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Understanding Stakeholder Feedback in Digital Contexts

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This article uses adaptive structuration theory to understand how employees use digital technology to communicate externally and how they respond to stakeholder feedback in the form of digital analytics. Extant research often overlooks how stakeholder feedback is incorporated into employees' day-to-day work. By focusing on employees' perception of work routines, this research asks whether increased access to task-related feedback enhances or detracts from routines. Growing availability of and access to digital analytics contributes to the assumption that incorporating feedback from key audiences increases future work efficacy. Using interview data from large, multinational organizations, findings demonstrate that information communication technology, managerial pressure, and organizational norms can inhibit feedback loops that enable adaptive structuration. Integrating analytics provides a means for employees to implement thoughtful external communication. Yet due to structural and cultural factors, employees are often unable to fully use feedback gathered from analytics and make improvements for engaging stakeholders.

Keywords: adaptive structuration theory, digital analytics, routines, external stakeholders, information communication technology

It is common to have employees who are responsible for managing communication with external stakeholders in contemporary large multinational organizations. These employees are often in corporate communication roles where information communication technology (ICT) is used to manage day-to-day external communication. ICTs generate digital analytics and metrics that can be analyzed to communicate and manage relationships. Digital analytics are aggregated measures that can help an employee to understand the efficacy of communication efforts with analytics software purporting to deliver synthesized or at-a-glance information; metrics are specific measurements that summarize analytics. Employees in corporate communication roles are expected to engage external stakeholders and evaluate the success of their interactions through datapoints from a multitude of sources (Kingsnorth, 2019). Although there are often large volumes of data, it is unclear whether they provide information relevant to improve work routines (Järvinen & Karjaluoto, 2015) or simply overwhelm employees through information overload.

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Digital analytics are an increasingly critical component of external communication, but integration of complex data analytics into work routines is not well understood (Carpenter & Lertpratchya, 2016) and presents important questions for organizational scholarship (Lee, 2018). To address these questions, adaptive structuration theory (AST) is used to examine employee use of ICTs to gather feedback from stakeholders in the form of digital analytics (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990). Recent research points to the importance of digital cues as a means of feedback (Hayes, Carr, & Wohn, 2016; Sumner, Hayes, Carr, & Wohn, 2020). Thus, this study examines corporate communication employees managing external communication and focuses on employee routines using analytics through the framework of AST to better understand feedback processes.

Literature Review

Adaptive Structuration Theory as a Basis for Examining Feedback

AST focuses on the complex dynamics of social structures that emerge within organizations as employees interact with one another, as well as how those social structures coevolve through ICTs. AST is rooted in structuration theory (Giddens, 1979), which explores the creation and replication of social systems through structure and agents. The important differentiation of AST from structuration theory is that AST emphasizes communicative interactions using ICTs together with the structure and routines of employees and their work; the theory considers the communication dynamics and fluctuations of relationships of those dynamics to affect outcomes and adapt rules and norms to accomplish goals (Poole & DeSanctis, 1989). Human communication behavior, norms, and expectations evolve iteratively because of feedback from those within the cyclical loop of communication (DeSanctis & Poole, 1994). AST does acknowledge the complexity of technologies in the adaptive process of structuration, but DeSanctis and Poole (1990) conceptualize feedback as human-focused and define it as any point within the communication cycle at which the sender and receiver may learn about the expectations, perceptions, and intentions of one another. AST is a lens to understand the way in which feedback through technology can impact organizational structures based on interaction between employees and with analytics and metrics (Ostroff & Bowen, 2016).

Following AST, norms and repeat behaviors form when employees interact through and with a given ICT, and those norms and behaviors then impact future communication. For example, an employee may interact with a customer online by responding to a review on a website, setting the norm that communication may occur in the future. Responses shape future behaviors and lead to new routines. Internally, this occurs when employees adapt their day-to-day communication routines to insights received through digital analytics. Adaptation may include developing new patterns for external communication by shifting communication from one platform to another based on feedback. New routines are created by technology but are simultaneously interwoven with that technology (Barrett, 2018), and employees and their stakeholders thus come to understand one another's behavior and develop expectations through the feedback occurring through the technology.

The Feedback Process

Feedback is a necessary part of AST. Feedback is defined as information returned to the sender from the receiver regarding receiver perceptions of the communication and resulting expectations

(DeSanctis & Poole, 1990). One way the feedback process is conceptualized in the modern era is through digital signals (Sumner et al., 2020); digital analytics such as "likes" on Facebook are a form of feedback that can impact future routines. Feedback can be seen as occurring through certain sociomaterial structures (Cecez-Kecmanovic, Galliers, Henfridsson, Newell, & Vidgen, 2004), such as digital analytics reporting provided by ICTs. Then, this feedback must be taken into consideration for information-rich decisions to be made about changes in organizational processes (DeSanctis & Poole, 1994), including future external organizational communication. Namely, the sender must receive the feedback, understand the cues imbued within it, and use that knowledge in future communication.

Digital cues and signals can be viewed as a part of feedback loops within AST (Barrett, 2018; Hayes et al., 2016). Communication processes are likely to change because of the use of ICTs, but the way in which those ICTs are used is changeable—meaning that users of an ICT can appropriate or "hack" original features to better accommodate their specific working tasks and needs (Barrett, 2018). When this happens, technologies evolve and their understood uses evolve as well (Chinedu et al., 2014). Feedback loops are therefore a central process for organizations that are increasingly reliant on digital analytics as a means of understanding interaction.

