HOW COMMUNICATION MEDIUMS SHAPE THE MESSAGE

Abstract

Communication is an integral part of life. People chat with friends, talk to salespeople, and complain to customer service. But communication doesn't occur in a vacuum. Consumers communicate *through* modalities (e.g., speaking or writing), channels (e.g., text, phone call, or email), and devices (e.g., smartphone or computer). While these mediums often seem incidental, might they impact communication, and if so, how? This paper offers a comprehensive framework for understanding how these mediums shape the message: how the way people communicate shapes the linguistic content (i.e., the words, topics, structures, and tones) that makes up communication. Specifically, we argue that modality, devices, and channels all shape linguistic content through the same two key drivers: opportunity for deliberation and audience salience. This work sheds light on the psychology of content production, provides insight into the drivers and consequences of communication, and highlights how emerging technologies may shape communication in the future.

Communication is ubiquitous. Consumers talk about movies, share restaurant recommendations, and post opinions online. Salespeople pitch customers, retail employees answer questions, and customer service agents try to help consumers. People spend 50%-80% of the day communicating (Klemmer and Snyder 1972) and even online search requires communicating desired information to products like Google or Alexa.

Not surprisingly, then, communication has wide-ranging impacts on consumer behavior. Interpersonal communication shapes everything from attitudes and evaluations to choices and purchases (Babic Rosario, Sotgui, De Valck, and Bijmolt 2016; Herr, Kardes, and Kim 1991; Moore 2012; Moore and Lafreniere 2020; Packard, Moore, and McFerran 2018). Word of mouth, for example, increases product awareness and trial (Van den Bulte and Wuyts 2009), and more positive reviews increase sales (Chevalier and Mayzlin 2006). Similarly, small variations in consumer search can greatly impact consideration sets and choice (Bettman 1979).

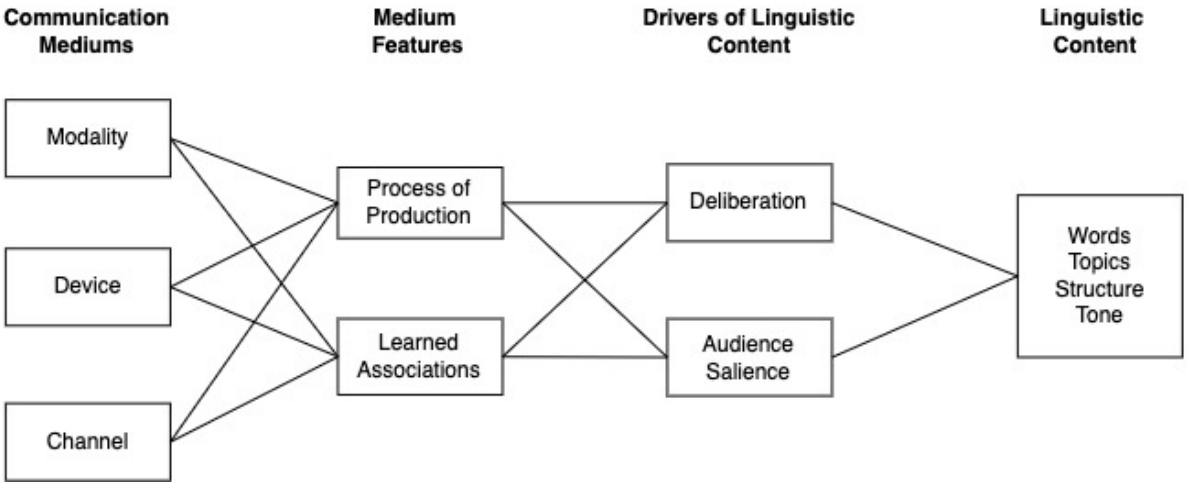
But while it's clear that communication is frequent, and important, might the *way* people communicate shape what they share?

Communication happens through a modality (e.g., voice or text) and channel (e.g., face to face or email), and often with the aid of a device (e.g., smartphone or computer). But while modalities, channels, and devices are integral to the process of communication, they are usually thought of as just the incidental context in which a message is produced. Might these mediums shape what gets communicated in important ways? And if so, how?

This paper addresses these and related questions as it deepens understanding around how mediums shape messages. In particular, we develop a parsimonious perspective that illustrates how modality, channels, and devices combine to influence the linguistic content (i.e., words, topics, structures, and tone) that make up communication.

The paper makes three main contributions. First, we integrate disparate research streams into a single, comprehensive framework. Individual papers in marketing, psychology, linguistics and other disciplines have begun to examine how particular communication mediums impact what and how people communicate. But while each paper has shed light on a specific piece of the puzzle, there has been less attention to how these pieces fit together. To address this, we build an overarching conceptual framework (see Figure 1) that simultaneously explores modality, device, and channel while distinguishing the effects specific to each. This allows us to review and structure the literature on communication modality, while also building a foundation for evolving mediums where less work has been done (i.e., devices and channels).

Figure 1. How communication mediums impact linguistic content.



Second, we highlight the underlying processes behind these effects. While individual papers have shown effects of a particular medium in a particular context, without knowing why, it's hard to generalize (i.e., to new and broader contexts). We demonstrate that rather than influencing communication through completely distinct paths, modalities, devices, and channels all shape communication through the same two key drivers: opportunity for deliberation and

audience salience. The production processes and learned associations specific to each medium affect these drivers, which in turn shape the linguistic content produced. Delineating these processes provides insight into how multiple factors work in concert (e.g., writing, via smartphone, on social media), when a particular aspect is operating atypically (e.g., using voice, which is typically synchronous, to communicate asynchronously through voicemail), and resolves seemingly inconsistent effects observed across prior papers.

Third, by delineating the underlying processes, the framework helps to identify new hypotheses and areas that deserve further attention. Similarities between the communication mediums, for example, suggest that findings involving one medium (e.g., speech) may also hold for another (e.g., smartphones) that, we suggest, influences communication in similar ways. If communicating via speech (rather than writing) tends to generate certain content, for example, then similar effects should hold for smartphones (compared to PCs) because, as we argue later, both factors have similar effects on deliberation and audience salience.

The framework also provides insight into how novel devices and channels may impact communication in the future. The rise of smartphones and video chat have created new ways to communicate, but they also raise important questions about the nature of communication itself. By distilling the effects of modality, device, and channel, to the extent to which they create opportunity for deliberation, and modify audience salience, we shed light on how novel channels (e.g., live streaming), channel features (e.g., disappearing text), and devices (e.g., virtual reality headsets) may shape communication in the years to come.

To develop these contributions, we start by discussing communication mediums, linguistic content, and the key drivers of linguistic content (i.e., opportunity for deliberation and audience salience). Then, we explore how modality, device, and channel each influence these

two drivers through the process of producing content and the learned associations specific to each medium.[1] We then discuss how this framework integrates conflicting findings, explains novel effects of emerging technologies, and sheds light on directions for future research.

Communication Mediums and Linguistic Content

Modalities, devices, and channels are the mediums through which consumers communicate. Communication modalities are different methods of producing language. Speaking and writing are the most common, but others (e.g., sign language) also exist. Communication devices are additional equipment through which language can be produced and shared. Smartphones and personal computers are common devices, but novel devices (e.g., smartwatches) have begun to emerge and will continue to in the future. Communication channels are the vehicles through which language is delivered to audiences. Phone calls, texts, emails, video conferences, and face to face conversations are all common examples. Communicators communicate via a modality, through a channel, and sometimes with the aid of a device.

Note that while certain mediums often co-occur (e.g., phone calls always involve speaking and emails typically involve writing), modality, channel, and device are ultimately independent. Speaking happens in many more contexts than phone calls, for example, and while one can write emails, they can also be dictated vocally to a virtual assistant. Consequently, each category of mediums is distinct.

But this does not mean that the effects of an individual communication context (e.g., speaking face to face or emailing through a smartphone) are unpredictable simply because

[1] The propositions developed here include the understanding that all other mediums (i.e., modality, channel, and device) and communication factors (e.g., communication audience, skill of the communicator, and purpose of communication) are held constant. Doing so allows us to isolate the effects of individual communication mediums based on factors intrinsic to the focal medium.

multiple mediums are at work. By understanding how modality, device, and channel each shape communication, we suggest that one can look at any context (e.g., emailing through a smartphone), isolate the component mediums (i.e., writing, smartphone, and email), and understand the likely overall effect. This modular approach represents a more parsimonious way to understand the effects of communication mediums than examining each context individually.

