Between rules, norms, and shared understandings: How institutional pressures shape the implementation of data-driven communications

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Introduction

Big data and analytics guide digital communications and make communications campaigns more effective (Holtzhausen, 2016), and in 2018, a company using the tagline "Data drives all that we do" shocked the world. Cambridge Analytica apparently developed analytics tools to create psychographic profiles of an estimated 87 million Facebook users (Bruns, 2019). These tools were used to analyze big data that included sensitive information, such as the user's race, and indications of sexual orientation and intelligence levels (Cadwalladr & Graham-Harrison, 2018), and narrowly target these people with 5.9 million highly personalized ads (Rosenberg & Roose, 2019).

Cambridge Analytica demonstrated how data-driven communications, the practice of using data to guide digital communications ("communications" for short hereafter), are an integrated part of the strategic communication process (Mulhern, 2009). We define strategic communication as the use of communications by an organization to "engage in conversations of strategic significance to its goals" (Zerfass et al., 2018). Traditionally, strategic communication was performed through a combination of mass media and more direct channels, such as direct mail (Holtzhausen, 2016). Today, social media and social networks are the most important channels (Macnamara et al., 2021; Meng et al., 2019; Zerfass et al., 2020), and strategic communication increasingly involves the use of analytics processes, such as data analysis and modeling (Wiencierz & Röttger, 2019). Analytics tools can be defined as digital communications technologies (CommTech) that are used "to manage and perform primary activities, particularly stakeholder communications and internal advising, or functional support activities such as managing internal workflows for monitoring, content planning, or evaluation" (Brockhaus et al., 2022, p. 4).

While strategic communication aims to fulfil organizational objectives, institutional forces often define the practice. These forces determine and constrain how, what, when, and to whom

practitioners should communicate (Fredriksson & Pallas, 2015). Furthermore, institutions are re-created through the everyday activities of individuals. Communications professionals engage in daily practices, discover problems or inconsistencies in their work, such as the lack of standards in key metrics across social media platforms, and develop answers to these challenges by theorizing them. They then assign meanings to these theories, like believing certain metrics are unsuitable for comparison between social networks, which are developed and replicated into taken-for-granted understandings (Powell & Colyvas, 2008).

Despite the considerable effects of institutional pressures, no empirical research could be found examining the impacts on data-driven communications at the level of individual practitioners. Instead, various studies investigate institutional forces on adopting and implementing CommTech at the field level (e.g., Dubey et al., 2019; Foltean et al., 2019; Lenz, 2021). Furthermore, numerous papers examine the application of analytics in strategic communication M&E but do not explore the forces affecting its use (Fitzpatrick & Weissman, 2021; Volk & Zerfass, 2021; Wiencierz & Röttger, 2019).

The purpose of this study is to explore institutional pressures influencing the use of data in guiding communications with in-depth interviews through the lens of neo-institutional theory. The paper identifies factors that impact communications and shape the views of Australian practitioners on particular tools in their day-to-day work. Specifically, we show that coercive forces – which oblige professionals to behave in a certain manner and typically expressed by organizations they depend on (Dimaggio & Powell, 1983) – are exerted by analytics tools with potentially undesirable consequences.

This study addresses the significant gap in research and re-evaluates institutional theory in a novel context by examining how institutional forces shape individual interests and desires. The paper advances neo-institutional theory in public relations (PR), strategic communication, and corporate communications at the micro-level. From a practical perspective, the study contributes to

extant research on digitalization in strategic communication by providing new insights into practitioner views and challenges with CommTech.

Literature Review

Neo-institutional theory ("institutional theory" for short hereafter) improves our understanding of strategic communication, and the explanatory power of each institutional pressure leads to new insights and future research (Sandhu, 2009). At the time this paper was written, the most recent institutional theory studies in PR and strategic communication had significant implications for research and practice (e.g., Buhmann & Schoeneborn, 2021; Hou, 2021; Marschlich, 2022). For example, Hou (2021) demonstrated how scholars could amplify the theory's explanatory power by examining the concepts of institutional agency (i.e. an individual's or collective's capacity to act independently and reflectively) and actorhood (i.e. the assumption that organizations operate as collective actors). Additionally, Buhmann and Schoeneborn (2021) extended Hou's article by discussing the consequences of not fully acknowledging organizations as collective actors in institutions. The authors argued that Hou and significant segments of academia and the industry associated agency with organizations operating as single actors, and needed to consider organizations as collective actors created and maintained in and through communication (Buhmann & Schoeneborn, 2021). Furthermore, Marschlich (2022) examined the corporate diplomacy of multinational organizations from a communicative and relationship-oriented perspective and revealed that legitimacy was co-created by the media and its audiences. The research highlighted the role of a country's culture and political system in relation to corporate diplomacy, PR, and the legitimization process (Marschlich, 2022).

