

An Arranged Marriage? The Impact of Audience Analytics Experts on the Boundaries of Journalism

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ABSTRACT

Audience analytics and data-driven newsrooms facilitate the emergence of specialized roles within journalism. Drawing on the concepts of boundary work and journalistic role orientations, this article explores the relationship between journalists and analytics experts throughout 13 German news media organizations. Based on interviews with both roles, it investigates how the presence of analytics experts affects journalistic role orientations and news production. The findings show that while analytics experts attempt to blur the boundaries of journalism to enter the profession, journalists are able to maintain their autonomy. However, these attempts and how journalists react to them vary across organizational context, yielding three different types of analytics experts: the Friendly Intruder, the Demanding Reformer and the Distant Service Provider. Findings further reveal the formation of an analyst orientation, distinct from traditional journalism practices.

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Introduction

Audience analytics have transformed newsrooms, shaping the curation, production, and presentation of editorial content. In numerous news organizations analytics are a superior standard for determining the value of news, leading to the integration of specialized roles dedicated to analytics and the audience perspective (Chua and Westlund 2019; Costera Meijer 2020; Ekström, Ramsälv, and Westlund 2022; Ferrer-Conill and Tandoc 2018). Consequently, journalists now collaborate with analytics experts, at times inducing power transfers towards non-journalistic staff (Dodds et al. 2023; Dollah and Tandoc 2022). Given this imposed collaboration, a key question arises: How does the relationship with analytics experts shape news production and what patterns of boundary work emerge?

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Literature finds that many journalists exhibit hesitation in incorporating analytics into their daily routines while others try to match journalistic requirements with analytics (Christin and Petre 2020; Hendrickx et al. 2021). This leads some scholars to advocate for closer integration of analytics experts, others assert a loss in quality and less original content due to targeting large audiences (Cherubini & Nielsen 2016; Elsheikh, Jackson, and Jebril 2024; Fürst 2020)

Journalistic role orientations, however, may fall short in capturing the role held by analytics experts in newsrooms, challenging the established boundaries of journalism. Given concerns about an increasing market orientation and uncertainty of the journalistic profession concerning their audiences, it is critical to assess the dynamics between analysts and journalists and their impact on media production (Ferrucci 2020; Nelson 2021; Tandoc and Thomas 2015). The potential erosion of journalistic standards poses a risk to journalism as a corrective force in politics and society. Therefore, this analysis extends beyond the well-explored territory of the impact of audience analytics on news production to scrutinize the role of analytics experts and their relation with journalists shedding light on who holds authority in interpreting analytics and shaping editorial decisions.

To address these challenges, this article employs a combination of boundary work and journalistic role orientations as framework. Drawing on a total of 26 in-depth interviews with journalists and analytics experts across 13 German media organizations, this study aims to discern patterns in this relationship and explore how analytics experts redefine the boundaries of traditional journalistic roles. The investigation spans various organizational contexts to encompass diverse internal dynamics (Belair-Gagnon and Holton 2018). By adding this relational perspective and taking organizational characteristic into account this article contributes to the literature on the impact of audience analytics.

The literature review gives insights into audience analytics, establishing the foundation for exploring the relationship between analytics experts and journalists through the lens of journalistic role orientations and boundary work. The research methodology details the sample and explains how interviews were conducted and analyzed. The findings demonstrate how analytics experts shape production processes and role orientations, revealing an emerging analyst orientation. These insights inform the creation of a typology for analytics experts contextualizing them in relation to their journalistic counterparts and organizational characteristics.

Literature Review

Audience Analytics in the Newsroom

This article refers to audience analytics as systems collecting quantitative data enabling systematic analysis of audience behavior, with metrics representing quantified measures derived from these systems (e.g., clicks, time spent, conversions) (Cherubini & Nielsen 2016; Zamith 2018). Audience analytics facilitate a closer integration of the audience into news production and fuel normative expectations that journalism should engage with audiences to overcome financial constraints (Costera Meijer 2020; Ferrucci, Nelson, and Davis 2020; Nelson and Schmidt 2022). Hence, they mark a (novel) value system incentivizing to focus on the presentation of news rather than on original reporting (Ekström, Ramsälv, and Westlund 2022).

The use of audience analytics is shaped by technological, individual and organizational influences, as well as by a country's media system and cultural prerequisites. A major technological influence is the design of tools by analytics companies often aligning with journalistic norms and encouraging the adoption of audience analytics by evoking strong emotions (Petre 2021). On an individual level, pre-existing attitudes shaped by role orientations are a significant driver: Journalists use audience analytics more when they perceive behavioral control over them and find them helpful (Giomelakis et al. 2019; Tandoc and Ferrucci 2017) whereas a strong adherence to traditional values and experience suppresses analytics use (Vu 2014). On the organizational level, analytics use is positively influenced by a top-down implementation, organizational policies and managerial guidance (Belair-Gagnon, Zamith, and Holton 2020; Christin 2018). Moreover, market orientation, financial insecurity and perceived competition stimulate audience analytics use (Tandoc 2015; Vu 2014). Despite Public Service Media being less reliant on maximizing audience numbers for advertising, they still use analytics similarly to their private counterparts (Lamot, Paulussen, and van Aelst 2021). Moreover, the adoption of metrics also heavily depends on a country's cultural environment and media system. Newsrooms use audience analytics to address financial constraints while adhering to authoritative requirements, avoiding certain topics despite their potential to optimize analytics (Dollah and Tandoc 2022). However, journalists working for government-supported media may completely refrain from using audience analytics despite a struggle for audiences (Allam and Hollifield 2023; Fang and Repnikova 2022). Conversely, private-owned news media in transitional systems may heavily incorporate audience analytics leading to a "metricisation" of journalistic standards (Dodds et al. 2023; Harlow, Higgins Joyce, and Schmitz Weiss 2023; Moyo, Mare, and Matsilele 2019). Non-journalistic, market-oriented newsroom members often dominate the interpretation of analytics. In some newsrooms, this leads to journalistically inexperienced staff in leadership roles, facilitating a power shift (Elsheikh, Jackson, and Jebriil 2024; Slaček Brlek, Smrke, and Vobič 2017). This dominance highlights the need to investigate evolving roles and dynamics within newsrooms, a key focus of this paper. Moreover, due to a lack of organizational training, journalists largely rely on observing others, particularly superiors, when learning how to use audience analytics (Zamith, Belair-Gagnon, and Lewis 2019). This dynamic may further amplify the influence of non-journalistic role orientations in leadership positions and also redefine what success means in a newsroom (Belair-Gagnon 2019).