We focus on how communication mediums shape what is communicated, or the specific linguistic content (i.e., words, topics, structure, and tones) that make up communication. Not surprisingly, this linguistic content affects everything from satisfaction with customer service and virality of content, to word of mouth's persuasiveness and responses to brand marketing (De Angelis et al. 2017; Schlosser 2011; Packard Moore and McFerran 2018; Berger and Milkman 2012; Lowrey 1998; Luangrath, Xu, and Wang 2022; Warren and McGraw 2016). The particular characteristics of linguistic content that are most important depend on the communication context, but linguistic content can be more or less emotional, direct, truthful, certain, polite, self-enhancing, abstract, personal, and organized, among other things (e.g., De Angelis et al. 2012; Pezzuti, Leonhardt, and Warren 2021; Zemack-Rugar, Moore, and Fitzsimons 2017).

Drivers of Linguistic Content

Individual papers in different disciplines have begun to explore how communication mediums might shape communication. Work on modality, for example, finds that writing (rather than speaking) tends to involve more polysyllabic words and longer sentences (Akinnaso 1982), work on devices finds that communicating with a smartphone (rather than a PC) encourages self-disclosure (Melumad, Inman, and Pham 2019), and work on communication channels finds that

informal shortcuts like “don’t” for “do not” are more common in text than email (Grace, Kemp, Martin, and Parrila 2015).

But while these individual mediums may seem quite distinct, we suggest that much of their impact occurs through two common drivers: opportunity for deliberation and audience salience.

Opportunity for Deliberation

Opportunity for deliberation is the extent to which communicators have the ability to consider what to say and how to say it. When communication mediums allow more time, or make it easier to think about which words, topics, structures, and tones to use in communication, they provide opportunity for deliberation. Modality, devices, and channels all affect how much a communicator can think about their message, before, while, and after it is produced.

As detailed below, we suggest that opportunity for deliberation can shape communication in various ways. It should encourage clearer, more structured, and more organized communication, allow consumers to be more analytical when generating word of mouth, and facilitate more specific details in product reviews (e.g., how a product works). More opportunity for deliberation can also lead more interesting products and brands to be discussed because people have more time to construct and refine their communication (Berger and Iyengar 2013).

Audience Salience

Audience salience is the degree to which communicators are aware of, and focused on, their audience while communicating. When communication mediums highlight, call attention to, or provide more information about the communication audience, they increase audience salience.

This increases the motivation to use words, structures, topics, and tones that are appropriate for the audience. Communication modalities, channels, and devices can all hide or highlight the audience on the other side of a message.

As detailed below, we suggest that audience salience shapes communication in several important ways. Increased audience salience should encourage the production of content that is more tailored to the audience, for example, and focuses more on emotional or self-related elements (e.g., details about how a product makes them feel). It can also lead consumers to raise topics that connect liked brands to their own lives (Shen and Sengupta 2018).

The Importance of Opportunity for Deliberation and Audience Salience

We focus on opportunity for deliberation and audience salience for two reasons. First, prior work hints at these two processes, albeit disguised under different names and constructs. Regarding opportunity for deliberation, for example, Morris and Ogan (1996) suggest that synchronicity changes the nature of communication, Akinnaso (1982) argues that writing allows time to integrate ideas, and Melumad, Inman and Pham (2019) argue that smartphones make it more difficult to produce linguistic content. We argue that these, and other disparate examples, boil down to increasing or decreasing opportunity for deliberation. Regarding audience salience, Shen and Sengupta (2018) argue that speaking is more interpersonally involved, Skierkowski and Wood (2012) suggest that texting is the primary tool for relationship maintenance, and Melumad and Meyer (2020) posit that smartphones are automatically associated with social interactions. We argue that these, and other examples discussed below, are ultimately about communication mediums creating audience salience.

Second, we suggest that audience salience and opportunity for deliberation should affect communication because they provide the motivation and ability to shape linguistic content. Audience salience provides the motivation to produce content with particular characteristics. In communication contexts where audiences are more salient (e.g., face to face conversations) rather than less (e.g., exchanging text messages), for example, someone trying to impress a weak tie should be more motivated to produce self-enhancing content (e.g., larger words, organized structures, formal tones, and/or flattering topics). Even if there is motivation, though, communicators must have the ability to produce content with particular characteristics, and that is where opportunity for deliberation comes in. Someone trying to impress a weak tie should be more able to think of larger words, flattering topics, formal tones, and organized structures in contexts that provide opportunity for deliberation (e.g., emailing) versus those that limit it (e.g., live chat).[2]

To begin to explore the role of opportunity for deliberation, and audience salience, we discuss how modality shapes these factors, and thus communication.

How Modality Shapes Linguistic Content

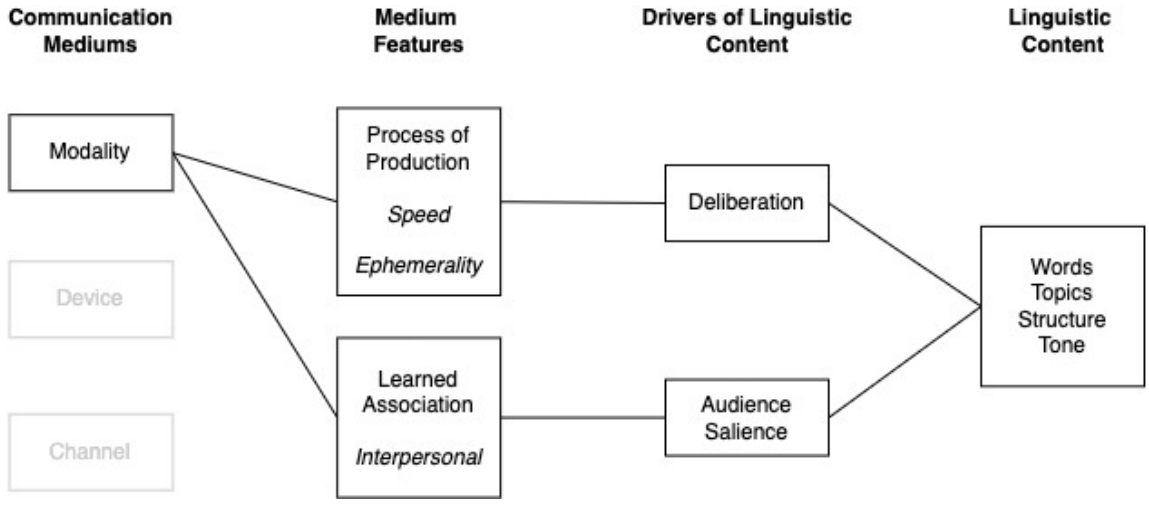
Some work suggests that modality (e.g., speaking or writing) may shape communication. Speaking involves producing words through voice. People speak face to face, over video conferences, and while dictating text messages to virtual assistants. Writing, in contrast, is text

[2] The specific type of content a communicator aims to produce is likely determined by their communication audience (e.g., personal content for a close friend vs. self-enhancing content for a stranger) and the context of that communication (e.g., funny content in a social gathering vs. analytic content in a work meeting). From here, opportunity for deliberation and audience salience provide the ability and motivation to actually produce such content. Additionally, some content (e.g., truthful or emotional content) is less affected by opportunity for deliberation because it is easily accessible and thus readily produced even when communicators cannot deliberate much. Other types of content, (e.g., lies or polysyllabic words), often require more thought and, as a result, the production of such content should be more affected by opportunity for deliberation.

based. People write emails, texts, and comments on social media. Speech has been characterized as more personal, social, self-disclosing, and informal (Akinnaso 1982; Chafe and Tannen 1987; DeVito 1996; Rubin 1987) while writing has been characterized as more formal, detached, and complex (Akinnaso 1982; Biber 1986; Chafe and Tannen 1987; Horowitz and Newman 1964; Rubin 1987). Speakers tend to produce more emotional language than writers, for example, which can make what they share more persuasive (Berger, Rocklage, and Packard 2021).

