examples of the "bright shiny things syndrome" (Possetti 2018), and hence they were seen as a form of new hype deserving a little wariness.

On account of the increased demands for scale and speed in data analytics, one newsroom manager said that his organisation's media division had already become "like a software company" (Manager 8) in practice: In recent years, he had witnessed development wherein plenty of technical developers were hired for them. This suggests that big media companies recognise a need to increase their technological capabilities through recruitment to ensure that expertise and innovation potential remain secure in the organisation for the longer term. Christin and Petre (2020) considered this a way of taming metrics for news organisations' use. However, even if in-house metrics development can be seen as a sign of making peace between marketing and journalism, it retains an element of competition between media organisations and technology companies. For instance, analytics-service providers noted that they regarded the media organisations' internal tech departments as their competitors and, we could add, potential targets for active disruption.

Excitement was visible especially when managers talked about data-related learning in their organisation. They described the epiphanic "a-ha moments" of individual journalists passionately. One example is a comparison between a manager's own data-related "awakening" and the learning process of a journalist in the organisation. The manager stated:

> I have never seen any contradiction between retaining high quality standards and also getting excited [about metrics]. I remember when we once went through the list of the most- and least-read stories with this one journalist. She was an example of a person who really got inspired; she started to think [about things] like the length and concreteness of the headlines. This [shows that metrics use] is not just something that is an executive-level approach expressed in a passive form. This has been perhaps the best thing for me. (Manager 2)

Managers underlined that in addition, as leaders, they had to be more interested and involved than the rest of the staff in what happens in the analytics companies and behind the dashboards. Therefore, for managers, being excited about metrics can also be seen as a form of emotional work performed so that they are able to lead by example and motivate their staff. They must manage their own positive emotions if they wish to manage the newsroom.

The same positive emotions of excitement and curiosity, alongside motivation, were apparent in the *HS* survey. Here, however, the enthusiasm was associated with growing more skilled in the familiar core tasks of news-writing – producing catchy headlines, finding captivating frames for news stories, or experimenting with various styles of writing (see also Belair-Gagnon, 2019) – rather than achieving competence in the technologies themselves. In this setting, journalists had clearly reconciled metrics with the set of core competencies commensurate with their professional values (Belair-Gagnon, 2019; Ferrucci & Perreault, 2021).

In the *HS* material, metrics were portrayed as a tool to enrich individuals' learning in quite a pragmatic manner, for instance, via journalists monitoring the web traffic for their own stories. Many *HS* journalists stated that their prior conceptions of audience preferences had proven wrong: metrics showed that, rather than being driven solely by a desire for light entertainment stories, audiences displayed an interest in "important" topics too (see also Tandoc, 2019). The journalists surveyed concluded that, with the assistance of metrics, they had learnt to write about important topics in a way that tempts people to read the articles.

This observation clearly resonates with one of the peace-making strategies articulated by Christin and Petre (2020), wherein journalists motivate themselves by focusing on selected moments in which metrics can serve both business and journalistic goals (e.g., when the metrics reveal that long-form articles draw a sizeable audience). Insofar as the metrics appear to serve both goals, journalists can subscribe to the journalistic one (focusing on a story's importance) and either accept or ignore the former (prioritising audience size). The "peace treaty" in this framing arises from the notion that journalists' essential interests are not compromised by economic aims.

We can state in summary that, as with the first cluster, this one has a clear temporal orientation, but here it is directed toward the future. The managers seemed to stress a longerterm and more strategic orientation than the *HS* journalists, who were focused on the near future. A shared object of emotional work in this register is perceiving metrics as a tool for the future. The instrument is attractive, it is captivating, and it holds potential if used appropriately. This tool's potential is bound up with learning, be it at the organisation or individual level; so, the key relation activated in this register is the newsrooms' relation to their capabilities, even if there are divergent views on whether the capabilities should be improved in techno-economic versus journalistic terms. We argue that, though Finnish newsrooms already see the future as metrics-driven, the actualisation of innovation's potential depends on finding clever and sustainable ways to utilise the accumulating data for editorial purposes. The *HS* journalists' focus on core news-writing tasks might seem to be a hindrance to the diffusion of innovation, but in this framework, it also presents itself as a significant levelling force responding to the continuous disruption.