Audience analytics exert a multifaceted impact on media production. Lamot and Paulussen (2019) identify six areas impacted: *Story placement*, *story packaging* (adaptations to the original article), *story planning* and *story imitation* (monitoring successful competitor content and producing similar content), *performance evaluation* and *audience conception*. Moreover, audience analytics-related skills are highly valued, while original journalistic reporting is often taken for granted (Ekström, Ramsälv, and Westlund 2022; Wu, Tandoc, and Salmon 2019). However, relying on audience analytics bears the risk of giving the audience what it wants only instead of what it needs (from a democratic perspective) resulting in less genuine content (Fürst 2020; Tandoc and Thomas 2015). Conversely, other scholars agree that journalists develop strategies to harmonize both demands, including tailoring analytics to organizational needs (Christin and Petre 2020).

Between Citizens and Consumers: Journalistic Role Orientations

Role orientations encompass the “discursive construction of institutional values, attitudes and beliefs with regards to the position of journalism in society and, consequently to the communicative ideals journalists are embracing in their work” (Hanitzsch and Vos 2017). Acknowledging that journalists may not always do what they say, *role performance* as behavioral dimension is added to *role orientation* (Mellado, Hellmueller, and Donsbach 2017). This analytical distinction shall not suggest that journalists’ actions are inherently detached from their role orientation but rather demonstrate the discursive nature of journalistic roles. External factors, including national context and organizational prerequisites, yield a substantial influence on the alignment between role orientations and journalistic actions (Hanitzsch and Vos 2017). This conceptualization is valuable for two reasons: Firstly, journalistic actions such as the integration of analytics experts into workflows and the discourse surrounding it may ultimately shape normative role orientations. Secondly, it directs attention to organizational contexts, offering a nuanced understanding of how they specifically shape role performance of new and existing roles in journalism.

Hanitzsch (2007) identifies *market orientation* as crucial in shaping perceptions of journalism’s institutional role, distinguishing between audience as citizen or consumer. This distinction is pivotal for this study, as market orientation and audience appeal significantly influence analytics use (Nelson and Schmidt 2022; Zamith, Belair-Gagnon, and Lewis 2019). Accordingly, this article focuses on two primary role orientations as outlined by Hanusch and Tandoc (2017): Citizen orientation and consumer orientation. Citizen orientation, rooted in the public service ideal, is a prominent role orientation for journalists - at least in Western countries (Hanitzsch et al. 2011). It consists of three components: a watchdog mentality holding those in power accountable, providing citizens with information for political decisions, and facilitating open discourse by motivating citizens to discuss political issues. However, this idealistic notion may face criticism as paternalistic, imposing values on readers. In contrast, consumer orientation caters to audiences’ preferences. It comprises four components: Providing entertainment and relaxation, aiming at the widest possible audience, offering advice and orientation for daily life and catering to emotions. The belief that the audience knows best what it needs is prominent in new journalistic approaches leading journalists to constantly monitor audience analytics to enhance appeal (Nelson and Schmidt 2022).

Belair-Gagnon, Zamith, and Holton (2020) demonstrate that journalists find audience analytics more helpful for enacting consumer orientation than citizen orientation, even though they still consider citizen orientation more important. Hanusch and Tandoc (2017), highlight that exposure to analytics amplifies the perceived importance of consumer orientation, indicating a bidirectional influence. Although dichotomous, and recognizing that journalists often balance both orientations (van der Wurff and Schoenbach 2014), this classification provides a solid foundation for assessing the impact of audience-related roles on journalism, particularly given the commercial objectives often associated with audience analytics.

Maintaining a Fuzzy Profession: Boundary Work in Journalism

In order to gain control over their area of expertise, professions establish boundaries to differentiate from non-professionals (Gieryn 1983). This paper employs the definition of

boundary work as “purposeful individual and collective effort to influence the social, symbolic, material and temporal boundaries, demarcations and distinctions affecting groups, occupations and organizations” introduced by Langley et. al (2019). Gieryn (1983) first coined the term to describe how scientists attribute characteristics exclusively to science creating a social boundary to distinguish themselves from non-scientists and safeguard professional autonomy (Gieryn 1999; Lamont and Molnár 2002). This makes it a valuable lens for analyzing the integration of new roles into an existing profession like journalism. However, journalism as an “uninsulated profession” (Schudson 1978), faces challenges due to weak regulatory protection, technological shifts, and economic constraints (Carlson 2015). Despite these impediments journalism strives for a stable profession, emphasizing commitment to factual information and societal relevance in role orientations (Singer 2015).