M&E with Analytics

Numerous studies examine the implementation of analytics in strategic communication M&E. For example, in a study exploring the potential of using social media analytics in personalized

communications, Wiencierz and Röttger (2019) found it is possible to optimize campaign evaluation, execution, and planning with big data, even though applying it was complex and challenging. Participants indicated that data-based strategic communication was still in its infancy and significant uncertainty existed, and the author argues that practitioners could only travel slowly on the road towards data-driven communications (Wiencierz & Röttger, 2019). Additionally, Volk and Zerfass (2021) examined the use of big data analytics and social media analytics tools and revealed that the technologies were being used more intensively and becoming more important. However, the authors identified a lack of understanding and training in these tools, as two-thirds of practitioners had learned to use them "on the job" (Volk & Zerfass, 2021). Furthermore, Fitzpatrick and Weissman (2021) explored corporate perspectives on social media analytics, and although the technologies were considered essential to measurement, challenges associated with building capacity for these tools inhibited the implementation of measurement frameworks. Analytics tools perform systematic computational data analysis and modeling that enables the discovery and interpretation of meaningful patterns in data for evidence-based decision-making (Gandomi & Haider, 2015).

Institutional Pressures at Field Level

Various papers investigate institutional pressures on adopting and implementing CommTech at the field level. For example, Foltean et al. (2019) discovered that coercive pressures from customers and mimetic pressures from competitors positively influenced the implementation of social media analytics in the manufacturing and services sectors. Furthermore, Dubey et al. (2019) found coercive, normative, and mimetic forces to be positive and beneficial in adopting predictive analytics and building the big data capabilities of manufacturing organizations. In contrast, Lenz (2021) examined the implementation of big data analytics and communications in a hospital and found that practitioners criticized using these technologies in a field with solid normative ethics. According to Dimaggio and Powell (1983, p. 148), a field consists of "groups of distinct but

mutually dependent actors who participate in similar practices and establish an area of institutional life that includes key suppliers, consumers, regulatory agencies, and other actors with similar products or services".

Institutional Pressures at Micro-Level

Also known as Scott's (2008) three-pillar framework, institutional theory is firmly grounded in social constructivism and maintains that people collectively invent their world's properties rather than discovering them (Sandhu, 2009). The three institutional pillars express regulative, normative, and cultural-cognitive elements, and each pillar exerts discrete but interrelated and mutually reinforcing forces that organizations conform to in gaining legitimacy. Showing stakeholders that laws, rules and norms are followed provides a basis for the legitimacy and reputation of practitioners, their organizations, and the entire communications industry (Fredriksson & Pallas, 2015).

Coercive Forces

Scott's (2008) regulative pillar asserts coercive institutional forces by setting rules and monitoring and sanctioning activities. Coercive forces such as laws and rules oblige organizations to behave in a certain manner and are exerted by organizations on which they depend, such as the government (Dimaggio & Powell, 1983). Suppliers could also assert coercive influences, and the greater the level of dependence on a supplier with expertise in a particular function, the greater the supplier's control over the organization (Dimaggio & Powell, 1983). For example, Facebook demonstrates powerful coercive pressures as a supplier through the Facebook News Feed algorithm, which determines if content succeeds or fails in gaining legitimacy on the world's most popular social media network (Caplan & Boyd, 2018).

However, when laws and regulations are sufficiently ambiguous or controversial, they do not provide clear instructions on how organizations should behave and are expressed through normative (norms) and mimetic influences instead (Scott, 2008). For example, when data privacy

laws are confusing, practitioners could be guided by personal values and beliefs when working with sensitive information or imitate the actions of their peers. In order to explore the effects of these forces on data-driven communications, the first research question this study aims to answer is:

Research Question 1 (RQ1): What elements of coercive forces influence the use of data in guiding digital communications?

Normative Forces

Scott's (2008) normative pillar establishes standards, or generally accepted beliefs and facts, and decides the appropriate behavior of professionals. Under institutional theory, decision-making is often guided by the logic of appropriateness, which regulates moral and social standards and does not always result in rational and technically efficient behavior. This logic creates ethical concerns and guides practitioners who perceive them as natural, rightful, expected, and legitimate (March & Olsen, 2004). They could determine specific actions as "the right thing to do" based on personal values and beliefs and attempt to gain legitimacy by doing them (Sandhu, 2009).