Understanding modality's impact, however, requires disentangling its effects from other aspects of communication. Take the notion that speech is more synchronous that writing (Akinnaso 1982). While this is often true, some ways of speaking (e.g., voicemail) are less synchronous than some ways of writing (e.g., instant messenger). Consequently, rather than being determined by modality, synchronicity is actually determined by the communication channel used. Truly understanding modality's effect, therefore requires understanding how it shapes deliberation and audience salience, which requires examining the processes of production and the learned associations specific to each modality (Figure 2).

Figure 2. How modality impacts linguistic content through deliberation and audience salience.



How Modality Affects Opportunity for Deliberation

We suggest that the process of communicating through different modalities should impact the content produced by changing the opportunity for deliberation. This should be driven by (1) the speed at which content is produced and (2) the ephemerality of produced content.

Process of Production – Speed

Proposition 1: *Modalities where linguistic content is produced more quickly should reduce opportunity for deliberation, all else equal.*

The same content takes longer to write than speak (Fondacaro and Higgins 1985; Akinnaso 1982). This gives writers more time to deliberate as they communicate. While some of that time is used in the act of writing (e.g., identifying and pressing the right keys on a keyboard), the additional time can also be used to think about what to say. Speakers, in contrast, often communicate nearly as fast as they can think (Linell 1998, Jahandarie 1999), and so have less time to deliberate. Speakers also often monitor things like pitch and volume (Walther 1996), which also reduces the ability to deliberate.

Process of Production – Ephemerality

Proposition 2: *Modalities that are more ephemeral should reduce opportunity for deliberation, all else equal.*

Unlike writing, which is often preserved, spoken words typically disappear as soon as they are uttered (Jahandarie 1999; Shen and Sengupta 2018).[3] This ephemerality makes deliberation difficult because even when speakers have time to plan before (or while) producing content, they can only hold so much in working memory without writing it down (Horowitz and Newman 1964; Melzner, Bonezzi, and Meyvis 2021). Consequently, while people in spoken interactions can plan general responses in advance, unless they rehearse particular words, many will be selected on the spot.

Speaking's ephemeral nature also makes content revision difficult. Revision is not possible in most spoken communication channels, but even when channel features (e.g., a recorded message) allow for revision, it is tough to do at the fine-grained level possible with writing. Voicemails can be reviewed before sending, for example, but it's impossible to edit individual parts. The whole message must be deleted and re-recorded.

The permanent nature of writing, however, makes linguistic content tangible, which allows it to be revised before sharing. Writers can replace words, edit structure, and even change entire themes before transmission (Akinnaso 1982; Rubin 1987). While someone might reuse the word "amazing" multiple times while speaking continuously in a voicemail, for example, sending an email gives them a chance to re-read their content and reduce repetition (i.e., selecting a synonym).

Overall, then, even when speakers have the *time* to deliberate, they are still limited in their *ability* to do so. This is because, compared to writing, speech is highly ephemeral and produced at a speed that does not allow for easy deliberation.

[3] Specific channel features like disappearing text on snapchat or voice to text dictation can change the ephemerality of speech and text, but these features are specific to certain channels and, as a result, will be discussed in the channel section below.

How Modality Affects Audience Salience

We suggest that the different associations consumers form with different modalities should impact linguistic content by changing the extent to which consumers focus on their audience. We suggest that such effects are driven by the fact that different modalities are differentially associated with interpersonal interaction.

Learned Association – Interpersonal

Proposition 3: *The more a modality is associated with interpersonal interactions, the more it should increase audience salience, all else equal.*

Speech tends to be more social (Akinnaso 1982; Melumad 2021). While consumers often write to themselves (e.g., shopping lists), speech typically involves others (Olson 1977; Rubin 1987; Schallert, Kleiman, and Rubin 1977). Consequently, speaking can put communicators in an interactive mindset where they are more aware of, and focused on, their audience. Indeed, research suggests that speakers "are more focused on the interaction with the audience…while writers are focused on the information to be conveyed" (Shen and Sengupta 2018 p. 596; also see Chafe 1985; Fondacaro and Higgins 1985).

This often results in greater inclusion of personal experiences and opinions (Biber 1986; Chafe 1982; Tannen 1985). Further, the association between speaking and audiences is so strong that even though no other human is present, speaking to a virtual assistant leads consumers to imagine an audience (and their potential reaction) and search for different products (i.e., more interesting ones, Melumad 2021).

Implications

Our suggestion that different modalities create varying opportunities for deliberation and audience salience have important implications for what consumers communicate (i.e., the words, topics, structures, and tones used).[4]

First, by providing more opportunity for deliberation, writing should produce linguistic content that is more well-reasoned, structured, organized, and thoughtful than speaking. Indeed, compared to speaking, writing tends to create more complex, elaborate, and integrated structures (Biber 1986; Chafe, 1982; Gumperz et al. 1984) and involves more formal organization like topic sentences and supporting evidence (Akinnaso 1982). Further, because speakers have less time to think, and are less able to consider previous parts of the communication, they are more likely to repeat themselves, using fewer unique words than writers (Akinnaso1982; DeVito 1966; Drieman 1962; Green 1958). Finally, while speakers tend to rely on what is top of mind (Berger & Iyengar 2013), writers have more time to consider more relevant topics and arguments. Consistent with the notion that these types of effects are driven by deliberation, consumers generate more analytical, and less emotional, content when writing because writing provides more time to construct and refine what to say (Berger, et al. 2021).

Second, heightened audience salience should lead speakers to produce language (i.e., words, topics, structures, and tones) that is simultaneously more personal and more tailored to the audience. Speech should lead to more self-focused content, including more first-person

[4] While previous research has focused on the differences between speaking and writing, the same logic applies to modalities like sign language. Signing's faster production speed (compared to writing) and ephemeral nature both reduce the opportunity for deliberation. Sign language is also used primarily in interpersonal contexts, while writing can be used for many intrapersonal purposes. As a result, the act of signing should increase audience salience. These effects on opportunity for deliberation and audience salience should affect what and how signers communicate.

pronouns (Biber 1986) and first-hand experiences (Shen and Sengupta 2018). Speech also produces more second-person pronouns (i.e., "you", Biber 1986) and words addressed to the receiver (Akinnaso 1982). All of this should reduce the psychological distance between the audience and what is discussed, leading them to care more about it and represent it more concretely (Trope, Liberman, Wakslak 2007). Speakers also tend to use more active voice (Chafe and Tannen 1987; Kroll 1977), a structure that prioritizes conversational agents. When discussing a new car purchase, for example, this could be the difference between consumers writing about the safety features that *the car has* versus how those safety features will make *them (or their audience) feel*. Consistent with the notion that these effects are driven by audience salience, speaking rather than writing led consumers to share more self-relevant brand thoughts because of the increased focused on the interaction with the audience (Shen and Sengupta 2018).

Overall, then, how modality shapes communication outcomes may depend on which type of content is most effective. When audiences are reasoning through complex decisions, for example, or dealing with other situations where structured, thoughtful arguments are valued, the opportunity for deliberation provided by writing should boost persuasion. In contrast, when making more emotional decisions, or dealing with situations where personal, tailored appeals are beneficial, the audience salience created by speaking should be more impactful. Modality's influence on opportunity for deliberation and audience salience should also impact a range of other things, from the nature of self-talk and the helpfulness of customer support interactions to the insights gained in market research.