Gieryn’s (1983) framework identifies three goals of boundary work: *expansion*, *expulsion*, and *protection of autonomy*. This article extends Carlson’s (2015) application of these goals to journalism by integrating the perspective of analytics experts. In addition to journalists, analytics experts may engage in adjusting professional boundaries, necessitating their inclusion in conceptualizing *expansion*. For journalists, *expansion* refers to including new areas and thereby extending the field’s boundaries. Analytics experts, on the other hand, may seek inclusion or even try to shape the profession according to their preferences. To deepen the understanding of how journalism’s boundaries are shaped by internal and external forces, *expansion* is nuanced into *boundary spanning*, *boundary blurring* and *boundary breaching* (Langley et al. 2019; Lindberg, Walter, and Raviola 2017).

Boundary spanning involves finding common ground between groups (Evans and Scarbrough 2014), such as aligning audience analytics with journalistic goals by framing them as democratic feedback or equating metric performance with newsworthiness (Christin and Petre 2020). *Blurring* occurs when professions intertwine and boundaries become obscured. Analytics experts, for instance, might claim that using audience analytics is inherently journalistic since audiences are integral to journalism. *Breaching* refers to demolishing existing boundaries to create new ones (Zietsma and Lawrence 2010), such as replacing traditional selection criteria with audience analytics. Conversely, *expulsion* tightens journalism’s boundaries by labeling certain activities as non-journalistic to protect one’s position (Wu, Tandoc, and Salmon 2019), potentially leading to the rejection of analytics experts by journalists. *Protection of autonomy* involves resisting external influences, such as advertisers’ impact on coverage. Analytics companies anticipate this desire for autonomy and potential expulsion by deferring to journalistic norms and disguising managerial intentions (Gieryn 1983; Petre 2018). Table 1 visualizes how types of boundary work may be performed by journalists and analytics experts.

The relationship between journalists and analytics experts, as well as potential patterns of boundary work, can be shaped by organizational prerequisites, such as newsroom organization. Lischka (2015) finds greater cooperation between online and offline journalists when working with a central news desk, while Larrondo et al. (2016) emphasize the importance of spatial proximity for cooperation. By considering both internal and external perspectives within the profession, the framework presents a suitable basis to explore the presence and impact of analytics experts in journalism, integrating traditional journalistic values with the unique approaches of analytics experts.

Table 1. Types of boundary work by journalists and analytics experts.

	Journalists	Analytics Experts
Expansion	Including new areas and practices to extend the field.	Attempts to enter and shape the field.
Expansion: Boundary Spanning	Finding common ground with (formerly) non-journalistic roles and tasks. <i>Example:</i> Journalists incorporate audience analytics into journalistic workflows.	Approaching the field by emphasizing intersections. <i>Example:</i> Analytics experts align audience analytics with journalistic goals.
Expansion: Boundary Blurring	Engaging in (formerly) non-journalistic tasks. <i>Example:</i> Editors-in-chief closely observe audience analytics to inform the selection of stories.	Framing (formerly) non-journalistic tasks as journalistic and/or performing journalistic task. <i>Example:</i> Analytics experts engage in news production based on audience analytics.
Expansion: Boundary Breaching	Engaging in practices that fundamentally alter journalistic norms. <i>Example:</i> Journalists neglect traditional selection criteria to optimize audience appeal.	Challenging traditional journalistic norms by prioritizing data-driven approaches. <i>Example:</i> Analytics experts reframe success of news stories towards the number of clicks.
Expulsion	Defending traditional journalistic roles and practices by suspending certain practices. <i>Example:</i> Labelling audience analytics as commercial and non-journalistic.	Facing resistance and pushback from journalists. <i>Example:</i> Analytics experts and their expertise are neglected. Therefore, journalistic norms are anticipated.
Protection of Autonomy	Maintaining journalistic independence from external pressures. <i>Example:</i> Strategically utilizing analytics without allowing them to dominate editorial choices.	Navigating and potentially circumventing journalistic defenses. <i>Example:</i> Framing audience analytics in ways that align with journalistic values or obscuring their commercial nature.

Research Questions

Building on the identified conceptualizations of boundary work and role orientations, this study seeks to contribute to the understanding of audience analytics' impact on journalism by scrutinizing the role of analytics experts in newsrooms, incorporating diverse media contexts (Carlson 2015; Hanitzsch 2007; Hanusch and Tandoc 2017). To capture the impact on the field and estimate whether the relationship between journalists and analytics experts leads to an expansion of the profession or to defensive actions, the following overarching research question is posed.

RQ1: How does the emergence of analytics expert roles impact patterns of boundary work within journalism, particularly in terms of expansion, expulsion and protection of autonomy?

This article aims to establish a typology of analytics experts that reflects the patterns of boundary work mentioned in RQ1. To inform this typology, the relational dynamics between journalists and analytics experts need to be characterized first. This involves analyzing the impact of analytics experts on production processes and (emerging) role orientations.

RQ2: How does the relationship between journalists and analytics experts manifest and what are their perceived impacts on journalistic practices and role orientations?

Method

To explore how the emergence of analytics experts generates patterns of boundary work and how these are reflected in their relationship with journalists, in-depth interviews were conducted with both journalists and their analytics expert counterparts. This comparative

approach provided insights into everyday practices and mutual evaluations of both roles, potentially uncovering the reasoning behind these evaluations. Identifying analytics experts was challenging due to varying job titles - even within organizations. Therefore, "analytics experts" were defined as those whose primary work involves audience analytics-related tasks, such as analyzing audience data, providing reports, and making content suggestions.