Stress, worry, and irritation: Autonomy

Our starting point for writing this article was the discovery that audience metrics in Finnish newsrooms evoke surprisingly intense and contradictory emotions, even among the metrics forerunners. As indicated above, our material presented a wide selection of positively oriented emotions. The managers' metrics-related emotions were clearly more positive than negative. However, there were negative emotions, too, but when they were expressed, they were mostly directed at the managers themselves. Many managers portrayed themselves as situated between three worlds – technology, business, and content – and they viewed this as a stressful location. Their comments expressed the trickiness of being knowledgeable in all three domains, and their recognition of their limitations, particularly in terms of understanding the tech world, created a sense of personal inadequacy. A comment from Manager 4, even if half-joking, is especially telling – "the biggest limitation looks at me in the mirror". The third-party service providers were more charitable, giving managers credit as important intermediaries at media organisations (see Zamith et al., 2020), while seeing reporters as more resistant and even aggressive toward them.

On the flip side, some newsroom leaders we interviewed expressed worry that from a managerial position, it is easy to get sucked too deeply into the technological world alone and become isolated from the journalists whose work one is supposed to lead. Many stated that their goal was to bring the different worlds closer to each other as sensitively as possible (in contrast against the above-mentioned overspelling) so as not to undermine the fragile agreement brought via the routinising of metrics. What they deemed important to avoid is "project overload" (Manager 2): a constant risk of innovation or project fatigue (Possetti, 2018) related to the disruption–innovation cycle in news organisations.

Generally, more negative emotions were expressed in the *HS* material than in

the manager interviews. A sense of collective stress emanated from the increased internal competition brought by measurements in the *HS* newsroom (see also Petre, 2021). In the responses to the open-ended questions, many journalists mentioned that following analytics had caused them stress, anxiety, and frustration.

The journalists' main irritation as elucidated in the survey dealt with their superiors' habit of giving feedback based on purely quantitative goals. Many journalists pointed out that the only way to gain recognition from their bosses was to "do well" (Tandoc, 2019) in the metrics. In the meantime, much of what the journalists did remained ignored:

> In our weekly meetings with the management, we regularly look at the top stories that have done well in the past six months and the stories that have brought the most subscriptions. So, we talk about those, and the rest remain in the dark, even if the two would be equally important to discuss. (*HS* respondent 31)

In the survey responses, audience metrics reliability in gaining correct information about the audience and their desires were still open to doubt. Some reporters and journalists seemed to be worried about managers not being capable of analysing the audience data correctly; for instance, one journalist was concerned about managers seemingly not understanding that a click could result from annoyance with an online headline rather than a sign of interest in the story (Costera Meijer & Groot Kormelink, 2015). The journalists did not want web analytics to become the only source for evaluation of journalistic output.

Furthermore, some journalists experienced their freedom to choose topics as having become limited on account of analytics, a clear indication of diminishing workplace autonomy (Örnebring et al., 2016). A potential story's expected success in terms of metrics was regarded as dictating which topics managers let the journalists cover (on "success", see Belair-Gagnon, 2019). In the responses, *HS* journalists expressed a worry that doing well per metrics would end up the only target set for news, taking on the role of a news value.

The managers – just like third-party representatives – expressed irritation with "denialists" (Manager 7) and "myths" (Manager 2) about metrics. But they had also sensed the more nuanced frustration and were aware of the sensitive nature of leading a divided organisation. They wanted news organisations to practise data-led management but realised that this should be done in a manner that does not stifle individuals' creativity or result in overly broad or hasty conclusions. On top of worries related to managing their teams, the managers directed their negative emotions towards factors outside the organisation, such as rivalry between big media companies. Even more than these entities, data giants such as Google were seen as extremely powerful players constraining development in relation to, for example, data ownership:

> I think it is really important to talk about data ownership too. If you use Google's services, then it is Google that owns all the data, by default. We have only a small window on those data. This was not a very rewarding starting point for us when we started to increase the volume of our data. (Manager 1)

In sum, these negative emotions indicate that managing a data-led news organisation by means of web analytics appears controversial, because utilisation of audience metrics is closely associated with a sense of diminishing freedom (see Cohen, 2019). We conclude, therefore, that the shared object of this emotional register is the value of autonomy in professional journalism, both internal and external (Örnebring et al., 2016), and that the key relationships are about power hierarchies of journalism. Emphasis on metrics seems to strengthen the hierarchical power of managers over journalists, alongside data giants' and tech firms' power over journalism. The temporal dimension in this register is aligned with the present, thus implying that these conflicts over autonomy and power are the most acute signs of journalism's troubled relationship with metrics as a disruptive innovation. According to the analysis of our material, the way in which data-led management – leading with or through data – should be practised in journalistic organisations remains an unresolved issue.