How Devices Shape Linguistic Content

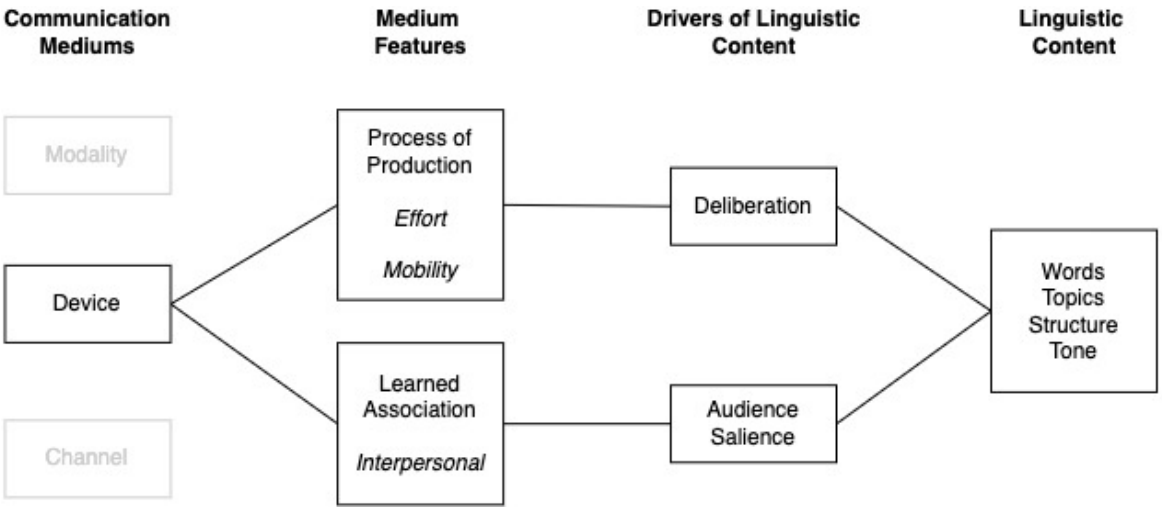
Beyond modality, communication devices should also impact communication. Devices (e.g., smartphones, computers, tablets, smart watches, payphones, and even pens) are additional equipment through which messages are created or transmitted. Devices often act as a bridge, connecting the production modality selected by a communicator (e.g., writing) to the channel where the message will ultimately be transmitted to the audience (e.g., email). Written communication always requires a device, and while spoken communication often involves devices (e.g., a phone), it can be produced without one (e.g., face to face conversations).

Many devices could be studied, but early work focused on computers (e.g., Walther 1996; Sproull and Kiesler 1991) and more recent work has focused on smartphones (contrasting them with personal computers/PCs).[5] Linguistic content produced on smartphones tends to be shorter, less focused on specific details, more emotional, and more self-disclosing (Melumad, Inman, and Pham 2019; Melumad and Meyer 2020). Messages generated on personal computers, however, tend to be more abstract, extreme, and reflective (Ransbotham, Lurie, and Liu 2019).

Much like modality, though, we argue that understanding how devices shape communication requires understanding how their effect on the content production process, and their learned associations, impact deliberation and audience salience (Figure 3).

[5] There is also a good deal of work on computer-mediated communication (e.g., Walther 1996; Sproull and Kiesler 1991; Dubrovsky 1985), but rather than contrasting computers with other writing devices, this work has contrasted computers with face-to-face communication or video conferencing, making it harder to tell whether particular findings are driven by device per se or by communication mode and channel.

Figure 3. How devices impact linguistic content through deliberation and audience salience.



How Devices Affect Opportunity for Deliberation

We suggest that the process of communicating through different devices should impact the content produced by changing opportunity for deliberation. This should be driven by (1) changing the effort required to communicate and (2) differentially enabling on-the-go communication.

Process of Production – Effort

Proposition 4: *The more effort communicating on a device requires, the more it should decrease opportunity for deliberation, all else equal.*

Smartphones' smaller screens and buttons, for example, tend to make communication more physically and cognitively difficult than using PCs (Antoun, Couper, and Conrad 2017;

Raptis et al. 2005).[6] Much like how speakers must direct mental effort to managing pitch, speed, and tone (Walther 1996), the increased attentional focus required to produce messages on smartphones (Melumad and Meyer 2020) reduces available bandwidth for deliberation. Consistent with this notion, compared to PCs, smartphone users tend to produce shorter, less detailed, content (Melumad, Inman, and Pham 2019; Ransbotham, Lurie, and Liu 2019).

Process of Production – Mobility

Proposition 5: *The more a device encourages consumers to communicate on the go, the less opportunity it should provide for deliberation, all else equal.*

Smartphones are also much more portable than PCs. This further reduces opportunity for deliberation because it encourages consumers to share content right away rather than waiting and reflecting on their intended message (Ransbotham, Lurie, and Liu 2019). Consistent with this notion, smartphones tend to encourage communicating accessible topics, such as things that are self-related (Melumad and Meyer 2020).

Note that while existing research has focused on smartphones and personal computers, the same logic should extend to other devices (e.g., smart watches and tablets). Smart watches are even more mobile, for example, and have even smaller screens than smartphones. Producing content on a smart watch is more difficult, however, and requires tracing out letters with a fingertip or slowly tapping individual letters on a scrolling keyboard. Producing content on a tablet is easier than on a smartphone but harder than on a PC. Tablets are also less portable than smartphones but more mobile than PCs. Consequently, while smart watches should further

[6] The same holds for spoken communication. People can make phone calls or video chat through both smartphones and PCs, but the fact that one often has to hold a smartphone while communicating and that smartphones tend to have inferior speakers and microphones both increase the effort required to communicate using this channel. These aspects, in turn, should reduce available bandwidth for deliberation.

decrease opportunity for deliberation, tablets should sit somewhere between smartphones and PCs.[7]

How Devices Affect Audience Salience

We suggest that the different associations consumers form with different devices (e.g., social or interactive) should impact linguistic content by changing the extent to which consumers focus on their audience.

Learned Association – Interpersonal

Proposition 6: *The more a device is associated with interpersonal interactions, the more it should increase audience salience, all else equal.*

Similar to modality, different devices have different associations. Smartphones are often used to connect with others and maintain social identities, and as a result, are imbued with social associations (Skierkowski and Wood 2012; Melumad and Pham 2020; Okazaki 2009). PCs, in contrast, tend to be used for more individual and work-oriented tasks like word processing, spreadsheet management, and online shopping (Brohl et al, 2018).

These associations, in turn, should shape communication through these devices. Much like how speaking leads consumers to focus more on their audience than writing, we suggest that devices' social associations should make audiences more salient and lead to a heightened focus on the interpersonal aspect of communication.

While research has focused on smartphones and PCs, the same logic should extend to

[7] The nature of communicating on particular devices may also change when, or if, consumers choose to communicate at all. The difficulty of producing content on a smartwatch may mean that consumers only choose to do so when they are highly motivated to (e.g., an emergency situation). We discuss selection of modality, devices, and channels further in the general discussion.

other devices. Smart watches are primarily used to display information (Visuri et al. 2021) and tablets are mostly used for content consumption, information search, or playing games. As a result, it is unlikely that either have social associations, and thus increase audience salience.

Implications

Our suggestion that different communication devices offer varying opportunity for deliberation, and create different amounts of audience salience, has important implications for understanding what people communicate (i.e., the words, topics, structures, and tones used).

As with speaking versus writing, the fact that communicating through certain devices (e.g., smartphones) offers less opportunity for deliberation than others (e.g., PCs) should lead to more thorough and thoughtful language. Consistent with this suggestion, compared to reviews produced on PCs, those produced on mobile devices tend to be structured for brevity and highlight different topics. Mobile reviews are shorter and focused more on the gist of experiences (rather than on specific details, Melumad, Inman, and Pham 2019), and are ultimately seen as less helpful (Ransbotham, Lurie, and Liu 2019).

Similarly, much like speaking, the increased audience salience caused by devices associated with interpersonal communication (e.g., smartphones) should lead to content that is more personal and emotional. Indeed, word of mouth shared through mobile devices strikes a more emotional tone and breaches more self-disclosing topics than word of mouth shared through PCs (Melumad, Inman, Pham 2019; Ransbotham, Lurie and Lui 2019).

Overall, then, how devices shape the impact of user generated content and word of mouth likely depends on the type of content that is beneficial in a particular consumption context. In utilitarian contexts, where quality is objective and products are vertically differentiated, the well-

reasoned, analytical language PCs encourage should lead to more impactful reviews. In more hedonic contexts, however, where quality is subjective and products vary based on taste and preference, the tailored, affective language smartphones encourage may be more impactful.