Data collection involved two phases. The first phase comprised 18 in-depth interviews with 9 analytics experts and 9 journalists across five media organizations, allowing the unique opportunity to contextualize their relationship within the same organizational environment. Learnings from the first interview and analysis phase were used to inform the second phase, which involved 8 interviews with 4 analytics experts and 4 journalists from additional media organizations. Despite lacking counterparts in this phase, it allowed to validate and expand upon the identified patterns across more diverse contexts. Lastly, a combined analysis of all interviews from both phases facilitated a more aggregate level of identified types.

In total, 26 interviews across 13 media organizations in Germany were conducted. Participants were recruited via Email and LinkedIn, following a dual approach by targeting both journalists and analytics experts, ensuring that the latter spent at least half of their time on audience analytics-related tasks. Sampling aimed for diverse organizational settings regarding size, circulation area, and market orientation. The sample includes nationwide "quality news media" as well as regional and local news outlets. Since most regional and some local outlets belong to larger publication groups, newsroom size may not accurately reflect market orientation, which was addressed in the interviews. Additionally, to reflect Germany's dualist media system and provide a comparison for market orientation, two Public Service Media outlets were included. Positions for journalists included editors, chief editors and reporters, whereas analytics experts held a more varied range of roles. Most participants had been in their current position for one to five years, although some had been with the organization longer but in different roles.

To ensure confidentiality, participants' names and organizations were anonymized. Interviews, conducted via video calls from October 2021 to January 2022, lasted between 30 and 85 min depending on participants' schedules, with most interviews lasting approximately one hour. The interview guide included open-ended questions about practices in news production and audience analytics use, cooperation with new roles, and journalists' general role orientation. This approach was chosen to avoid presuming causal relationships and to prevent socially desirable answers, given that audience analytics can be a sensitive issue for some journalists. For analytics experts, a slightly modified interview guide was used, focusing on their role in the newsroom and associated news production routines. In the second interview phase, participants were asked similar questions, but with a stronger focus on the relationship between journalists and analytics experts. Interviews were recorded via MS Teams and transcribed for analysis. [Tables 2](#) and [3](#) show participants and their respective organizations from both phases.

Since this study builds on conceptualizations of boundary work and role orientations in journalism, theoretical thematic analysis is employed while remaining open to inductive categories and modifications of existing categories (Braun and Clarke 2006). The MAXQDA coding scheme encompassed three fundamental categories derived from the literature review: types of boundary work, characteristics of role orientations, and uses of audience

Table 2. Interview participants phase I.

Code	Gender	Affiliation	Position	Years in position	Organization
PO1-1	female	Journalist	Editor	3–4 years	PO1: national quality news publisher
PO1-2	male	Journalist	Editor	4 years	PO1
PO1-3	female	Analytics expert	Audience Manager	1 year	PO1
PO1-4	male	Journalist	Online Editor	3 years	PO1
PO1-5	female	Analytics expert	Audience Developer	4–5 years	PO1
PO1-6	male	Analytics expert	Business Correspondent	3 years	PO1
PO2-1	female	Journalist	Editor	15 years	PO2: national quality news publisher
PO2-2	female	Journalist	Head of Department	2 years	PO2
PO2-3	male	Analytics expert	Editorial Developer	4 years	PO2
PO3-1	female	Analytics expert	Editorial Developer	1 year	PO3: regional publisher
PO3-2	female	Analytics expert	Analyst	2 years	PO3
PO3-3	female	Journalist	Digital Reporter	< 1 year	PO3
PO3-4	male	Journalist	Digital Reporter	2 years	PO3
PO4-1	male	Journalist	Chief Editor	2 years	PO4: local publisher
PO4-2	male	Analytics expert	Audience Developer	3 years	PO4
PSM1-1	male	Journalist	Deputy Chief Editor	5 years	PSM1: regional Public Service Media unit
PSM1-2	male	Analytics expert	Project Manager	17 years	PSM1
PSM1-3	male	Analytics expert	Product Owner	3 years	PSM1

Table 3. Interview participants phase II.

Code	Gender	Affiliation	Position	Years in Position	Organization
PO5-1	male	Analytics expert	Software Developer	4–5 years	PO5: national publisher
PO6-1	female	Analytics expert	Head of Audience Development	2 years	PO6: regional publisher
PO7-1	female	Analytics expert	Head of Digital	5 years	PO7: regional publisher
PO8-1	male	Analytics expert	Product Manager	< 1 year	PO8: national magazine publisher
PO9-1	male	Journalist	Chief Editor	6 years	PO9: local publisher
PO10-1	female	Journalist	Chief Editor Online	1 year	PO10: regional publisher
PO11-1	male	Journalist	Homepage Editor	< 1 year	PO11: national quality news publisher
PSM2-1	male	Journalist	Online Editor	3 years	PSM2: national Public Service Media unit

analytics in news production. These were further refined by subcategories of varying orders. A fourth major category explored the relationship between analytics experts and journalists, identifying patterns such as cooperation, competition, or conflict, and coding reasons for these relationship dynamics. Within the deductive main categories, inductive sub-categories were established to capture nuanced aspects, including the proprietary role orientation identified for analytics experts, which did not consistently align with existing categories.