Professionalism is an additional normative force that influences practitioners through conferences, seminars, workshops, and professional networks. These influences determine a profession's conditions and methods (Dimaggio & Powell, 1983) and lead to the creation of specialist roles – specialization – and collaboration with data specialists (Meyer & Rowan, 1977). In strategic communication, specialization typically occurs after a body of knowledge is established, and as the discipline develops, diversification and continued specialization of knowledge within the discipline follow (Werder et al., 2018).

Normative forces determine the values and beliefs that guide how work is organized and performed, and are considered the most effective, established, and recognized conduct for practitioners (Fredriksson & Pallas, 2015). For example, while analytics is an established norm for targeting on social media (Bol et al., 2020), profiling and targeting individuals based on

demographic information is considered a significant threat to legitimacy (Zerfass et al., 2020). In order to explore the impacts of these forces on data-driven communications, the second research question of this study is:

Research Question 2 (RQ2): What elements of normative forces influence the use of data in guiding digital communications?

Mimetic Forces

Scott's (2008) cultural-cognitive pillar forms mimetic institutional forces that shape the shared view of reality, common plans, structures, and other symbolic representations guiding professionals. Laws, rules, and norms represent explicit regulations, ideas, and beliefs that professionals must know and follow. However, they also make instinctive and implicit assumptions about their work requirements and achievements (Fredriksson & Pallas, 2015). Practitioners tend to imitate the behavior of other actors they know and trust and are more likely to shape themselves like actors from other organizations when they perceive them as more successful and legitimate. If clear criteria do not exist, they will try doing what their peers did if it was found to work (Galaskiewicz & Wasserman, 1989).

Mimetic forces exist in uncertain environments where new technologies and innovations such as analytics are poorly understood, and organizational objectives are unclear (Dimaggio & Powell, 1983). For example, most organizations using these technologies may observe successful ones to learn how they use them and their opinions on the benefits of data-driven decision-making (Dubey et al., 2019). In general, mimetic forces were found to positively impact the building of skill levels and know-how required to extract relevant management insights from big data (Dubey et al., 2019). In order to explore the effects of these forces on data-driven communications, the third research question of this study is:

Research Question 3 (RQ3): What elements of mimetic forces influence the use of data in guiding digital communications?

Methodology

Design

This study employs a qualitative exploratory approach using in-depth interviews to examine how institutional pressures influence the use of data by individual practitioners. While various quantitative field studies highlight the views, attitudes, and beliefs of professionals and allow for comparisons between one survey to the next or different geographical regions (e.g., Macnamara et al., 2021; Meng et al., 2019; Meng et al., 2021), this paper identifies factors that impact communications and shape practitioner views on particular tools in their day-to-day work.

Participants

The selection criteria for participants (see Table 1) were a minimum of five years of experience, first-hand knowledge, and an understanding of using data to guide communications. These criteria ensured that participants could provide a substantial amount of reliable information to our study. As there is no optimal sample size for qualitative studies, we achieved saturation by selecting individuals across various communications roles who provided many different perspectives (Beitin, 2012). Participants came from a range of commercial and nonprofit organizations in Brisbane, Australia, and although they worked in different roles, their experiences in data-driven communications were the common ground between them. While patterns in the data started to emerge at the 12th interview, we continued until saturation was reached. Therefore, a total of 15 interviews were conducted in this study. Our sample size is comparable to recent studies exploring institutional forces on the implementation of data-driven processes (Lenz, 2021) and information communication technologies (Badiei & Popkova, 2021).

[Insert Table 1 near here]

A purposive sampling strategy (Saunders et al., 2009) was used to recruit participants, including snowballing that commenced with the authors' contacts on LinkedIn. Individuals were sent a personal message inviting them to participate in an audio-recorded interview at their workplace or another agreed location for up to 60 minutes, including information regarding our study's purpose. Also included were sample interview questions, and the recruitment depended on whether the participants believed they could answer them. These questions were: "How did you learn about using data to guide your communications?", "Do you know of any methods and strategies that are considered obvious ways of using data to guide communications?", and "What types of challenges have you had when using data to guide your communications?".

Procedure

The interviews lasted for up to 67 minutes and were face-to-face, excluding one person who chose to be interviewed via Zoom, between November and December 2019. Participants were encouraged to select a location for their interview where they felt comfortable and could express their opinions freely and honestly. Interviews were semi-structured and focused on how participants and their organizations defined and practiced data-driven communications and how they were impacted by and responded to specific conditions in the field. The interview questions also explored the internal and external influences participants believed to have impacted data-driven communications in their organizations. These questions were open and adjusted to fit topics in the conversations, and an interview guide was used to prompt participants about potential areas to discuss. Particular attention was paid to ensuring that participants did not simply present their knowledge and understanding in hypothetical terms but provided examples and made subjective assessments of their experiences. The study was reviewed and conducted within the Australian National Statement on Ethical Conduct in Human Research (2007) guidelines and assigned approval number 1900000912.