AST and Large Multinational Organizations

The perceptions of the role of ICTs affect how employees within an organization apply ICT in their work routines. AST focuses on ICTs and organizing and examines processes such as how routines in administrative and training tasks between human resources personnel and employees have used digital management systems (Turner, Morris, & Atamenwan, 2019). AST examines the interaction between the employee and the technology and brings to light the routines that emerge considering the intended use of a given artifact of technology (Barrett, 2018; Schmitz et al., 2016). AST research often neglects the employee's response to feedback received from loops in the communication process.

AST has traditionally been applied in the context of teams, but recent work extends this to external contexts (e.g., Sumner et al., 2020). The complexity of ICTs in already complex work environments can impact the way organizational actors interact with external stakeholders (Greenhalgh & Stones, 2010). Furthermore, the swift-moving nature of ICT development has the potential to outpace the capabilities of the organization to absorb all its functions and uses (Cao, Mohan, Ramesh, & Sarkar, 2013). As a result, it is unclear how employees in external communication roles may use ICTs and/or more traditional methods to gather and integrate external stakeholder feedback. Thus, the following research question is proposed:

RQ1: How do employees integrate feedback into their day-to-day work routines?

Human Relationships Through Technology

AST emphasizes communication between employees as they interact with ICTs, rather than emphasizing the artifact of technology or the content of communication. This frames technology as a feature of the process rather than as an endpoint. Recent efforts emphasize the need to understand how people collectively make sense of analytics and metrics generated by digital platforms (e.g., Dennis, Clay, & Ko, 2017; Zamith, Belair-Gagnon, & Lewis, 2019), as opposed to examining the analytics and metrics themselves.

For positive relationships to develop in organizational communication processes, symmetrical communication must occur between employees and their alters, and both must listen and respond (Argyris & Monu, 2015; Morsing & Schultz, 2006). For instance, external stakeholders are more likely to attempt to engage positively online if they feel they are being heard and that their feedback leads to appropriate adaptations (Askay, 2011). For employees to listen to and employ feedback from stakeholders, they generally must feel that the feedback has inherent value (Anseel, Beatty, Shen, Lievens, & Sackett, 2015; Turner et al., 2019). To understand how feedback is incorporated into day-to-day routines, this research examines the way in which employees place value on feedback—such as digital metrics—that is received from external stakeholders, as outlined in the following research question:

RQ2: How do employees value feedback in their day-to-day routines?

Perceptions of ICT Use as a Function of AST

It is important to understand how employees understand their use of ICTs and how that use is integrated within the flow of additional job functions as part of the day-to-day routine of work (Van Wart, Roman, Wang, & Liu, 2017). Employees use ICTs with varied aims and goals (Chin, Gopal, & Salisbury, 1997), resulting in a variety of routines. This routinization of ICT use is central to the development of new structures. Therefore, it is important to understand the barriers that may inhibit structuration processes, as postulated in the following research question focusing on feedback received specifically from external sources:

RQ3: What obstacles prevent employees from adapting to feedback from external sources?

ICTs, Changing Audiences, and Structures

Due to the availability of ICTs as a means of sending and receiving digital messages, as well as the increased agency afforded to ICT users, employees must adapt to increased fragmentation in day-to-day job roles. There are more options available for engaging with others, and employees often navigate through a process of bricolage whereby they experiment with various communication platforms and use feedback to gauge success (Johri, 2011). Indeed, as employees engage with more ICTs, they often face the challenge of multicommunicating (Reinsch, Turner, & Tinsley, 2008), navigating simultaneous mediums while interacting in day-to-day work. It is unclear how employees manage feedback in contexts where they face situations of information overload, specifically when interfacing with digital analytics. The increasing complexity of these jobs may create added stressors that impact employees' ability to manage feedback (Leiter, 2017). This relationship is explored in the following research question:

RQ4: How does information overload impact employees' ability to integrate feedback into their day-to-day work routines?

Modern employees often use newly released ICTs to facilitate relationships (Wei, Thurasamy, & Popa, 2018). Furthermore, scholars agree that for a technological relationship to occur successfully both the technology and the audience in which it is implemented must simultaneously adapt to one another (Morris & Atamenwan, 2019).

Methods

Interviews were used to glean a better understanding of the relationship between digital analytics feedback and employees' perceived understanding of stakeholders, as well as the use of analytics as a practice within employees' day-to-day work routines.

Digital Content Marketing as a Case Study

Digital content marketing is used as a specific case study of external corporate communication processes. Scholars define digital content marketing (DCM) as a goal-oriented form of external communication, wherein "the management process responsible for identifying, anticipating, and satisfying customer requirements profitably" through digital communication occurs (Rowley, 2008, p. 522). DCM is a useful strategy for engaging with external audiences via ICTs in sales contexts, keeping their attention, and nurturing intentions to take strategic action (Ashley & Tuten, 2015). Effective DCM garners the attention of external stakeholders and can help in establishing trust between communicator and audience (Duhon, 2015), as well as increasing stakeholder loyalty (Wang, Malthouse, Calder, & Uzunoglu, 2019). External stakeholders typically build a multifaceted relationship with the organization over time. For example, external stakeholders may follow the organization's social media accounts, receive regular emails, or have a personal relationship with specific members of the organization. The goal is for the organization to encourage the external stakeholders to engage in desired behavior for the organization; this could involve becoming a customer, visiting a website, or becoming a brand ambassador.