Category	Count
Role orientations	138
Citizen orientation (D)	73
Public service ideal (D)	23
Watchdog role (holding powerful accountable) (D)	4
Provide information for political decisions (D)	8
Enable free flow of ideas (D)	4
Consumer orientation (D)	58
Attracting the largest audience (D)	12
Provide entertainment and relaxation (D)	1
Provide feel good content(D)	1
Provide advice, orientation, and direction for daily life (D)	12
Analyst culture (I)	82
Enabling others to work with metrics (I)	25
Metrics as objective (I)	22
Statistic literacy (I)	16
Service provider (I)	61
Mix of both cultures	43
Reflection about Metrics (I)	54
Metrics equal content "that works" (I)	74
Critical reflection (I)	31
Relationship between journalistic roles (I)	10
Comparison between journalists (I)	21
Commercial logic/market orientation (i)	20
Functional differentiation (D)	30

Figure 1. Main category “role orientations” with inductive sub-categories.

Coding rules for deductive categories relied on definitions established in prior research, while inductive categories were grounded in anchoring examples noted in memos attached to each code. Entire sentences meeting the criteria were coded accordingly. Multiple codes could be assigned to a single fragment, highlighting possible intersections. Codes were reviewed when coded fragments provided more detailed insights than the original category, resulting in refined subcategories applied across all data through iterative coding rounds. This approach facilitated the generation of summaries for each category across all interviews, revealing overarching patterns. Additionally, the analysis aimed to uncover links between categories, such as how the relationship between both roles intersected with patterns of boundary work.

Figure 1 depicts the MAXQDA code tree for “role orientation,” illustrating the distribution of deductive (D) and inductive (I) categories.

Findings

This section is closely aligned with the proposed research questions. Before establishing a typology of analytics experts reflective of boundary work patterns and their relationship with journalists, first their impact on news production is explored. It then examines the resulting effects on role orientations – for both journalists and analytics experts (RQ 2).

Selective Tolerance: Impact on News Production

This section analyzes how the presence of analytics experts is perceived to affect news production. Using the classification by Lamot and Paulussen (2019), story placement, story packaging (adaptations to the original article), story planning and performance evaluation are identified as frequent patterns, while story imitation was negligible in comparison. Although audience conception was also prevalent, it will be addressed in the section on role orientation due to its significance in that context. The most frequent pattern throughout all organizations was performance evaluation, with both journalists and analytics experts reporting to closely monitor analytics to gauge audience success, demonstrating journalists' boundary spanning to include this activity. However, a strong emphasis on performance evaluation, such as displaying metrics on screens, was connected to boundary blurring and stronger dominance of analytics experts. This trend was particularly emphasized in accounts from media organizations that have recently undergone restructuring.

Yes, our new editor-in-chief for sure, numbers are very important to him. Well, in the past, you could sometimes start a project just like that, "Yeah, sounds cool, let's do it." Nowadays, everything has to at least have some rough goals. (PO6-1, analytics expert, regional publisher)

Topic placement varied across organizations: Participants reported using analytics experts' advice to decide on placement was common but some did so only for certain topics, especially in more prestigious quality news outlets. Here, prominent places were reserved for topics that were perceived as journalistically relevant, although the duration of articles in these positions often hinged on their performance. In terms of topic planning, analytics experts were frequently reported to suggest topics likely to perform well, prompting journalists to develop a keen sense for high-performing topics through regular analytics checks, thereby illustrating boundary spanning from both sides. However, certain topics were chosen regardless of performance, indicating a selective influence and protection of autonomy. This pattern of retaining control over some topics was evident across various organizational contexts.

But to do this work, to reflect. What is actually going on? And what can I do with it? That's a job that even audience analytics can't do for me. But how I implement it and whether I was right. (PO2-1, journalist, national quality news publisher)

Lastly, story packaging frequently involved requests from analytics experts for post-publication modifications when performance expectations were not met. However, compliance to those requests was reported to depend on time constraints. Often, the priority was described to be on developing new topics rather than revising already published content, reflecting journalists' expulsion of certain analytics-related activities and the rather consultative role of analytics experts.

Walking on the Edge: Integrating Audience Analytics into Role Orientations

The previous section revealed the integration of audience analytics into news production and the deliberate blurring of lines by analytics experts. Consequently, journalists report to develop strategies to cope with the presence and demands of analytics experts, leading to modifications or protective measures in their role orientations.

A Turn Towards Consumer Orientation?

One strategy identified comprises journalists rejecting or avoiding engagement with analytics experts to safeguard their autonomy, emphasizing their commitment to values of citizen orientation. However, this approach was often described as leading to conflicts, both with analytics experts and other journalists. In many media organizations, where analytics experts are fully integrated into newsroom teams and hold authority over news selection granted by management, this strategy proves impractical. A second strategy involves a more flexible approach integrating audience analytics and the resulting audience conception into journalistic role orientations. Consumer orientation interlopes here since it already strongly incorporates audience desires. While striving to balance boundary spanning and protection of autonomy, most journalists selectively adjust their role orientations, maintaining a watchdog mentality while incorporating expert feedback to enhance readership engagement, particularly for certain topics.

So ultimately, we can't let the readers completely dictate what topics we give them, but we just have to balance it out there, so maybe give the readers a little bit more of what they're interested in, but still continue to do other topics that we think are important because of other things (PO1-1, journalist, national quality news publisher)

A third strategy was described as involving blurring or even breaching the boundaries between journalism and audience analytics, fully integrating analytics into role orientations. This approach assumes audience analytics accurately reflect audience needs, often equating the analytical performance of content with its quality and relevance. This not only signifies a movement towards consumer orientation but also incorporates non-traditional journalistic elements into role orientations. This is especially prevalent in media organizations that have undergone regional consolidation and altered newsroom structures.