Following these guidelines, we removed all personally identifiable information from interview transcripts.

Data Analysis

Reflexive thematic analysis (Braun et al., 2019) was used to analyze, organize, describe, and report themes in the data collected. We identified three themes that present a meaningful and compelling interpretation of the data: Laws, Rules, and Doing the Right Thing; Data Expert Wanted; and Communicators Becoming Data-Wise. Themes that were too diverse or without adequate data to support them were discarded, and the analysis was judged to be complete when no potential new codes or themes could be determined. Thematic analysis includes a recursive and reflexive six-stage approach required for the process to be theoretically and methodologically sound (see Braun et al. 2019 for full description). As Braun et al. (2019) recommended, an analysis report was produced in the final stage connecting strategic communication literature with the results presented in the following section.

Empirical Findings

Laws, Rules, and Doing the Right Thing

This theme (see Figure I) contains coercive forces (RQ1) enforced through laws and rules and includes an ambiguous privacy regulation that influenced participants to behave in a certain manner (Scott, 2008). The theme also includes normative forces (RQ2) determined by the logic of appropriateness, which sets moral and social standards expressed through challenges such as ethical concerns (March & Olsen, 2004).

[Insert Figure I near here]

"Privacy Act 1988" regulates how organizations handle personal and sensitive information for communicating directly with individuals to promote goods and services (Office of the

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Australian Information Commissioner, 2018). However, participants indicated that privacy laws were confusing, and in uncertain environments, practitioners seek to imitate those they perceive as successful and legitimate (Galaskiewicz & Wasserman, 1989). For example, while one participant disclosed, "We don't quite know where the boundaries are, so we tend to get legal advice to make sure that we're protected" (P07, 347-348), another believed that larger agencies were more familiar with privacy regulations:

> If you were talking to a much bigger agency, so say like you know, one that's got like a 50-person headcount, and they've got people who are just doing a lot of these EDM's [electronic direct mail] and things like that, they would be more across that because there are really strict rules around that. So, there's a company here in Brisbane that specialize in doing that email marketing who I use, and I've spoken to them a number of times about what can and can't be done. (P02, 269-274)

The legislation's ambiguity could have also influenced participants to behave appropriately and desirably rather than effectively, as several expressed their desire to "do the right thing" with the data of audiences (March & Olsen, 2004). For example, another stated they did not send emails to individuals on the *ADMA Do Not Mail Register* (P11, 264). However, the purpose of this list is to prevent addressed unsolicited mail from businesses (ADMA, 2021), not email, and the participant was unaware of this. These participants' responses specifically suggest that mimetic and normative elements exist in what is typically considered a coercive force.

"Ethical concerns" included challenges related to providing strict privacy for the data of clients, not sharing data between clients, providing transparency to clients and audiences regarding the purposes data will be used for, using invasive communications techniques, and ensuring consent was obtained for including photographs of individuals in content. Furthermore, recent strategic communication field studies highlighted the ethical concerns of professionals worldwide, and analyzing personal information with analytics was among their most significant challenges (Macnamara et al., 2021; Meng et al., 2021; Zerfass et al., 2020). Participants also expressed a

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strong desire to be ethical when working with data. For example, even though most were not

required to comply with the GDPR (General Data Protection Regulation), they believed being

compliant was "the right thing to do" (March & Olsen, 2004):

> Legally it [the GDPR] doesn't, but ethically it does, and you know in, not only in business but
> also in your life, you've got those two. You know, what can I legally do, what actually should I
> do? You know, so the GDPR laws in Europe are obviously legal restrictions on what you can
> do. But it actually is really good practice, and you know, there's not a lot that we would have to
> do to comply with that level of legislation because it's actually good practice to do a lot of the
> things that they say you should do. (P09, 326-331)

Data Expert Wanted

This theme (see Figure I) includes normative forces (RQ2) expressed through professionalism that

determine conditions and methods for working with data. Professionalism encouraged participants

to exhibit norms through their involvement in conferences, seminars, workshops, and professional

networks (Dimaggio & Powell, 1983) and led to the creation of specialist roles and collaboration

with data specialists (Meyer & Rowan, 1977). These norms were also expressed through challenges

such as the lack of analytical skills to make sense of data, lack of resources to analyze data, lack of

integration between data sources, the lack of standards across measurement processes, and change

management.