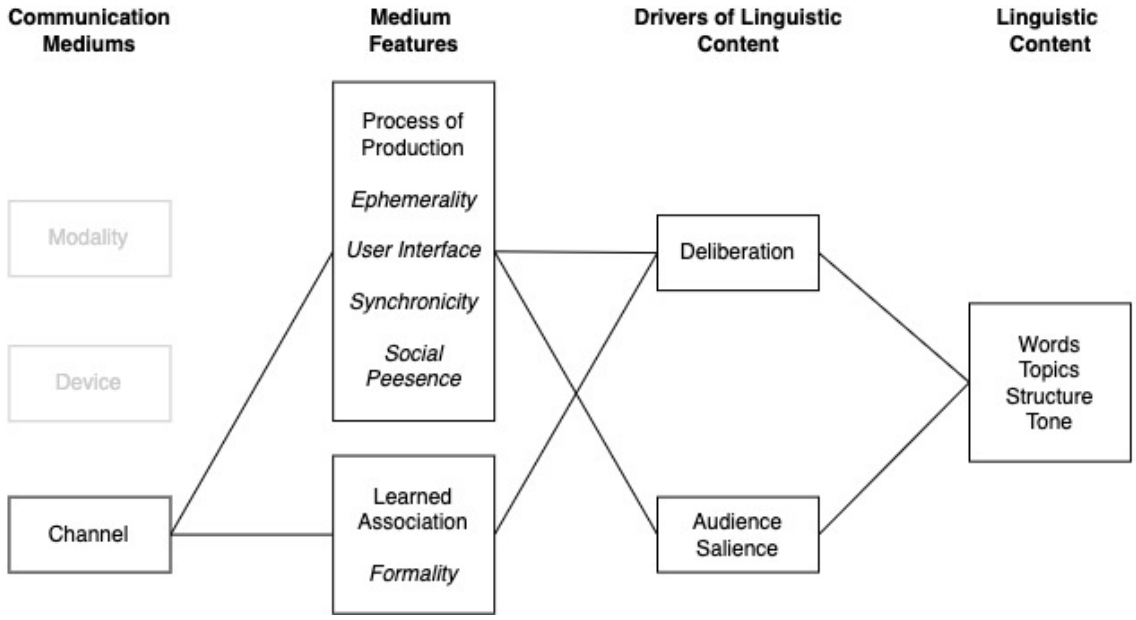
More generally, and importantly, we suggest that research on modality's effects should extend to devices. For example, just as writing leads to discussion of more interesting products and brands than speaking (Berger and Iyengar 2013), communicating via PC (rather than smartphone) may also lead to more interesting conversation topics because it also offers more opportunity for deliberation. Similarly, just as speaking about a brand (compared to writing about it) leads to more personal topics and strengthens brand connection (Shen and Sengupta 2018), discussing a brand via smartphone (compared to PC) should also increase audience salience and have similar effects.

The reduced deliberation caused by on-the-go nature of certain communication devices (e.g., smartphones and watches) should also encourage linguistic content that is contained within temporal, spatial, and situational boundaries (i.e., topics in the here and now). Indeed, mobile reviews are produced sooner after experiences than PC reviews and tend to be more concrete (Ransbotham Lurie and Liu 2019). This means mobile reviews are more likely to take abstract, passive concepts (e.g., "the *steering* is excellent") and turn them into concrete, active verbs (e.g., "the car *steers* excellently") which emphasize conversational subjects. As a result, we suggest mobile reviews are less likely to generalize about an experience. While a mobile restaurant review might talk about a particular server being rude, we suggest that a PC review is more likely to abstract to the restaurant having a problem with rudeness or even employee training.

How Channels Shape Linguistic Content

Beyond modality and devices, communication channels should also impact communication. Communication channels (e.g., text message, email, phone call, and face to face conversation) are mediums through which linguistic content is sent to an audience. Some channels are linked to certain modalities (e.g., phone calls require speaking), while others span modalities and devices (e.g., one can voice-to-text or write text messages, from either a smartphone or a PC). As with the other mediums, we suggest that understanding a channel's impact on linguistic content requires examining the underlying processes of production and learned associations involved (Figure 4). [8]

Figure 4. How channels impact linguistic content through deliberation and audience salience.



[8] Individual social media platforms (e.g., Facebook or Snapchat), email clients (e.g., Outlook vs. Gmail), and messaging platforms (iMessage vs. SMS) represent unique communication channels because of the different features and affordances specific to each. Additionally, inside a given social media platform, there can be multiple distinct channels. For example, while Instagram stories are primarily photo/video content and are highly ephemeral, (disappearing after 24 hours), direct messages on Instagram are largely text based and are permanent by default.

How Channels Affect Opportunity for Deliberation

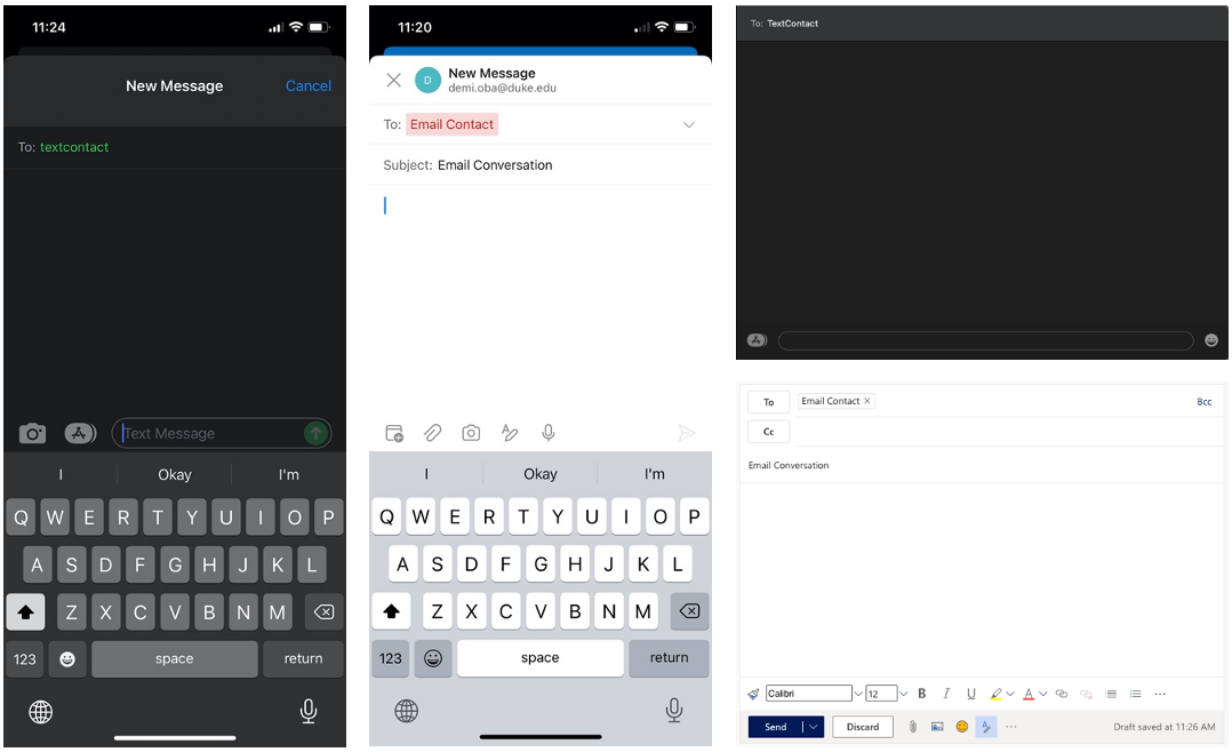
Different communication channels should affect the extent to which communicators have the opportunity to deliberate. We suggest that this is driven by both the process of producing content in different channels and the learned associations specific to each channel. Specifically, producing content through channels where (1) the user interface makes communication more effortful, (2) communication is more synchronous, or (3) produced content is ephemeral should all decrease opportunity for deliberation. Channels that are (4) associated with producing formal, thoughtful content should have similar effects.

Process of Production – User Interface

Proposition 7: *The more a channel's user interface makes it easier to produce content while communicating, the more that channel should increase opportunity for deliberation, all else equal.*

Different communication channels have different user interfaces, which affect the ease of content production. Similar to mobile devices versus PCs, channels that restrict communication to smaller input boxes (e.g., text messages versus email, see Figure 5) limit the ease with which communicators can think about and review their content as they communicate. Similarly, channels where communicators must exert continued, although often minimal, effort while communicating (e.g., continually pressing the "record" button to record voice notes or snapchats) should also decrease the bandwidth available for deliberation (much like how speakers monitor their tone and volume while speaking). Additionally, features like subject lines in emails should encourage communicators to stop and consider the topic and purpose of their communication. This opportunity for deliberation, does not occur in many other channels.