However, the impact of analytics experts was reported to vary based on journalists' prior role orientations, with some already leaning towards consumer orientation, particularly those new to their positions. Managerial guidance also appeared pivotal; while some managers were said to impose strict collaboration protocols between roles, others grant journalists more autonomy in these interactions. Lastly, some analytics experts were noted to have journalistic backgrounds and remain involved in news production, while some journalists participate in audience-related projects alongside their editorial tasks. Consequently, tensions can arise both *between* individuals and *within*.

Towards an Analyst Orientation

In addressing RQ 2 further, the analysis considers which characteristics of journalistic role orientations analytics experts adopt, revealing a strong inclination toward consumer orientation. Analytics experts prioritize their organization's financial viability, ensuring that editorial content translates into revenue. While most engage in boundary spanning by acknowledging citizen orientation and newsroom culture, they also challenge journalistic assumptions and advocate for a more prominent position in the newsroom, occasionally attempting to breach professional boundaries.

And there are many people who are real journalists, they want to write well, they try hard. But in the end, they are not read. They don't understand why. They don't understand why just writing good pieces is not enough. (PO5-1, analytics expert, national publisher)

However, most analytics experts reported aspiring to empower journalists to work with audience analytics and produce “better” content, favoring data-informed rather than a data-driven approach. Drawing from these insights and acknowledging the mostly inadequate fit of existing journalistic role orientations, this paper identifies a distinct role orientation specific to analytics experts. Key characteristics of this *analyst orientation* include a belief in the objectivity of audience analytics, a focus on financial goals, providing guidance and service to journalists, and acknowledging, while also challenging journalistic norms. Equating performance of articles with relevance underscores efforts to blur boundaries of the journalistic profession to establish a significant foothold within the field.

And journalism always means being relevant. And what we do basically means nothing other than measuring how relevant we are (PO3-2, analytics expert, regional publisher).

The manifestation of this analyst orientation and the varying degrees to which different aspects of it are pronounced appear to depend largely on organizational settings, particularly market orientation. In media organizations strongly focused on driving subscription numbers, this analyst orientation was more dominant. The different roles that analytics experts adopt within newsrooms will be further explored in the next section.

Organizing the Relationship: From Service Providers to Friendly Intruders

Building on previous findings regarding role orientations, news production and organizational context, this section delineates distinct types of analytics experts and explores their influence on patterns of boundary work within journalism (RQ1). In addition to already considered organizational factors, spatial proximity - whether journalists and analytics experts sit together or apart - emerges as pivotal aspect in this context.

Overall, the majority of relationships was reported to be cooperative, routinized, and friendly. However, analytics experts adopt varying approaches towards their journalistic counterparts, eliciting diverse reactions from journalists. This results in three types: Friendly Intruder, Demanding Reformer and Distant Service Provider.

The Friendly Intruder

Analytics experts and journalists maintaining a close yet non-authoritative relationship was a frequent pattern. Analytics experts engage in boundary spanning by aligning their efforts to journalists’ interests and the company’s tradition to avoid expulsion from journalists. Despite advocating for greater prominence of audience analytics, they often lack authority to independently edit content. Instead, they reported to actively collaborate with journalists by providing suggestions on topic selection and presentation. Thus, while the analyst orientation is evident, its full implementation is constrained.

You have to teach them a little bit [laughs] that we actually have the same goals and that we all really just want our stuff to be read. If that goes down well, then they come to me or us now and are happy to be advised. (PO1-5-, analytics expert, national quality news publisher)

Journalists engage in boundary spanning by integrating analytics experts’ advice into their routines, such as monitoring article performance and applying insights to content production. However, they maintain professional boundaries, referring to the media

brand's tradition and their role orientation, especially citizen orientation. They expressed rejection of sole reliance on audience analytics to preserve autonomy, often covering topics despite low performance to uphold their role in informing society. Despite these protective actions journalists demonstrated a strong awareness of the company's mission and its financial situation. While analytics experts' input aimed at attracting more readers was valued, journalists occasionally reported to decline due to time constraints, reflecting their prioritization of core journalistic tasks and that audience analytics are optional rather than directive

So, I'm glad we have the numbers. I like working with them and looking at it. I'm also glad what role they have, which is that I have the opportunity to look at it, but I'm not forced to. (PO2-2, journalist, national quality news publisher)

This type is primarily found in national quality news outlets with strong brands and traditional values, where managerial actions tend to protect journalistic autonomy rather than yield to analytics experts. Journalists benefit from the commitment to quality journalism and a nationwide audience, yet they report to be cognizant of their organizations' financial constraints and accept activities aligned with market orientation. Analytics experts in this context are often situated separately from journalists, facilitating easier rejection of their advice. While citizen orientation is popular among journalists and acknowledged by analytics experts, the Friendly Intruder facilitates a closer integration of consumer orientation, such as optimizing for audience numbers. This situation allows analytics experts to engage in boundary spanning asserting (and enlarging) their influence, while journalists selectively adjust boundaries to incorporate analytics insights, however, focusing on protecting their autonomy.

Interestingly, this type could also be identified in Public Service Media contexts where analytics experts reported having journalistic experience or holding hybrid roles. While audience analytics use was often optional, these experts, akin to counterparts in private media, aimed to bolster their influence. However, they reported to encounter strong resistance and inertia from some journalists, pointing to expulsion and protection of autonomy. The growing emphasis on consumer orientation reflects reported concerns that neglecting audience interests could undermine the public service mission, compelling them to substantiate their institution's relevance. This points to an increasing, albeit limited, incorporation of the analyst orientation even in traditionally autonomy-focused environments.