"Conferences, seminars, workshops" included data-related events and workshops hosted by

industry associations or suppliers. Additionally, "Professional networks" allowed participants to

exchange ideas and perspectives, keep up to date with industry developments, and support them

when they experience problems. Some also reported being heavily influenced by their peers and

needing to improve sharing of external knowledge within their organizations. Furthermore, nearly

three-quarters of practitioners in North America and Canada, and almost all practitioners in Europe

and the Asia-Pacific, believed they should invest in their professional development and considered

training a personal responsibility (Macnamara et al., 2021; Meng et al., 2021; Zerfass et al., 2020).

A participant explained the importance of specialized training events:

> I used to go to very more general kind of marketing conferences like ADMA [Association for Data-driven Marketing and Advertising], Data Day or Global Forum, or Mumbrella's 360. But I've, I think, eventually gotten more and more and more niche, and now I just kind of go-to SaaS [Software as a Service] events. And yeah, they've been super valuable. (P11, 453-456).

"Specialization" was discussed by several participants in roles that could lead to acquiring data skills, as social media specialists tend to be data experts (Wiesenberg et al., 2017). Since the introduction of social media, specialization has occurred, and diversification and continued specialization of knowledge has followed (Werder et al., 2018). For example, participants described a gradual evolution in their departments resulting in social media and content development roles increasingly becoming part of communications positions. These roles were distinct digital marketing and paid media positions, and a data specialist was considered to be "the person who uses the data and analyzes the data and makes recommendations" (P09, 132-133). Another participant explained the high level of specialization and separation between roles in their agency:

> You need one person to do your ads and then another person to do the SEO [search engine optimization]. And then you need one person to do the search ads and another person to do the display and re-targeting ads. Then you need another person to do the Facebook ads. And then you need another person to do the technical SEO and another person to do the onsite content type SEO, and another person to do lead building… Like it's becoming more and more specialized, more and more kind of split up. (P06, 131-138)

"Working with data analysts" involved collaboration with specialists in data analysis or external consultants when budgets allowed. These specialists helped practitioners "tell a story" with data rather than only reporting metrics like the number of impressions, hits, or site visits. Several participants discussed introducing data analyst roles and teams in their organizations and the recognition among communications staff of their importance. For example, data analysts discovered

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"gems" in the data and, together with practitioners, interpreted what they meant and used them to

inform communications strategies:

> We've hired people that five years ago would never have wanted to work at a firm like ours.
> And we would never have known how to use their skills. But we're bringing new people into
> the business who are not [communicators], most of our staff did a degree in communications or
> journalism. And now, suddenly, we've got data analysts sitting in our business, which is very
> different for a traditional PR firm. (P07, 181-185)

"Lack of analytical skills" was a challenge related to the technical knowledge required to

analyze large amounts of data, understand the story data can provide, make data-driven decisions,

and explain data in simple terms that executives and clients can understand. For example, one

participant described a low-to-medium level of maturity in the use and understanding of data, with

data literacy levels diminishing in higher positions and decision-makers sometimes not

understanding the data presented to them (P04, 216-218). Another participant stated, "It still is very

challenging I find with the communications that we do here to create definite cause and effect with

the data. It's often best guess scenario" (P10, 92-94). Another said they could read data at "the

output side", but handling data was "a bit above my degree" (P14, 224-225). Furthermore, a

significant gap exists between the perceived importance of data handling skills and the current

competencies of practitioners worldwide. Around half reported a lack of capabilities in data use

cases, methods, and interpreting results (Macnamara et al., 2021; Meng et al., 2021; Zerfass et al.,

2020).

"Lack of resources" was a challenge participants experienced when not having adequate

finances or time for data analysis. Financial challenges included getting clients to understand the

benefits of analyzing data and investing strongly in data as part of a campaign or research report.

Time-related challenges refer to the prioritization of communications tasks over data analysis and

reporting due to being the only communications professional in the department or organization.

Furthermore, nearly half of European practitioners considered the lack of time to study or analyze big data as one of their top three significant challenges, and one-quarter reported a lack of budget (Wiesenberg et al., 2017). In general, big data are considered large and complex datasets that require advanced and unique technologies to perform tasks such as analysis, visualization, storage, and management (Chen et al., 2012). A participant declared:

> So let's say a typical comms officer role, you have to split it between content creation, content curation, content distribution, and then analysis of that, which then feeds back into your content creation. So that, to me, is the basic steps. And it's analysis which can lose out in terms of time. (P08, 237-240)

"Lack of integration" challenges occurred when data were siloed, inaccessible, or not directly accessible because they were spread across different platforms, systems, or departments. For example, one participant said, "Some of the other challenges around using data is access to data because there's a lot of data around such a big organization that we don't always have access to, or don't have direct access to" (P09, 239-241). Another discussed the silo effect created by eight different customer relationship management systems that operated in their organization, making it difficult to track the customer journey (P10, 368-378). Furthermore, nearly one-quarter of European practitioners considered organizational barriers among the top three significant challenges when working with big data (Wiesenberg et al., 2017).