Content for DCM is diverse and can include open-access efforts such as blogs and emails, and "gated" (requiring contact information to access) content such as e-books, white papers, toolkits, social media, prerecorded videos, and webinars (Wang, Malthouse, Calder, & Uzunoglu, 2019). DCM has roots in the growing self-service behavior of online consumers (Grönroos, Heinonen, Isoniemi, & Lindholm, 2000; Rezabakhsh, Bornemann, Hansen, & Schrader, 2006). According to McCoy (2021), DCM is projected to be worth over $412 billion in 2021.

The DCM sector was selected for this study because employees working within this industry are in a growing field of technically skilled employees whose primary day-to-day responsibilities include cyclical external communication. Further, employees in these job roles often rely on digital analytics for measurement and evaluation. As such, DCM provides a collective example of a growing career path and skill set within modern organizations that connects with the core tenets of AST, that is, needing to interact, iterate, and adapt to changing technology, and navigate meaning with external stakeholders, as well as establish and evaluate new routines as a result of the use of ICTs. Resultantly, the aforementioned research questions represent a means to inquire as to how AST plays a role in DCM as a case study of a job function and growing career field that fundamentally relies on ICT use.

Participant Sample

Participants were recruited through convenience sampling via professional network of the authors and were only invited to participate if they had notable expertise in DCM through tenure, job experience, and role responsibility. Each participant had a minimum five years of relevant industry experience. Interviewees included a wide variety of market sectors and organizations (see Table 1). Due to the nature

of convenience sampling through personal networks, this participant data favors the authors' career trajectories (technology-forward organizations located in large U.S. cities), though participants themselves represent a wide array of experiences and market sectors collectively.

Table 1. Interview Participants.

ID	Seniority	Department	Market Sector
1	Executive	Marketing	Software
2	Midlevel	Marketing	Healthcare
3	Midlevel	Analytics	Wellness
4	Senior	Demand Generation	Entertainment
5	Senior	Marketing	Agency
6	Senior	Marketing	Consulting
7	Midlevel	Communication	Agency
8	Executive	Marketing	Pharmaceutical
9	Senior	Marketing	Sporting Goods
10	Senior	Marketing	Consumer Packaged Goods
11	Midlevel	Public Relations	Consumer Packaged Goods
12	Senior	Marketing	Pharmaceutical
13	Midlevel	Marketing	Healthcare
14	Executive	Demand Generation	Software
15	Senior	Marketing	Software
16	Midlevel	Marketing	Consulting
17	Midlevel	Marketing	Consulting
18	Midlevel	Marketing	Sporting Goods

Data Collection and Analysis

Semistructured phone interviews of 30–90 minutes were conducted with 18 digital participants. In total, 19 hours of data were collected. Phone interviewing can be advantageous due to the ability to work with participants in diverse locations, mitigate costs, and access difficult-to-reach populations (Drabble, Trocki, Salcedo, Walker, & Korcha, 2016). There are also methodological strengths: perceived anonymity, privacy for respondents, and reduced distraction (Cachia & Millward, 2011; Lechuga, 2012). Participants received a $10 Amazon gift card upon completion of the interview.

Participants were asked a series of questions to understand their role and cultural norms within their organization (e.g., "Do you feel your direct manager knows what you do?") and how they define the success of a communications effort using digital analytics (e.g., "How do you use analytics to decide if an effort was successful or unsuccessful?"). Participants were also asked questions about managerial involvement in the communication process and routines regarding analyzing digital reports (e.g., "How much time do you have before and following a communication effort to analyze analytics results or conduct preliminary research?"). Lastly, participants were asked to explain the influence of digital analytics on future efforts, if any (e.g., "Do favorable digital metrics play a role in the evolution of your role and future routines?").

Data analysis focused on a two-cycle iterative process to code emergent themes from the data. First-cycle coding included structural and descriptive codes, second-cycle coding included initial categorization of codes based on similar themes, and third-cycle coding focused on creating umbrella categorizations based on themes and connections to the theoretical framework (Saldaña, 2015). Because of the length and number of interviews, this coding process was implemented to organize transcript data, create categories, and further examine those categories based on overarching themes. All interviews were recorded using Google Voice, exported as audio files, and transcribed, resulting in 208 pages of text.

Results

Capturing External Communication Feedback

Interviewees noted ways in which they captured and integrated digital analytics into their day-to-day routines (RQ_1). When asked about the digital metrics collected, interviewees referenced industry understandings of the meaning of metrics and a taken-for-grantedness. Participant 4 stated:

> We have every type of digital analytic data available from where and when they entered our own proprietary website, where they came from, what it is they clicked where they came from, and in the interest of time marketers put together a puzzle of what those actions mean and how to target them next.

Multiple interviewees shared similar examples in which a digital metric was understood to be indicative of desirable human behavior such as showing interest (e.g., visiting a landing page, inputting personal information into a form, following on social media). In part, this shows how employees develop a routine of interpreting feedback such as clicks to convey a certain type of meaning from external stakeholders. This interpretation is the foundation of how they subsequently integrate the data feedback they are receiving into day-to-day work routines.