Figure 5. An example of the space afforded to text messages and emails in different channel user interfaces. Mobile text (left), mobile email (center), desktop text (upper right), desktop email (lower right)



Process of Production – Synchronicity

Proposition 8: *The more a channel's features encourage synchronous communication, the more that channel should reduce opportunity for deliberation, all else equal.*

When speaking face-to-face, or through video chat, the gaps between conversational turns tend to be relatively short. One person says something, and another responds immediately. In other channels (e.g., email or voice notes), however, responses are not expected immediately and often occur minutes, hours, or even days later (Kelly and Keaten 2007). This difference in synchronicity, in turn, allows communicators more time to formulate communication before producing it (Chan 2011). If someone is asked about their favorite restaurant in face-to-face communication, for example, they tend to want to respond quickly so the silence doesn't become

uncomfortable (Blass and Siegman 1975; Horowitz and Newman 1964; Stivers et al., 2009). But less synchronous channels (e.g., email) provide more time to craft and refine a response.

Importantly, synchronicity is often about expectations. A long pause between texts is less awkward and more expected than a similar pause on a phone call. Specific channel features can also shift expectations. Facebook messenger, WhatsApp, and snapchat increase expected synchronicity by indicating when communication partners were last active and highlighting when the audience is currently active.[9]

Process of Production – Ephemerality

Proposition 9: *The more channel features render communication ephemeral, the more that channel should decrease opportunity for deliberation, all else equal.*

Beyond user interfaces and synchronicity, channels also make content more or less ephemeral. Much like the effect of speaking, in some channels (e.g., face to face conversations or Snapchat), communicated messages disappear after they are delivered and are unable to be revisited afterwards. Similar to writing, other channels (e.g., emails or voice notes) maintain a record that can be repeatedly reviewed.[10]

As was the case for modality, ephemerality in communication channels reduces the opportunity for deliberation by increasing the cognitive effort required to deliberate. Communication channels that make prior communication permanent (e.g., a dictated text

[9] While the synchronicity of a given communication channel may change between communication instances (e.g., email conversations can be highly synchronous when addressing an urgent matter in a workplace but highly asynchronous in less urgent times), each communication channel has an average or expected synchronicity which, for the most part, governs communication within the channel.

[10] Note that synchronicity and ephemerality are not binary (i.e., synchronous or asynchronous) but exist on continuums. Face to face is completely synchronous, mailing a letter is extremely asynchronous, but texting, instant messaging, and email, fall somewhere in between. Similarly, while face to face communication disappears immediately, Instagram stories and snapchat conversations may give communicators up to 24 hours before their content disappears.

message or email), allow communicators to easily consider, deliberate on, and incorporate such content in future communication. They also reduce the cognitive effort required to maintain a conversation which increases the bandwidth available for deliberation. More ephemeral communication channels (e.g., face to face conversations), however, require holding that content in memory (if it is to be used).

Learned Association – Formality

Proposition 10: *The more a channel is associated with formal, calculated, and intentional communication, the more it should encourage deliberation, all else equal.*

Much like how speaking has interpersonal associations, and smartphones are associated with maintaining social identities, we suggest that different communication channels have different learned associations based on their typical uses.[11] Emails, for example, are often constructed in formal work settings to audiences who are often weaker ties. As a result, linguistic content produced via email is often more thoughtfully and carefully constructed (Grace, Kemp, Martin, and Parila 2015). Texts, on the other hand, are often sent to stronger ties and produced in contexts where careful consideration of linguistic content is unnecessary. We suggest that once learned, these associations automatically influence communication through different channels, regardless of audience and context.

[11] While learned associations for modalities and devices create differential audience salience, due to differences in the extent to which different modalities and devices are used for interpersonal purposes, communication channels are all used primarily for interpersonal communication. As a result, learned associations for different communication channels do not make the audience more or less salient.

How Channels Affect Audience Salience

Different communication channels should also affect the extent to which communicators are aware of and focused on their audience. In particular, we suggest that channels that encourage synchronous communication, and/or create social presence, should increase audience salience.

Process of Production – Synchronicity

Proposition 11: *Channel features that encourage synchronous communication should increase audience salience because a more recent audience is more accessible and concrete (i.e., richly represented), all else equal.*

When messaging back and forth quickly in a live-chat, for example, communication partners are focal: who they are and what they might be thinking and feeling is top-of-mind. As inter-turn time increases, however, audiences become less accessible and may be represented more abstractly (Trope and Liberman, 2010). This, in turn, may make communication seem less like an interpersonal interaction and more like information exchange (just as writing and PCs are less associated with interpersonal interaction). Said differently: in synchronous communication channels, communicators are not just responding to what was said, they are responding to *who* said it.

Synchronicity may also encourage communicators to consider potential audience responses. It's easier to picture how an audience might respond when you know the response is coming quickly. This, in turn, should increase audience salience. When quickly texting back and forth, for example, it's easy to think about how something you say might impact the person on the other end of those messages. The immediacy of response makes the cause-and-effect

relationship between your communication and your audience's response clear and concrete. In contrast, emailing a friend who takes weeks to respond may feel like sending a message into a void. You know a response is coming eventually, but because it is further in the future, it is harder to picture how your message will affect them and their response. This may lead asynchronous communicators to think less about their audience when producing communication.

Process of Production – Social Presence

Proposition 12: *Channel features that create social presence should increase audience salience, all else equal.*

Beyond synchronicity, we suggest that channel features should also affect audience salience though their effect on social presence (i.e., the degree to which the audience feels present; Short, Williams, and Christie 1976). Features of communication channels (e.g., hearing an audience's voice, seeing their face, or even seeing text bubbles move when they type) can make the audience feel more "present" while the communicator creates their message. Such features, not surprisingly, should increase audience salience.[12]

In face-to-face conversations, communicators can see their audience, read their body language, and hear their voice, so social presence is high. These conversations create the highest degree of audience salience by providing information about the audience and how they are responding to communication. Video chatting works similarly but limits the audience to a box on a screen, which should reduce their salience. Phone conversations further reduce social presence

[12] While the two constructs are related, note that they are conceptually distinct. Social presence is the absence or presence of particular channel features (e.g., a profile picture of a communication partner or their voice) that make the audience feel more present. Audience salience (i.e., how much the communicator is aware of and focused on the audience while communicating), on the other hand, exists solely in the mind of the communicator and is increased by a variety of factors including, but not limited to, social presence (e.g., synchronicity).

to merely a voice, which should reduce audience silence even further. Consistent with this notion, communicators tend to be more empathetic and interested in their partner's perspective when interactions take place face-to-face rather than over the phone (Holbrook, Green Krosnick, 2003). Similarly, compared to an online interaction, being in person leads to more socially desirable responding (Woodyatt, Finneran, and Stephenson 2016) and less inflammatory expression (Siegel et al. 1986). We suggest the heightened social presence of face-to-face communication increases audience salience, which encourages responding in ways that others will view favorably.

Social presence is typically reduced when texting, emailing, or using other written communication channels. In these channels, variation appears to be driven less by the channels themselves, and more by particular characteristics of these channels that may or may not be used in a given communication medium. Chatting on a messaging platform that includes moving text bubbles when the other person is typing, for example, should make the audience more salient by making them feel more socially present. Similarly, written communication channels where profile pictures are the norm (e.g., social media sites) should also increase social presence and consequently audience salience.

Implications

Our suggestion that communication channels create differing opportunity for deliberation, and audience salience, has important implications for understanding what people communicate (i.e., the words, topics, structures, and tones) across different channels.

First, by providing more opportunity for deliberation, channels where content is preserved (e.g., voice memos) should produce communication that better acknowledges,

incorporates, and builds on what was communicated previously. Channels where content is preserved allows communicators to add to what others have said. This, in turn, should lead to more productive conversations, through topics that are more relevant to the ongoing discussion, structures that build on previous arguments to develop new ones, and even the inclusion of words and phrases that other communicators have used earlier in the conversation. This may make communicators feel more like their audience is listening and cares more about what they have said. Likewise, having more time between conversational turns (i.e., less synchronicity) should also generate stronger, better-structured arguments which may lead to better group decisions.