"Lack of standards" was a challenge that included the lack of a standard approach for defining and measuring engagement across different social media platforms and industry best practices for social media communications, SEO, and data analysis. Participants found that each social media analytics tool had its own engagement metrics, and the lack of consistency in calculating these indicators made it challenging to make comparisons across different platforms. Engagement on social media can be defined as attracting the user's interest or attention or involving them in a conversation or discussion, but a lack of consistency and agreement exists in the industry

on this and other essential metrics (Macnamara, 2014). Social media analytics (SMA) monitor, gather and analyze social media data, and practitioners rely on these technologies because they make communications more cost-effective, efficient and data-driven than traditional processes, even though the secretive nature of their algorithms inhibits trust in them (Hayes et al., 2021). For example, social media listening platform (SMLP) users often misunderstood how the engagement rate was calculated even though they could "hover over the metric and get a full explanation" (P11, 389-391). Comparing metrics across social networks was considered challenging:

> Where I am using data from different places, having it so that it's comparable. For example, Facebook, Twitter, YouTube, LinkedIn, Instagram are all giving me the same data. So sometimes, they might all measure impressions, but one might measure reach, but not impressions. So I can't compare apples to apples all the time. (P14, 166-170)

"Change management" challenges were related to adopting analytics, such as getting employees, managers, and clients to recognize the value of data-based decision-making. Data-driven decisions are often based on pre-existing beliefs and incentives, and researchers have highlighted the need to gather data to suit a particular purpose rather than finding a purpose for data that are already available (de Langhe & Puntoni, 2020). For example, one participant found it difficult to propose new data types and methods for measuring the impact of communications "to someone that's done it a certain way for 10, 20, or 30 years" (P01, 168-172). Additionally, another participant said that communications were "driven very much by what people think is the right message a lot of the time. And sometimes our data doesn't match what they think, and sometimes that's a bit difficult" (P09, 288-290).

Communicators Becoming Data-Wise

This theme (see Figure I) consists of mimetic forces (RQ3) that influence the use of KPIs (key performance indicators) and metrics, learning through work experience, and data analysis. These activities and techniques were impacted by the uncertainty of working with CommTech, such as

analytics, which was poorly understood and encouraged practitioners to imitate others they knew

and trusted (Galaskiewicz & Wasserman, 1989). This unpredictability was also expressed through

challenges in data availability and the implementation of lookalike modeling solutions.

"KPIs and metrics" were considered essential methods in using data to guide

communications. Analytics tools such as SMA, SMLPs, website analytics, and email analytics were

used to measure KPIs and metrics, including audience numbers, click-through rates, conversion

rates, cost per click, engagement rates, impressions, reach, responses, and website hits. SMA was

used to learn the engagement rate of ads, posts and stories, and SMLPs for tasks such as sentiment

analysis. Furthermore, capabilities in interpreting social media monitoring data were reported at

medium-high levels in North America and Canada, and SMA was considered the most important

type of analytics process in informing communications decision-making (Meng et al., 2019). For

example, engagement and sentiment metrics were considered essential:

> Engagement's always considered really important, particularly the extent to which someone
> shares your information. And if there's some behavior attached with it, particularly
> commenting. If something, if you know that there's a certain number of comments attached to a
> piece of content, that's valuable data. And particularly if it's negative or positive. Or highly
> negative or highly positive. (P08, 972-977)

"Work experience" included learning how to handle data through trial and error and under

the guidance of managers and peers. Several participants described trying to match data with

activities at the beginning of their careers and, as they became more experienced, looking to match

specific data sets with communications outcomes. For example, they were learning by being

exposed to data "on the job" and "working with experts" in other departments to better understand

using data to solve problems (P03, 94-97).

"Data analysis" included building and managing a customer database, analyzing sales data,

social media data gathered via an API (application programming interface), and third-party data

from the government bureau of statistics or data providers. For example, one participant stated that

clients paid "serious money" to purchase data, and it was up to their agency to store, process, and "turn it into something that helps us make a decision" (P06, 80-82). Another thought that gathering data directly from an API was essential in obtaining accurate results:

> Directly from Facebook inside or Instagram inside because technically, they [APIs] are not skewed. Technically, they are correct. (P13, 298-300)