Yeah, so I just know a lot more. So, I can make informed, data informed decisions. It's much easier for me to really fulfill the mission of public service, namely to offer something for the whole of society and not just for an information elite, for example. (PSM1-3, analytics expert, Public Service Media)

The Demanding Reformer

The Demanding Reformer represents a more assertive analytics expert who adopts a dominant approach in interactions with journalists, convinced that analytics are indispensable and necessary for a media organization's survival in the digital age. While some of them report attempting to breach boundaries by labeling journalistic selection as outdated and ignorant of audience interest, most refer to journalistic standards to span

boundaries. They advocate for data-informed rather than purely data-driven journalism. However, their primary focus remains on commercial considerations and content that “works” with respect to analytical performance. Their role centers on guiding journalists to focus efficiently on promising content, instead of content that is not expected to perform. Despite varying levels of authority, Demanding Reformers are consistently proactive and demanding.

I see more advantages because without analyzing reader behavior, a modern publishing house or media company simply could not exist. (PO3-2, analytics expert, regional publisher)

Journalists in this environment often report assimilating elements of the analyst orientation, blurring boundaries themselves. Some even expressed support for deeper integration of analytics experts into news production, prioritizing the goal “to make users happy”. Content that “works” aligns closely with what journalists perceive as relevant, underscoring a prevalent consumer orientation reinforced by analytics experts. While analytics experts are seen to exert influence, some boundaries persist, particularly regarding topics deemed socially relevant despite lower performance. Yet, this notion is frequently challenged by both analytics experts and journalists, indicating ongoing debates over boundary definitions.

Things that were important to us in the past, of which we now know that they are simply not in such high demand that they are no longer made [...] But that’s ... I don’t know if that’s necessarily a bad thing, if it’s not in demand, then maybe it just wasn’t right [...]. (PO4-1, journalist, local publisher).

In this context of blurring boundaries, journalists often take on hybrid roles involving audience-related tasks and embrace elements of the analyst orientation. For example, an editor at a small local outlet described relying solely on analytics to curate front-page content, automatically prioritizing high-performing topics while de-selecting non-performing articles.

This type is predominantly found in regional publishing houses hosting several small outlets, some of which are undergoing restructuring and significant changes in newsroom structure due to consolidation processes. It also appears in stand-alone online-only local media organizations. Factors like declining revenue and a desire for closer interaction with a limited readership drive boundary blurring from both sides. By implementing processes that render the presence of analytics experts mandatory, managers grant more authority to the Demanding Reformer, often facilitated by spatial proximity. However, since journalists and analytics experts are often aligned in their goals, conflicts are not a daily occurrence. Notably, the emphasis on the audience can lead to either boundary expansion or, in some cases, to their destruction. Analytics experts with a journalistic background can play a bridging role here, facilitating effective boundary spanning.

The Distant Service Provider

While confirming the existence of the Friendly Intruder and the Demanding Reformer types, the additional interviews revealed a third type reflecting a more traditional approach in the relationship between journalists and analytics experts. The Distant Service Provider dopts a passive role, primarily providing basic reports to journalists. Audience analytics tasks are reported to be typically handled by dedicated teams or the chief

editor with minimal involvement from journalists unless they choose to participate. Therefore, Distant Service Providers are often described to resort to boundary spanning efforts to increase their impact, appealing to journalistic pride to garner attention for audience analytics. Unlike other types, these boundary spanning efforts are rarely mutual and do not directly impact journalistic work, maintaining distinct roles with clear boundaries.

Every editor is happy when he appears in the daily top 3 that I announce there. Conversely, if a colleague doesn't have any page views, it doesn't mean that the colleague changes his writing style or devotes himself to new topics or somehow feels bad. That just doesn't happen either. So that's the situation. (PO8-1, analytics expert, national magazine publisher)

The advice provided by analytics experts is discussed from a journalistic perspective, highlighting efforts to protect journalistic autonomy. Citizen orientation, namely a watchdog role and providing socially relevant content, are prioritized over consumer demands. Simultaneously, analytics experts accept these journalistic boundaries by framing audience analytics as a marketing tool rather than a journalistic one. Despite the strong emphasis on citizen orientation, journalists demonstrate an interest in audience behavior, thereby slightly expanding their boundaries. However, they also express expulsion for practices that exclusively cater to audience needs, distinguishing them from journalists involved in the Demanding Reformer environment.

[...] that a topic is now completely adapted again on the basis of the metrics, without there being a new twist in terms of content, is rather not the case. (PSM2-1, journalists, Public Service Media)

This type is predominantly found in well-established traditional media brands and Public Service Media, where journalistic autonomy is paramount and interactions between both roles are minimal due to spatial separation. These organizations, unlike others, exhibit less reliance on market orientation, due to public funding or a relatively stable nationwide readership. Similar to other types, managerial influence is reported to shape the hierarchy between journalists and analytics experts. However, in these contexts, analytics experts' influence is tempered by organizational prerequisites and established workflows that prioritize journalistic autonomy. For instance, in some newsrooms, journalists said to gain access to analytics tools only after receiving training to ensure thoughtful and responsible use. The type is faced with strong citizen orientation, necessitating boundary spanning efforts that align these values to maintain at least some marginal relevance in news production.

The Distant Service Provider emerged exclusively from the additional interviews, where both roles were not integrated within the same organization. Analytics experts were typically organized into separate divisions, or the organization did not employ dedicated analytics experts at all, leaving such tasks to chief editors. This organizational setup likely accounts for the passive role observed among analytics experts in these contexts.