Metrics are most often located on the back end of a communication system or via a user dashboard of an ICT.[1] For instance, one well-known platform, Salesforce, provides the employee with analytics and metrics to measure interactions with external stakeholders (see Figure 1). Oftentimes several metrics are collected through different ICT dashboards and combined by external communication professionals as an overall understanding of the behavior of the audience. For instance, industry-established metrics such as a website visit, time on-site, pages per visit, and bounce rate were understood to collectively speak to an external stakeholder's "engagement" with content.[2] This digital analytic feedback is then integrated by being

[1] The backend or user dashboard refers to a subsection of a given ICT interface that a user is able to sign in to and then access user-specific data and measures. In the context of metric or analytics-based ICT platforms, the back-end dashboard is the area in which the external communication professional will have access to audience-related information such a web activity or online user behavior.

[2] Website visits (when a user visits a web property), time-on-site (how long a user spent on the web property in seconds/minutes), pages per visit (how many individual URLs a user visited when visiting one web property), and bounce rate (the percentage of visitors to a particular website who navigate away from the

recorded in the form of weekly, monthly, or campaign-relevant reports that are often maintained as spreadsheets or PowerPoints and used to share performance updates within the organization. Metrics from these reports may be provided primarily for other employees or supervisors to read, but on many occasions, relevant metrics are extracted and added to larger reports that capture unit-level activity or overarching business goals. This illustrates how metrics become a report and, as such, a summation of information that has become part of the organization's routinization.

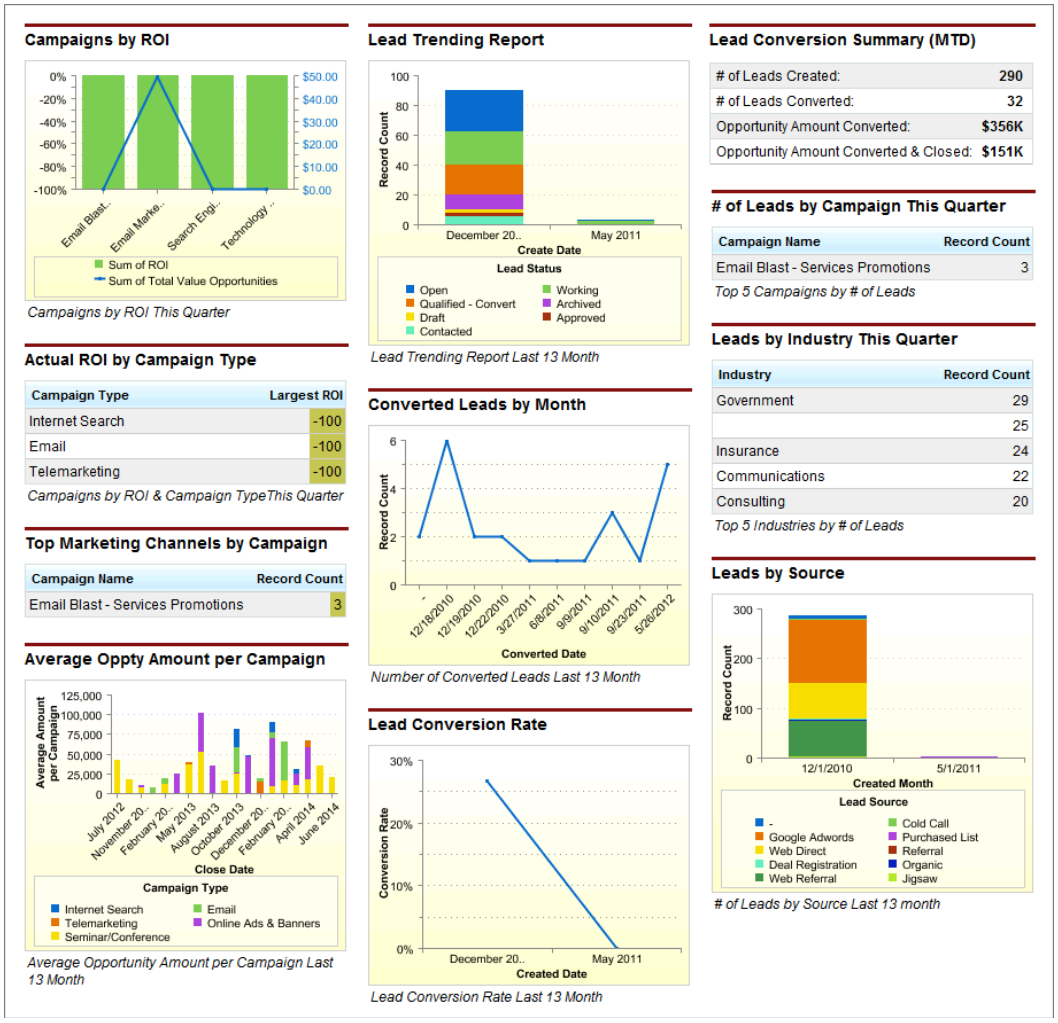

Figure 1. Salesforce dashboard displaying a variety of digital analytics gathered by the platform.

site after viewing only one page) are commonly used audience digital metrics in which external communicators may evaluate the success or engagement with external stakeholders.