"Data availability" was a challenge that included the uncertainty of having insufficient data for decision-making or too much data to process and analyze. When faced with this uncertainty, practitioners could try doing what their peers did if it was found to work (Galaskiewicz & Wasserman, 1989). Restrictions such as social media network API limits and organizational barriers made data inaccessible, and high volumes of unstructured data, such as clickstream data and spreadsheets, made analysis difficult. For example, API access offered by Facebook and Twitter is increasingly limited and could be causing researchers to breach the rules of these platforms by gathering data using website scraping methods (Bruns, 2019). While one participant confessed, "Sometimes we don't have data, so we're making assumptions" (P03, 180), another said:

> We've got tons. You know, we have a data provider which will give us half a million records a
> month of data about our clients' link profile, you know, websites that link to our clients… And
> then the challenge I find is that, you know, as a business owner and having done engineering, I
> can sit down, and I can put it in a spreadsheet, and I can use equations and stuff – Google Sheets
> is actually where we warehouse a lot of stuff to find where the overlaps are in communications
> – and, like make a mental model of how do you make a decision about it? (P06, 158-171)

"Lookalike modeling" is a predictive analytics technology that several participants found challenging, as it seemed to achieve their objectives even though they had little knowledge of how it functioned. With solutions such as *Lookalike Audiences*, advertisers can build new audiences on Facebook and Instagram similar to existing audiences. However, due to this technology's "black box" design, users cannot receive feedback and insights during an ad campaign setup or select the type of lookalike modeling solution that best suits their requirements. Despite this, a widespread

belief exists that the tactics used by Cambridge Analytica worked and that data-driven

communications can change audience behavior (Elish & Boyd, 2018). Furthermore, psychographic

targeting tactics could define the future of strategic communication. Even though Cambridge

Analytica did not consider ethics and its communications could be described as "brainwashing" or

"propaganda", a variety of organizations worldwide now claim they perform "psychographics

marketing" (Bachmann, 2019). One participant believed lookalike modeling "is very good if you

have a large enough but niche enough polarised segment" (P01, 570-571), and another stated:

> We were initially a bit skeptical about LALs [lookalike audiences]. Facebook still doesn't seem
> to be all that forthcoming on what their algorithm is for LALs, but at the end of the day, they
> seem to work. If you tie LALs to a fairly specific objective (e.g., on-page conversions), this can
> really help to make sure we get the value out of this targeting option. (P09, 850-853)

Discussion

This study reveals that elements of institutional forces influence the use of data in guiding

communications. We highlight how coercive forces impact practitioners by setting and enforcing

rules such as data privacy regulations; normative forces through generally accepted beliefs like

"doing the right thing" with data and challenges such as the lack of analytical skills to make sense

of data; and mimetic forces that determined shared methods and implementation of CommTech

such as analytics. Specifically, we show that analytics exert coercive pressures with potentially

undesirable effects. Additionally, our study confirms the need to consistently measure essential

metrics across social media platforms (Macnamara, 2014) and increase understanding and training

in analytics tools (Fitzpatrick & Weissman, 2021; Volk & Zerfass, 2021). The study makes several

contributions to theory and practice.

Theoretical contributions

Various scholars have applied institutional theory and perspectives in examining the impact of

institutional pressures on data-driven communications and analytics at the field level (see Dubey et al., 2019; Foltean et al., 2019; Lenz, 2021). For example, Foltean et al. (2019) found that coercive pressures from customers, such as demands for access to information, forced organizations to adopt and implement social media technologies. Additionally, Dubey et al. (2019) showed that coercive forces obliged organizations to submit to social pressures and select safer technologies when adopting predictive analytics rather than seeking economic benefits. However, less is known about the effects of coercive pressures at the level of individual practitioners.

Our empirical findings show how individuals in organizations maintain institutional forces that guide their everyday practice, as suggested by Powell and Colyvas (2008). These forces frame the possibilities for practitioners to take action, reinforce existing behaviors, such as methods of using tools and technologies, and influence whether they re-examine or change them (Powell & Colyvas, 2008). We argue that challenges associated with analytics – technologies typically associated with uncertainty and influenced by mimetic forces (Dubey et al., 2019) – created unexpected coercive pressures (see Practical contributions section). The power of analytics suppliers and their mysterious nature compelled participants to reinforce their behaviors and continue using the tools. Rather than imitating the behavior of others when uncertain (Galaskiewicz & Wasserman, 1989), participants justified the use of these technologies and supported them.