Summary of Findings

The following matrix summarizes the findings from the previous section by focusing on the three types of analytics experts. Each type is explored in terms of boundary work patterns, role orientations, and organizational context. By detailing these elements, the matrix provides an overview of how various organizational factors influence the roles and interactions of analytics experts and journalists.

Matrix 1: Boundary Work Patterns and Role Orientations Associated with Analytics Expert Types.

		Friendly Intruder	Demanding Reformer	Distant Service Provider
Boundary work patterns		Analytics experts: Boundary spanning (attempt to enter journalistic profession) Journalists: Boundary spanning, protection of autonomy	Analytics experts: Excessive boundary spanning and boundary blurring, some cases of boundary breaching Journalists: Boundary blurring and boundary spanning	Analytics experts: Cautious boundary spanning Journalists: Expulsion and protection of autonomy, selective boundary spanning
Role orientation		Analytics experts: Consumer orientation but appreciation of brand and citizen orientation Journalists: Citizen orientation but open to elements of consumer orientation	Analytics experts: Dominant analyst orientation Journalists: Excessive consumer orientation and incorporation of analyst orientation	Analytics experts: Strong appreciation of citizen orientation with low levels of analyst orientation Journalists: Strong citizen orientation but interested in audiences
Organizational context factors	<i>Type of organization</i>	Traditional legacy brands (quality news) & Public Service Media	Regional publishing houses and stand-alone online-only	Quality news media and Public Service Media
	<i>Market orientation</i>	Moderate: Attempts to strengthen audience inclusion (also for PSM)	High: Consolidation and restructuring processes	Low: Little impact on journalists' work
	<i>Scope of audience</i>	Nationwide	Regional or local	Nationwide
	<i>Managerial guidance</i>	Favoring journalists over analytics experts while integrating them	Granting analytics experts authority by strong integration into processes	Strong separation of both roles in processes
	<i>Spatial proximity</i>	Mixed integration into newsrooms	Strong integration	Separated

Note: Organizational context factors are split into five distinct dimensions.

Conclusion & Discussion

Journalism as an “uninsulated profession” is susceptible to transformations due to changing boundaries and a shift in relevant skills when new roles are imposed on newsrooms (Carlson 2015; Schudson 1978; Wu, Tandoc, and Salmon 2019). This evokes the picture of an arranged marriage in which analytics experts and journalists may have reservations about each other while trying to come to terms with the situation. The findings point to a mostly cooperative relationship. Analytics experts, however, engage in boundary work to shape the profession, revealing a distinct analyst orientation that extends beyond traditional consumer-focused approaches. This emerging orientation regards audience analytics as impartial and reflective of audience interests, contrasting with the subjective “journalistic gut feelings” and citizen orientation, which is often deemed inadequate for audience service. Despite acceptance of journalistic standards, some

analytics experts report to strive for more influence in the newsroom. This adds to the notion of “engineering consent” while pursuing own goals (Petre 2018).

To deepen these findings and explore the conditions under which this analyst orientation gains momentum, this study identifies three distinct types of analytics experts and examines them in relation to their journalistic counterparts. Friendly Intruders provide suggestions on content production and modifications, aiming for integration into the journalistic profession by spanning its boundaries. While journalists are open to expanding their boundaries to incorporate audience demands, they are selective in their utilization of analytics experts’ advice, prioritizing the protection of their autonomy confirming Christin and Petre (2020). This type predominates in traditional legacy brands, where managers strive to integrate audience perspectives while also preserving journalistic freedom. The Demanding Reformer actively shapes news production processes based on the identified analyst orientation and, supported by management and financial pressures, endeavors to persuade journalists to comply with their recommendations by erasing boundaries between professions. Conversely, journalists assimilate aspects of the analyst orientation in their work, thereby contributing to the blurring of boundaries themselves. This boundary blurring may ultimately lead to altered journalistic roles (Belair-Gagnon, Zamith, and Holton 2020; Hanusch and Tandoc 2017). The Distant Service Provider adopts a passive role, often working in isolation from journalists. This type can be found in more traditional news organizations and Public Service Media, where journalists retain citizen orientation and more strongly engage in the protection of their profession’s boundaries.

The combination of boundary work and journalistic role orientations as conceptual lenses proved to be a fruitful approach to scrutinize how analytics experts and journalists negotiate their professional boundaries, revealing the dynamics of their interactions within different organizational settings. However, this typology is neither exhaustive nor universally applicable and may be influenced by social and cultural context as well as the media system (Dollah and Tandoc 2022; Hanitzsch et al. 2011). Financial constraints, especially in transitional media systems, may even amplify the role of analytics experts from Demanding Reformers to key decision makers (Elsheikh, Jackson, and Jebriil 2024). Conversely, state support or (anticipated) interference may diminish their role in newsrooms (Allam and Hollifield 2023). However, in the context of the audience turn in journalism, this conceptualization offers a framework for understanding the dynamics between these roles and provides a foundation for further research into media production (Costera Meijer 2020).

This paper contributes a novel approach to the field of analytics-related roles by examining both analytics experts and journalists within the same organizational context. However, it is important to acknowledge that the interviews reflect the narrated role orientation and perceptions rather than practiced roles and enactment. This qualifies the results as approximation rather than an exact representation (Hanitzsch and Vos 2017). Moving forward, observational approaches could help explore if and how the types play out in everyday newsroom settings, shedding light on how new and altered role orientations translate into processes and content.

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