The Value of Digital Analytics Feedback to Employees and Leadership

Interviewees shared their perceptions that feedback has value. Yet there was variation in terms of the extent to which interviewees believed in the importance of the feedback (RQ_2). Digital analytics and metrics are particularly valuable to employees if those data convey that the communication effort was successful. Interviewees noted that success in terms of a particular metric could change future actions when engaging with external stakeholders. However, digital feedback in the form of analytics alone was not enough to truly understand feedback coming from external stakeholders. The discussion among participants showed that using analytics as a sole source of feedback posed the risk of making false equivalencies between digital stakeholder metrics and what stakeholders intend to communicate (e.g., truly equating clicking a link in an email with being meaningfully interested in the product or service offering). To fully capture external communication efforts, a combination of data points was needed on the part of employees in addition to explicit stakeholder feedback (e.g., surveys, focus groups, and interviews). This combination of digital metrics paired with explicit, and often qualitative, stakeholder feedback was preferred but not always available.

Participants noted digital analytics and metrics were integrated as feedback because they were generally easy to obtain but felt that analytics and metrics were not being used for their intended purpose. When participants discussed the value (RQ_2) they found in digital analytics they often referenced real-time information, Participant 8 explained:

> Digital communication is a new world because we are so much surer about when things happened. Before, when someone viewed an advertisement or an in-home piece of marketing, we might know that they saw the communication and made a purchase, but we don't usually know how long it took for that to happen.

This highlights how metrics convey value in that they help illuminate what (and when) actions were taken by an external stakeholder as a result of external communication efforts. This quote echoes the sentiment of other interviewees that digital analytics provide a timely value-added solution to previous measurement challenges. For example, although a survey or focus group may provide valuable nuance as to why a campaign did not reach desired levels of engagement, participants would also know that the campaign was unsuccessful based on feedback obtained through digital real-time analytics. In contrast, the ability to glean long-term best practices and preferences was often unclear from digital metrics via ICTs alone, despite their technological advantages.

Digital Analytics Analysis as Crucial to Job Function

The day-to-day work of employees in DCM is one that requires the management of multiple ICT systems and overlapping routines. Feedback was a key part of the communication routine in terms of the structure created by feedback loops for reducing the volume of communication and focusing future efforts. Through the analysis of the interviews, it was clear that though there was some doubt about the efficacy of digital analytics, participants found that analytics provided value in that they helped to create effective routines as compared with the routines that existed in the absence of analytics (RQ_2). However, the fast-

paced reality of day-to-day work had a significant impact on the ability of employees to learn more about external audiences before initiating communication (RQ_3). The multilayered demands and expectations placed on employees working in DCM roles meant that even when metrics were highly valued, employees were not always able to use them to their full potential (RQ_3). Participants also noted that focus groups, surveys, and interviews were often unviable due to cost (one participant shared that focus groups can cost "upwards of $40,000"), and subsequent digital analytics data provided the clearest method of examining communication feedback. Participants noted that the routinization of digital analytics and metrics as a primary method for evaluation was frustrating for several reasons, with Participant 3 stating (RQ_1), "The (implication) is that our dashboards and our analytics are a substitute for (human) sentiment because they aggregate the behaviors of our customers. But I'm often unconvinced that our metrics are a 1:1 for how our audiences feel."

Time was also a constraint (RQ_3). For participants who expressed faith in the value of digital analytics as a means of feedback, they felt a need for added time to assemble those metrics and analyze them without pressure to move immediately to the next task. Participant 1 shared the following:

> The inability to analyze metrics and data is an issue because content marketing is cyclical. You need to be able to understand why something didn't work to optimize and want to change what comes next or what you create next. So sometimes there just isn't time, or time isn't valued, or there aren't resources allocated. Then the organization suffers.

Because external communicators are often not able to take advantage of the metrics in what they felt was a thoughtful manner, they subsequently felt they were not able to successfully iterate to better communicate with their stakeholders digitally (RQ_3).

Obstacles to Digital Analytics Feedback Use in Practice

Interviewees were asked a series of questions to enable the researchers to more fully understand obstacles that occur in the analysis of digital analytics and aspects of organizational culture that would inhibit or prevent structuration processes (RQ_3).

Lack of Senior Leadership Confidence

Employees perceived that management did not have a high degree of confidence in the value of digital analytics feedback. This resulted in a perception that digital analytics and metrics were not valued as part of the day-to-day routine of decision making. To overcome this obstacle, participants noted it was necessary to demonstrate that digital analytics allowed them to usefully capture the interests and expectations of their external stakeholders, and that digital analytics translated those findings into specific measurable data. Employees used digital analytics and metrics to demonstrate to internal team members how feedback from external stakeholders indicates preferences. Unfortunately, this task was often in addition to their other job functions, so employees often used this digital feedback less than they would have liked given how integrated metrics and analytics are in their day-to-day routines. As Participant 12 shared:

> Although we had all these analytics and metrics available to us, because this data was not valued explicitly or implicitly by senior management, it often meant that I generated large amounts of content and was only able to take a cursory glance at comments on social media as a form of feedback.

A lack of consensus about the utility of analytics on the part of team members and managers meant that external feedback was not always fully used. Although an employee who communicates externally may value digital analytics as feedback, utilization and integration may remain an obstacle if leadership doubts the value. However, when external communicators were able to successfully make their case in favor of digital analytics, leadership bought into a connection between external stakeholder digital behavior and analytics and then would be open to the idea of more advanced external communication campaigns. Participant 17 shared:

> While it was often annoying to go through the back-and-forth of proving *why* certain analytics mattered, sometimes, eventually, it did lead to changes on my team or with my boss. For example, I managed to convince my boss that the real sign that an email was effective wasn't if the person read the email, but whether they clicked the link in the email, taking them to where we wanted them to go. From there, we started seeing everything as whether the person took action, which changed how we thought as a department.