Practical contributions

Our findings indicate that implementing analytics tools on social media platforms such as Facebook can be challenging. Participants used *Lookalike Audiences* as a predictive analytics solution because it seemed to work, even though they were unsure how the technology functioned. However, the lookalike modeling algorithm on Facebook and Instagram is more sophisticated in matching specific audiences than those of other social media platforms (Bossetta, 2018), and the greater the level of dependence on a supplier with expertise in a particular function (such as lookalike

modeling), the greater the supplier's coercive power (Dimaggio & Powell, 1983). For example, Facebook has used its News Feed algorithm, which constantly updates the content on a user's homepage, to apply powerful coercive pressures. The social network prioritizes stories in its News Feed according to the number of "likes" and comments they attract and re-prioritizes content with significant engagement. Publishers with successful content have effectively incorporated the logic of the platform's algorithm into their practices (Caplan & Boyd, 2018). News media organizations publishing stories on Facebook are subject to formal and informal coercive pressures determining their relative success or failure in gaining readership on the social network (Caplan & Boyd, 2018). In the case of participants and Facebook, our findings suggest that the platform's lookalike modeling algorithm exerts informal coercive pressure demonstrated by practitioners' willingness to trust the outcomes of the *Lookalike Audiences* campaigns blindly. This pressure could lead to errors such as communicating to individuals outside the target audience, wasted advertising expenditure, and budget blow-outs.

Additionally, we identify that coercive pressure is exerted by solutions that address the lack of standardization in essential metrics across social media platforms. For example, SMLPs such as *Metigy* simultaneously calculate the average "public engagement rate" of Facebook company pages, Instagram professional profiles, and YouTube channels and display these metrics side-by-side so easy comparisons can be made (Metigy + Social Status, 2021). However, a recent study into the strengths and weaknesses of a leading SMLP found the technology to be "woefully unreliable" in the accuracy of several of its metrics. The platform demonstrated "the hazards of blindly relying upon conclusions drawn from black-box social media listening platforms" (Hayes et al., 2021). Through their opaque design, SMLPs apply indirect coercive pressure on users to accept their results without question, as they cannot fully understand or examine the processes hidden behind these platforms. Practitioners and managers risk making misguided decisions if the results from these solutions are inaccurate (Hayes et al., 2021).

Limitations and Future Outlook

This qualitative study used a purposive sampling strategy to identify and recruit communication practitioners in Australia with adequate experience, first-hand knowledge, and understanding of using data to guide communications. While our findings revealed significant insights, they are not representative or generalizable to other contexts, as the population of practitioners in this country and many others is unknown. A quantitative survey with a random sample that includes practitioners from a wider range of organizations would be a helpful follow-up study. Furthermore, while the study aimed to discover which institutional pressures shaped data-based decision-making, participants generally discussed how they were influenced by these forces instinctively and implicitly rather than explicitly. We discovered 16 specific coercive, normative, and mimetic elements in participants' responses, but this process was subjective and influenced by our perspectives and viewpoints as researchers.

While we argue that analytics tools and their suppliers exert coercive pressures with conceivably harmful consequences, explicitly investigating the effects of these pressures was beyond the scope of this study. SMA and SMLP tools are norms that allow practitioners to make more informed decisions. Furthermore, lookalike modeling solutions are widely accepted and could become a norm for creating new audiences on social media. However, while analytics offers practitioners a direct window into people's lives, their knowledge of the inner workings of these tools is often incomplete. Future qualitative and quantitative studies could examine how institutional elements we identified impact analytics implementation at the micro-level. It would be interesting to explore and determine if the perceived benefits of these tools to communications decision-making outweigh any negative effects.

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Table 1: Participant demographic details.

Participant ID	Position	Years of experience	Role/s	Organization function
P01	Digital media manager	11–20	PPC (pay per click), social media, online video, and display advertising	Insurance services
P02	Principal consultant	6–10	Publicity, media relations, and communications	Marketing/PR agency
P03	Internal communications specialist	6–10	Internal communications and change management	Travel services
P04	Principal channel manager	21–30	Digital strategy and communications	Government – Information services
P05	Director	11–20	Brand strategy, PR and content marketing	Marketing/PR agency
P06	Director	21–30	Web consultant	Marketing/PR agency
P07	Senior group manager	11–20	Corporate communications	Marketing/PR agency
P08	Strategic lead	6–10	Digital strategy and communications	University – Academic support
P09	Digital marketing team leader	11–20	Marketing automation, email marketing, PPC, and social media advertising	University – Marketing and communications
P10	Department manager	6–10	Customer communications	University – Student support
P11	Co-founder	6–10	Marketing and customer communications	Software services
P12	Senior manager, engagement	11–20	Internal and external communications	Health services
P13	Social media coordinator	6–10	Digital and social media communications	University – Media
P14	Social media advisor	11–20	Social media and digital communications	Government – Health services
P15	Communications manager	6–10	PR, media management, social media marketing, content marketing, email marketing, SEO	Business support services

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Thematic map

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