Second, by increasing audience salience, high social presence channels should encourage adherence to social norms. This may increase the influence of people with higher standing or social status. Indeed, compared to computer-mediated communication, face-to-face communication increases social influence (Dubrovsky 1985) and deference to people with greater power or status (Kiesler, Siegel, and McGuire 1984). This is likely to result in more polite and formal tones and more socially appropriate conversation topics. Similarly, compared to phone calls, face-to-face interviews lead to more desirable responding (Mahfoud et al., 2015) which, in a group decision making context, is likely to cause acquiescence to a popular opinion. Even when the audience is not physically present, however, profile pictures or other reminders of the audience may have similar effects. Compared to reading someone's writing, for example, hearing their voice encourages richer representations of them as a person (Schroeder, Kardas, and Epley 2017). This should lead to communication in accordance with established social relationships with that person (e.g., informal tones with friends and socially appropriate topics with strangers).

Our model should also help understand emerging and developing communication channels. Developments in augmented reality, for example, suggest that novel channels like the Metaverse may soon be able to render three dimensional "images" of their audience in a communicator's physical space (Rosenberg 2022). While the technology itself is unprecedented, its effects should be quite predictable. Making it feel more like the audience is "present" while communicating should boost audience salience, which should encourage personal and interactive content. In this way, the propositions outlined above should give consumer researchers a stable foundation from which to contend with the future of communication, whatever it may be.

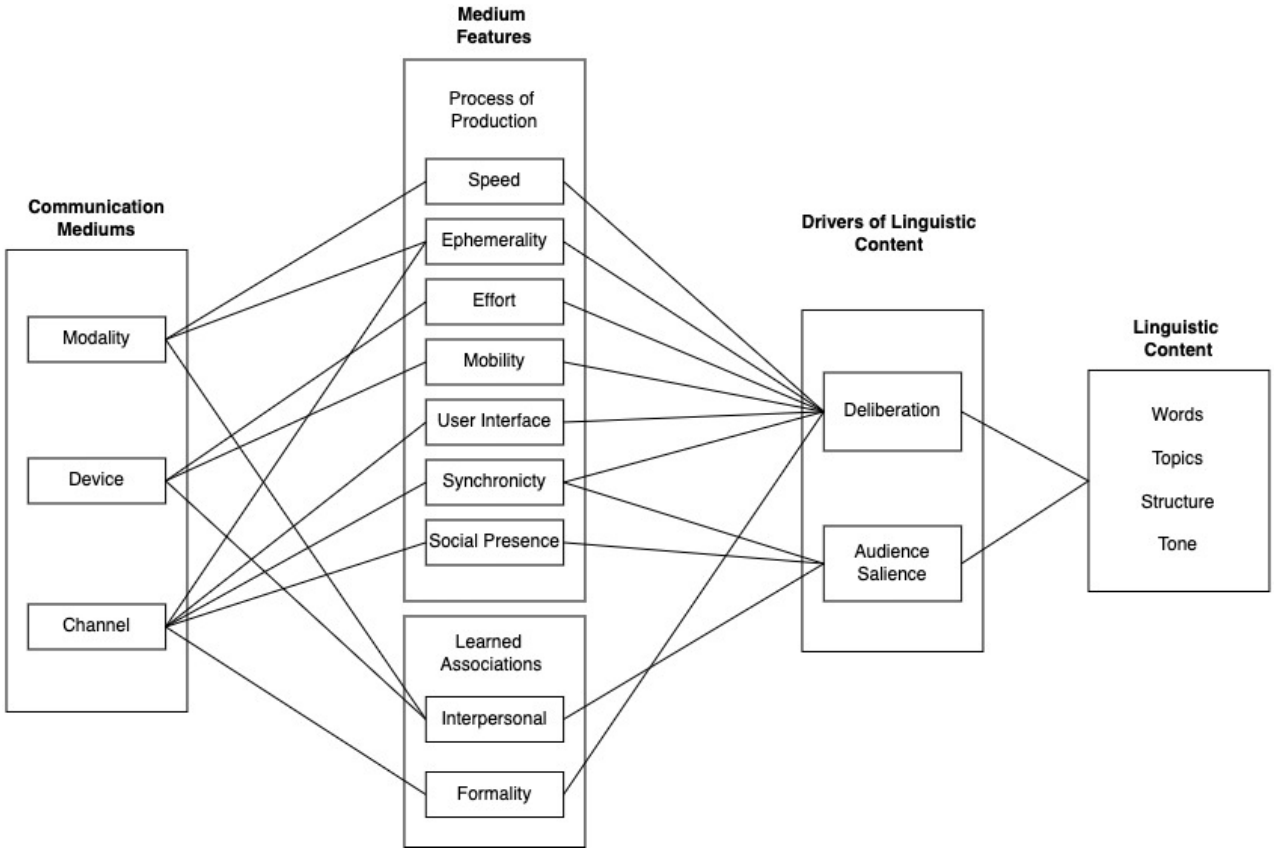
General Discussion

Whether sharing word of mouth, reviewing a restaurant, or posting political views, consumers are always communicating. Further, salespeople, customer service representatives, and a range of marketplace actors are constantly communicating with consumers.

While it is clear that communication is frequent, and important, it's less clear how the mediums through which communication occurs impact what gets shared.

This paper integrates research from various disciplines to fill this gap. While disparate streams of work have examined how modality, devices and channels each independently shape communication, there has been less attention to how these disparate pieces fit together. By integrating these mediums, and their effects, into a comprehensive conceptual framework driven by deliberation and audience salience, we provide deeper insight into how communication mediums shape the messages they produce (Figure 6).

Figure 6. How modality, devices, and channels shape communication



Other Communication Factors

While other communication factors (e.g., the audience or motivation of the communicator) may also shape the content communicated, note that these effects are not driven by the act of communication itself, but the goal communication sets out to achieve. People often tailor messages to match their audiences and achieve their goals (Baumeister and Hutton 1987). Consumers make more emotional appeals when they have an intention to persuade (Rocklage, Rucker, and Nordgren 2018), generate positive word-of-mouth to self-enhance (De Angelis et al. 2012), and share more useful information with close friends (Dubois, Bonezzi, and De Angelis 2016).

But while audience and motivation clearly matter, modality, devices, and channels have received less attention, because their effects are less obvious and intentional. These mediums are often seen as merely the vehicle for communicating a given message rather than an active determinant of that message. By exploring how mediums shape words, topics, structures, and tones, we hope to shed light on how the very act of communicating subtly but consistently shapes communication.

Expanding on Previous Models of Communication

Note that this work goes beyond existing models of communication. Broad models like Lasswell (1948) explore communication's role in society (e.g., preserving power or resolving conflict), but such large-scale models have less to say about how individual messages are altered by their method of production and delivery (e.g., using one device vs. another). Similarly, Berlo (1960) discusses how macro-factors (e.g., culture and social systems) shape the encoding and decoding of information, but are silent on the role of local communication context (e.g., modality, channel[13], and device) which also influences the "encoding" process.

Further, while other approaches (e.g., Information Richness Theory, Daft and Lengel 1983) do take a more micro-approach, they're less concerned with how mediums affect linguistic content and more with the information carrying capacity of communication channels within organizations. As a result, Media Richness (Daft and Lengel 1986) and its conceptual children (e.g., Media Synchronicity Theory, Dennis and Valacich 2008) are often concerned with determining which channels are appropriate for different organizational tasks based on how their capabilities allow information to be accessed, processed, and consumed. In contrast, we explore

[13] The "channels" discussed in the SMCR model are hearing, seeing, touching, smelling, and tasting and as a result do not cover channel effects as described here (e.g., text vs. email or social media vs. face-to-face conversations).