The requirement of proving the value of feedback to routinize the behavior can be understood through AST. For structuration to occur, organizational buy-in must also occur. For participants hired in the role of DCM, it was frustrating that the organization would have a role that was not yet fully trusted and placed the onus on participants to prove value. This creates a structuration lag and inhibits feedback loops. Ultimately, participants widely acknowledged that the additional labor of "executive buy-in" was necessary for the use of digital analytics to be welcomed within the organization, and that doing so took considerable time away from other job priorities. Participant 16 shared:

> As a consultant, I am always starting fresh with clients, who may have varying degrees of comfort with digital analytics and knowledge about the connection between digital behavior and the success of their organization. If I learn that confidence in digital metrics is low, then I must spend a considerable amount of time, and client fees, building that confidence before I am able to truly do what I was hired for.

In this way, we can also understand that confidence and organizational value of digital analytics became an additional element to integrating this feedback into employees' daily routines (RQ_2).

Lack of Senior Leadership Confidence

The analysis of the conversations with external communication professionals revealed that a lack of time and capacity in day-to-day work routines was a factor that affected both pre- and postcampaign evaluation of external stakeholders (RQ_3). Information overload emerged as a relevant factor, which acted as a specific type of obstacle. Regarding postcampaign evaluation, Participant 10 remarked:

> Frankly, we don't have the time and the resources to go, "Well, why did that work?" Because we've got another new product already and another new trade show, and so we're usually constantly chasing the shiny new toy. There has never been time to really analyze why something didn't work.

The quote illustrates how time and bandwidth emerge as significant roadblocks in the day-to-day routines of employees about the ongoing integration of digital analytics and metrics feedback into the routine of the job. Participants understood that they had much to gain from learning more about external stakeholders before a campaign, as well as furthering understanding after a campaign was completed, but that was difficult given their expected output, as well as the vastness of analytics available. When an external communication campaign was successful, participants expressed that they might not be able to spend enough time understanding why due to pressure to prioritize predetermined key performance indicators for their role.

Capacity and Day-to-Day Routines

Time constraints and the fire hose of information provided by ICTs created conditions under which participants were unable to proactively solicit new digital feedback; instead, they relied on passive feedback that they had integrated into previous reports. In addition, employees minimized data-collection efforts because of constraints put in place by the organization structure (RQ_3). Subordinates often felt the pressures of routinized behaviors in pursuit of familiar metrics, forgoing a long-term outlook. Finally, participants observed that although analysis could also include human-centered feedback such as a survey, interviews, or focus groups, these practices were usually out of scope and difficult to garner approval for within the structure of organizations. Digital metrics provided a low-cost mechanism for feedback and created a routine that aligned with existing structures in organizations.

Emphasis on the Status Quo

Participants expressed pressure to maintain constant and consistent production of external communication even when digital metrics suggested that more focused communication efforts may yield more effective results (RQ_3). Employees referred to a "content churn," which occurs when external communication efforts are launched in succession but are not refined with digital feedback. Further, employees noted a hesitation on the part of leadership to embrace the output of digital analytics and a tendency to revert to traditional routines that prioritize volume while not stressing the quality of the communication effort. This structure of hesitation, followed by the additional external communication produced by the employee, served as another inhibitor of new structuration processes and responsive iterations.

Information Overload and Organizational Complexity

A central point for exploration was an examination of how employees thought they were able to incorporate feedback into their work in complex organizational situations and in contexts where they were experiencing information overload (RQ_4). Findings from this study reveal that participants often found that the quantity of ICTs and the volume of digital analytics and metrics available meant that quick decisions had to be made about which metrics to focus on and which were strong enough to highlight among

departmental (managers) and organizational (C-suite) decision makers. Due to job role constraints, including time, employees felt pressured to move from one task to the next, provide the same types of results, and not to spend additional time on analysis. These pressures echo industry findings of high turnover and burnout (Leiter, 2017).

Participants shared that they attempted to circumvent these obstacles by focusing on the most critical metrics and crafting external communication in a way that enhanced the performance of that metric. In other words, a metric was selected that the participant felt best spoke to organizational goals, and communication was designed to enhance value. This situation created variance of opinion among participants as to whether to measure results based on perceived key metrics or to measure based on the metric most closely tied to organizational performance. To employees, this meant understanding that different actors within the organization have different values for external communication as a practice. The negative impact of this strategy is that it did not alleviate burnout or information overload within roles, and it often forced employees to focus on even more analytics and metrics.

Discussion

This discussion distills the findings from the interviews to refine the impact in the context of adaptive structuration processes, and it further examines the process external communication processes. As a qualitative study, this discussion aims to highlight the nuanced lived experiences of the participants.