Conclusion

We have delved into the role of audience metrics as a form of disruptive innovation requiring emotional work in Finnish newsrooms. It is noteworthy that the studied news professionals' emotional work is generally oriented to journalistic practice and the affordances of the web analytics, and not to the empirical audience. Such emotional work moulds the local journalistic culture (Lünenborg & Medeiros, 2021) towards accepting and appreciating metrics rather than problematising them, even if certain doubts remain. Our findings, summarised in Table 1, are elaborated upon below.

Firstly, the sense of relief in the material is linked with the general digital transformation of the news industry. The Internet, blogging, and social media, for example, disrupted the long-lasting social and economic sustainability of the Finnish news media and resulted in losses of readership, market share, social status, and jobs. We argue that Finnish journalists have experienced this overall phenomenon so profoundly that audience metrics are welcomed, against a backdrop of trauma. Digitalisation's arrival turned audiences into unpredictable digital herds, but analytics offers a possibility of transforming them further into aggregates of consumers that can be managed algorithmically (Anderson, 2011). Finnish news professionals seem willing to forgive many restrictions and disturbances related to analytics in exchange for a sense of control – after so many years of uncontrollability. It seems that emotional work has been effectively and collectively carried out to ease this transition and to overcome the sense of uncertainty over the audience. But it is possible to see a hint of nostalgia for the pre-digital era in our results also: The current focus and the rhetorical power of subscription metrics might hark back to the days when journalism was a more stable and predictable social institution.

Table 1 Summary of findings on emotional work among Finnish journalism professionals on audience metrics as a disruptive innovation

Register of emotions	Key relations, dimensions, and objects in the emotional work	The relationship between emotional work and managing disruption and innovation
Relief, contentment, and confidence	Emotional work in this register deals with differences *internal* to the news organisations, mainly in the *past*, when metrics prompted both hype and resistance. Alleviation arises via the routinisation of metrics and agreement within the present work culture on the *algorithmic audience* as a feasible conception of audiences.	Emotional work as *alleviation*: The early days of disruption caused by metrics were intense and focused on click-baiting, but this is interpreted as over. Currently, subscription metrics support a sense of *control* over the audience. However, managing the disruption with the aid of subscription metrics has made *business thinking* a part of the everyday routines of individual journalists.
Excitement, curiosity, and motivation	Emotional work in this register aids in seeing metrics as a *technological tool* that has a legitimate and beneficial role for the *future* of journalism. Inspiration here relates to the view that metrics can increase newsrooms' *capabilities*, both journalistically and technologically.	Emotional work as *stimulation*: Managing the fast disruption–innovation cycle requires encouragement for *constant learning*. The technical competencies needed for surviving future disruption demand *scale, speed, and predictive use* of data-processing, but these must be relevant also for improving core journalistic capabilities related to *newswriting*.
Stress, worry, and irritation	Emotions are deployed to manage the *present* contradictions related to internal and external *power hierarchies*, along with a sense of reduced self-determination. The emotional work focuses on the problem of how to marry *autonomy* (a fundamental professional value of journalism) with data-driven metrics-based thinking.	Emotional work as *balancing*: Dealing with disruption and innovation is an ongoing *acute issue* in newsrooms and requires resources and balancing from the organisations' leaders. A sense of *competition* frames how newsrooms are run, and a truly sustainable way of practising *data-led management* in journalism is yet to be found.