Feedback, Digital Analytics and Metrics, and Emerging Structures

The second research question asked how employees integrate feedback into their day-to-day work routine. As posited in the framework for AST, when advanced ICTs are used for communication purposes, those ICTs inherently bring with them social structures that "enable and constrain interaction" (DeSanctis & Poole, 1994, p. 125). For example, whereas some metrics are easy to measure (e.g., time-on-site, likes, replies), other metrics such as sentiment and attitudes are more difficult or impossible altogether to capture with ICTs due to complexity. Because analytics and metrics were easy to aggregate, these analytics enabled accelerated feedback loops and led to an increased pace of interaction with external stakeholders. This proved to be a double-edged sword because what was gained in availability was simultaneously constrained because the feedback did not include the full nuance felt or intended by stakeholders. Furthermore, the volume of feedback provided by digital analytics through ICTs could feel like metaphorically drinking from a fire hose, with too much information to integrate and iterate.

In the face of accelerating feedback loops, participants created structure that sought to best use digital analytics data, especially considering the dearth of qualitative forms of stakeholder feedback (e.g., interviews, focus groups). Although structures were created, the lack of balance between digital analytics feedback and other forms of feedback was exacerbated because of organizational restraints such as budget or organizational hierarchy. The analytics and metrics enabled by ICTs used in the external communication process represent what is described in adaptive structuration as structural features (DeSanctis & Poole, 1994, p. 126), or features inherent to the technologies, that impact the structuration. Employees adapted

to the constraints of both their organization and the constraints of the features of the ICT feedback while still attempting to structurate toward positive feedback loops.

Participants shared the value of having the collected digital analytic feedback being available in real time (RQ_2). AST posits that the structuration between key actors is often in flux and evolves as norms and expectations change (DeSanctis & Poole, 1994). Digital metrics and can be seen as a critical technological intermediary, in that the iterative feedback serves to enhance the external communication structures that exist and to reinforce an increased speed of interaction. However, although the ICTs provided real-time digital feedback data, the norms of employees' day-to-day work with the data did not always align. For example, hourly metrics and digital analytics feedback were not always useful because the employee's bandwidth was too constrained to allow meaningful response (RQ_4). The creation of weekly or monthly routines that filter metrics represent structures of resistance to the speed of iteration that developed in working with digital analytics. Yet the speed of feedback, even with weekly or monthly routines, shaped the nature of routine tasks and led to a faster pace of iteration in ongoing external communication efforts. These factors ultimately contributed to participants feeling that their external communication was facilitated by the ICT, but routines were established that limited the immediate impact of the nature of digital metrics and highlight how these two structures impacted one another. This study demonstrates that the increased pace of feedback created tension at the employee level, and as a result, employees worked to subvert and negotiate new work structures.

Manipulating Digital Analytic Feedback Value Within an Organization

The third research question asked how senior leaders' framing of digital analytics impacts perceptions of feedback across a given organization. Participants pointed out that data are valued in relation to the established routines of a given organization. For example, if the organization has prioritized online form completion by their target audience, decision makers may hyperfocus on that one metric while forgoing others that contribute to the behavior, or they may allow only for adequate analysis surrounding that singular audience behavior. This speaks to AST in the constraint of the social norms within the organizational and employee practice (DeSanctis & Poole, 1994), which may subsequently further constrain as well as modify the give and take of feedback and understanding between stakeholder and organization.

Layered perceptions of digital analytics and metrics as feedback further illustrate the process of signification as part of adaptive structuration, wherein employees attempt to understand the meanings and intentions of communication received from stakeholders by first understanding the meanings embedded within the functions of the technology (DeSanctis & Poole, 1994, p. 126). In the present analysis, employees as intermediaries add another layer of complexity, understanding, and meaning making that can impact feedback and adaptive structuration. For example, the employee managing external organizational communication finds herself as the interlocutor between the external stakeholder and organizational leadership (RQ_3). Although the intention may be to iterate and adapt in ways that lead to structuration for the benefit of all parties, the tension of satisfying everyone, as well as fully grasping the technological structures of each digital platform, renders the process more difficult.

Participants shared that the most valued data within organizations were revenue-related, and thus one obstacle of feedback that was unrelated to revenue streams is that it was often pushed to the wayside

(RQ_3). For this reason, employees measuring external communication efforts, wherein they also prioritized leadership preferences, preferred metrics in their reporting to remain aligned with those within the organization. This decision to choose one source of feedback over another speaks to how actors appropriate metrics in unforeseen or unintended ways; here, the structures established use metrics for a political purpose within the organization as opposed to the designed use of measuring the effectiveness of a communication message. The findings show clear evidence that employees manipulate the interpretation of metrics to construct a narrative advantageous to the individual as an actor within the culture of the organization.

In addition, employee reliance upon digital analytics feedback was unavoidable, particularly because they expressed a need to justify and legitimize communication practice as a function of job role (RQ_2, RQ_3). For work to be viewed as legitimate—and by extension, to legitimize their roles—employees need to be sure that the composition of their job role is clearly understood by their managers, which means communicating the deliverables and information that are most pressing to those around them—and relegating audience needs to second priority. This served as another obstacle to both legitimize feedback for themselves and the organization (which in turn influences how participants valued the feedback) and integrate feedback in the context of day-to-day work (RQ_1, RQ_2, RQ_3).

Balancing Multiple Audiences

Theoretically, this phenomenon can be understood through AST's spirit of technology (DeSanctis & Poole, 1994) which is reflected in understanding how employees use metrics to serve different goals within the organization. The use of the ICTs inherently privilege members of a particular group, those that hold decision-making power. And in doing so, supervisory priorities impact the experience of the technology for both the implementing the employee and the external stakeholder, because the technology is specifically being used in accordance with the preferences of leadership. Leaders have responsibility for setting the goal of employee activity and thus directly influence the type of digital analytics feedback valued (RQ_2). Management has considerable control over the process. This relates to the spirit of the technology in how creators of ICTs design analytics and metrics to be available specifically for organizational use.

Obstacles, Pressures, and Inhibitors of the AST Process

Additional obstacles may inhibit adaptive structuration in the context of employees who communicate externally and use digital analytics and metrics as feedback (RQ_3). Once the complexities of employees who communicate externally are fully understood as well as the value of that communication being clearly communicated within the organization, we see that these complexities are overlaid further with additional variables and challenges stemming from culture, the ICT, and the job role itself. By trying to please both audiences (leaders and external audiences), employees who communicate externally also grapple with a lack of time, an overabundance of data (RQ_4), a discrepancy of participant and senior leadership confidence in the value of some forms of digital analytics feedback, and the pressure to be constantly producing within their job duties (RQ_3).

Although it is common for modern employees to be expected to overdeliver and constantly prove their output capabilities (Vagg & Spielberger, 1998), this does not always occur in tandem with emerging

communication practice. Because data analytics are still finding place and value within organizations, employees must both advocate for their work and its value and continue to produce at a rapid pace (RQ_3).

Complex Situations and Information Overload

The abundance of ICTs, each with their own corresponding digital analytics data, means that employees do not have the luxury of using all feedback from their stakeholders (RQ_1, RQ_3). This results in quick decisions being made to capture results and move forward with a heavy workload. When quick decisions must be made repeatedly, routines are more likely to occur to prioritize efficiency. The downside to this is that once a digital analytics data metric is perceived as a specific type of stakeholder feedback, it may be perceived that way regardless of the nature of the interaction (RQ_3). If deeper analysis is not conducted due to time constraints or other limitations, miscommunication can occur and may more easily occur repeatedly.

From an AST perspective, the perception of a digital analytics metric as feedback suggests that the spirit (DeSanctis & Poole, 1994) or essence of the technology's role and understanding the intent of the external stakeholders using the technologies may be altered. When external stakeholders provide feedback, either through implied digital behavior or explicit feedback, they may expect the recipients of their feedback to iterate or adapt as a result. When feedback is barely analyzed or analyzed too quickly because of time constraints (RQ_3), the adaptation may not occur, or it may occur so slowly that external stakeholders become frustrated or disinterested in the exchange. This possibility of reductive work process increases when employees feel additional pressure to make quick decisions that align metrics with senior leadership business goals. When this is overlapped with additional job functions as well as an avalanche of digital analytics feedback available in real time, it is easy to see how this situation can foster burnout and information overload.

Conclusion

The findings from this work points to the processes by which structuration between employees and their external stakeholders is inhibited, limited, or changed because of organizational factors and the normalization and reliance upon ICTs for communication. This work establishes a basis for understanding how communication and iteration through technology may be impacted depending on factors such as time, norms, and volume based on information produced through feedback loops.

Limitations

Although digital analytics and metrics are used in many departments and positions within modern organizations (sales, marketing, human resources, product development, etc.), not all employees have a job role that involves external communication, particularly in digital spaces. This study is inherently limited in that it assumes the employee is seeking to better understand an external organizational communication process. The findings from this research are unlikely to carry through to purely internal communication processes because the stakeholder dynamics are quite different. This study is also limited in that it explores one specific type of organizational communication process (digital communication with external stakeholders) and gathers data from digital content marketers, not their stakeholders. The number of interviews was relatively small, and it is clear that more work is needed to explore the nuances of the ways in which digital metrics are impacting organizational

routines. As mentioned earlier, this study used convenience sampling through the authors' professional networks, which should be considered as a generalizability limitation because it does not allow for a representative sample regarding a purposive array of industries and locations. In addition, all participants are American citizens working in the United States, representing a limiting perspective.

Practical Implications

According to *Harvard Business Review* (Waller, 2020), modern organizations aspire to embody a work culture that celebrates data-driven decision making. As this study shows, however, there are obstacles to the development of this type of culture that reach beyond hiring employees who understand and use analytics data as part of their day-to-day routine. A data-driven culture must start at the top, wherein leadership and organizational obstacles are limited in their power to mitigate the positive outcomes of time spent on data analysis and digital insights by employees who communicate externally on behalf of the organization. Specifically, time spent on data analysis may be integrated into work routines as a necessary stepping stone before and after communication implementation. In doing this, organizations seek to benefit a great deal through understanding their external stakeholder audiences more completely and by wasting less budget on irrelevant communication tactics that miss the mark in terms of their stakeholders wants and needs from the organization. In sum, if employees who communicate through ICTs are spending time up-front and having the support to do so, they may be able to avoid inefficient communication cycles and more efficiently adapt their efforts.

Future Research

Future research should examine the relationships between the factors (e.g., time, organizational support, perceptions of stakeholder understanding) suggested to limit AST, provided in this study. For instance, future research could examine the extent to which organizational support of feedback analysis plays a role in the amount of time allotted for employees to understand external stakeholders both before and after ICT-based communication has occurred. Future studies of this nature may incorporate organizational literature on leadership and trust and explore how allowing specialized employees to fully use their skill set may prove a fruitful strategic management effort.

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