Secondly, another trend that is highlighted by our results involves the newsrooms' manner of preparing for the next wave of analytics-related disruption. Emotional work is here first and foremost carried out by managers to stimulate their staff ahead of the coming wave. This seems connected to a finding of Zamith and colleagues (2020), where the norm formation regarding metrics appears to follow a top-down approach. Critical attention, according to managers, must be directed to technological capabilities: how the vast volumes of data are stored and arranged so as to be useful in the future. Our material indicates that if these matters are handled properly and with the aid of suitable innovations, exciting possibilities may be created for newsrooms. Such preparation requires ever more space and data power, however: data lakes, data warehouses, and cloud services, all coupled with expert knowledge of data, which is likely to entail reliance on external partners and tech giants. The recent mergers in the Finnish news business are very probably linked to anticipating a disruption–innovation cycle centred on data architecture that requires more resources. Only the biggest media corporations with the best economic footing can continue to domesticate

audience metrics and enhance their in-house innovation and organisational learning. Indeed, our findings also indicate that metrics-related learning bolsters professional confidence and motivates the entire staff. But conditions must allow it; smaller newsrooms may have to wrestle with uncertainties longer – or merge with bigger organisations.

Thirdly, our results point out the still-unresolved relationship between data-led management and the profession's value of autonomy (both internal and external; see Örnebring et al., 2016). Emotional work in this register is about trying to find a balance between these requirements. For instance, independence from economic pressure constitutes a large part of autonomy, but today's application of analytics demands that journalists constantly consider the economic and competitive aspects of journalism. Even if focusing on subscriptions (rather than clicks) meshes well with Finnish journalists' mindset and understanding of quality in journalism, the focus remains on economic measurements. It makes the commodified nature of a single article more explicit to the individual journalist (Chua & Duffy, 2019; see also Cohen, 2019). The monetary focus seems more acceptable when packaged in the form of subscription rather than page-view figures and advertisement impressions. At the same time, analytics makes newsrooms more dependent on the powerful tech companies. Although news managers recognise this dependency, they do not or cannot actively resist it in their daily work.

Our findings confirm the existence of a trend in which journalists are working toward being at peace with the use of metrics (Christin & Petre, 2020). Finnish news professionals – the forerunners – are willing to look with favour on metrics, because these tools bring with them a sense of control, along with instruments of learning and development, after an era of chaos. The positively inclined emotional work attests to this. At the same time, the negatively toned emotional work suggests that – even within work cultures and groups of professionals held up as forerunners in Finland – the peace treaty is fragile and provisional. The peace is best described as a negative one: There are few, if any, concrete confrontations, but underlying structural elements and the aggressiveness of the tech industry's embrace of disruption (Russell, 2019) do not support a lasting peace. In particular, the emotions around a sense of autonomy loss indicate that this peace with metrics is bound to remain negative, insofar as metrics stand in contradiction with a value central to the profession.

Limitations to our study are that our material does not allow us to analyse the journalists' interpretations quantitively nor to draw direct comparisons between the managers and the managed. A general discrepancy is nonetheless evident between the leaders' relatively enthusiastic and innovation-oriented perspectives and the stance of journalists at large. Moreover, the interviews with analytics providers indicate that they often side with managers – or the other way round. Media managers under pressure from business disruption find an ally in tech companies who promise to address the economic disruption with technical innovation. However, as they team up with technology companies, they forge an alliance with a culture that favours active disruption (Svensson, 2021). This seems to be culminating in a situation wherein the techno-economic coupling of disruption and innovation

speeds up the very cycle that the newsroom managers are grappling with.

That said, newsrooms are working to find ways of managing disruptive innovations sustainably. For this, a balance must be struck between the techno-economic domain where "technology solutions can solve any crisis of journalism" (Russell, 2019: 644) and the journalistic domain that tries to uphold the public's trust (Heikkilä, 2022). Our material suggests that balancing elements might be found in the ways in which journalists exploit the innovation possibilities in core journalistic tasks but also in those efforts wherein the gaze is zoomed out from the intra-organisation landscape to encompass facets of extra-organisational power relations.

Our findings can be used as a reference point for further assessing the solidification of metrics into journalism cultures and media markets – such as in the Nordics, but also more broadly (see, e.g., Chua & Duffy, 2019, for the case of Singapore) – that utilise the paywall and subscription models. They may also help in future work of scrutinising the impact that the next wave of disruption featuring AI systems (Hao, 2018) will have on journalism, and the kind of emotional alleviation, stimulation, and balancing it requires.

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