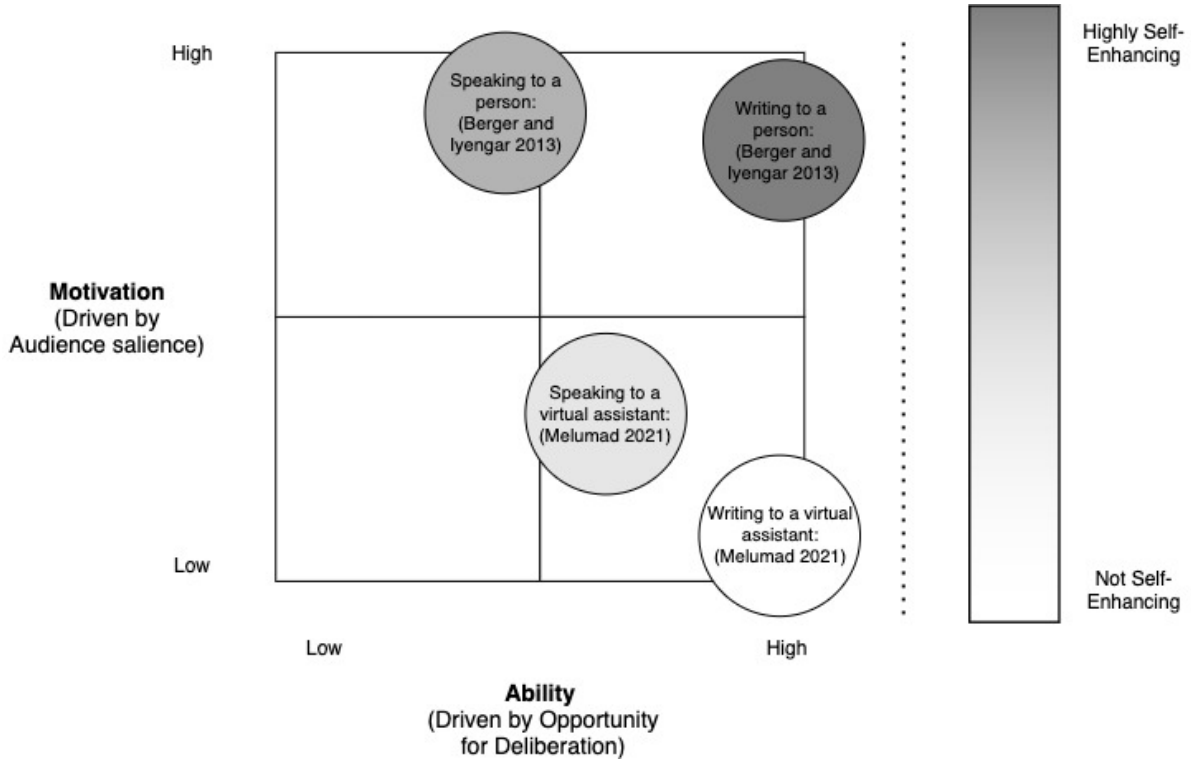
how the features of different channels (as well as modalities and devices, which work on richness does not explore) encourage the *production* of different content, independent of task or objective.

Resolving Contradictory Results

This framework can also help resolve seemingly contradictory results in prior work. While some work finds that writing leads consumers to mention more interesting products than speaking due to self-presentation concerns (Berger and Iyengar 2013), for example, other work finds the opposite (i.e., speaking, compared to writing, leads to more interesting products mentioned for the same reason, Melumad 2021).

This may seem inconsistent, but our framework highlights that the discrepancy can be explained by the broader context in which consumers are communicating. In particular, the different communication contexts likely led to different amounts of audience salience and deliberation which shaped the motivation and ability to produce self-enhancing content. Said another way, the degree to which content is self-enhancing can be seen as a combination of motivation to self-enhance and the ability to do so. Variation in audience (and how salient that audience is), affects the motivation to self-enhance while modality affects the ability to self-enhance (through the opportunity for deliberation, see Figure 7).

Figure 7. How audience salience, and deliberation create the motivation and ability to produce self-enhancing content in different contexts.



In the work that found writing led interesting products to be discussed (Berger and Iyengar 2013), participants are communicating with randomly selected students rather than their friends, so the motivation to self-enhance should have been relatively high (Tice et al. 1995). Additionally, because writing provides more time for deliberation, it gives participants the opportunity to create self-enhancing content, and the combination of high motivation to self-enhance and high ability to self-enhance leads them to talk about more interesting products (high motivation x high ability = high self enhancement). Speaking, however, decreases opportunity for deliberation and, consequently, the ability to produce self-enhancing content (very high motivation x low ability = moderate self enhancement).

In the work that found speaking led interesting products to be discussed (Melumad 2021),

however, participants were communicating with a virtual assistant rather than a human audience, so the overall motivation to self-enhance should be quite low (if such motivation exists at all). That said, because speaking causes participants to still imagine an audience, even when none is present (Melumad 2021), speaking still increases the *motivation* to self-enhance. Additionally, speaking to a virtual assistant reduces synchronicity because communicating with a search engine is an extremely asynchronous communication context. This provides more ability to produce self-enhancing content and, in this case, (moderate motivation x moderate ability = moderate self enhancement). While writers had more opportunity to deliberate, and thus more ability to self-enhance, the fact that they weren't writing to another person should have led their motivation to self-enhance to be very low, and consequently writing did not increase self enhancement in this case (high ability x very low motivation = little to no self enhancement).

This is just one example, but it highlights two broader facts regarding how communication mediums shape linguistic content. First, differences between modalities may not be as simple as "speaking leads to x" or "writing causes y." As the opposing effects in this example illustrate, although speaking may sometimes lead consumers to talk about more interesting products, in other cases, it may lead them to talk about less interesting ones.

Second, and more importantly, these seemingly opposing effects are not contradictory once a broader, more holistic perspective on communication is taken into account. By illuminating the role of the key drivers in these communication contexts (e.g., opportunity for deliberation and audience salience), our model resolves the seeming discrepancy.

Directions for Future Research

This discussion raises many interesting questions for future work.

Predicting Effects of Novel Technologies

Technological changes will undoubtedly lead to shifts in communication. Self-salience, for example, may be increasing. The pandemic aided rise of video chat has led many communicators to stare at their own faces while interacting with others, and voice notes allow speakers to listen to their own voices before sending a message. These channels increase self-salience, in addition to audience salience, which might boost the motivation to self-enhance or make self-disclosure feel more personal.

Input formats are also changing. Mobile keyboards were modeled after laptop keyboards, but today's communicators now have various ways to "type." This includes tapping letters, dragging a finger between letters, starting with letters and then selecting a word from the predictive text bar, or even using a stylus. These varying formats may impact communication. Formats that increase or decrease production speed, for example, should affect opportunity for deliberation. Similarly, tools like the predictive text bar may sometimes circumvent the need for deliberation by suggesting words a communicator would typically have to think more about in order to access.

Similarly, the rise of virtual assistants (e.g., Siri) has encouraged communicators to dictate texts instead of writing them. This provides new, and potentially exciting opportunities to test how channel and modality combine to shape communication. Future research might examine when and why modality has a stronger impact than channel and vice versa.

Technological advancements also have, and will continue to, create new ways to communicate. Smartphones were novel 15 years ago and channels like Instagram and Zoom did not exist. Smart watches are in their infancy today, but new communication mediums are on the horizon. By abstracting away from effects of particular communication mediums and focusing on the mechanisms through which all mediums shape linguistic content, the propositions outlined here should not just help researchers understand existing and emerging mediums but also pave the way for understanding new ones.

Virtual reality (VR) is already changing tourism (Kim, Lee, and Jung 2020), online shopping (MeiBner et al. 2020), and dining (Xu, Seigrist, and Hartmann 2021), and will also likely impact how consumers communicate in these, and other, VR contexts. That said, rather than starting from scratch to understand the effects of this new technology, our model provides a foundation from which the effects of VR on communication can be more easily understood. Given their use in multi-player games, for example, VR devices may generally be associated with social contexts, which should increase audience salience. The degree to which this occurs, however, may depend on other channel features. When VR communication channels offer close approximations of the communication audience, for example, they should increase audience salience, but if they render other consumers or employees as avatars or non-human entities, audience salience may be reduced.

How Communicators are Perceived

Modality, devices, and channels also shape how communicators are perceived. Compared to writing, for example, the mere act of speaking can humanize communicators (Schroeder, Kardas, and Epley 2017), highlighting their capacity to think, and lead them to be perceived as

more competent, thoughtful, and intelligent (Schroeder and Epley 2016). Importantly, these effects occur even controlling for communication content, suggesting that inferences from other modality features (e.g., paralanguage in voice) are driving the effects.

Expectations and associations from particular devices, or channels may similarly color the way communication is perceived. The same email, for example, may seem more rushed and less reflective when it says "sent from my iPhone" at the bottom. Such expectations, however, may lead to either assimilation or contrast (Boulding, Kalra, and Staelin 1999). Email's association with work, for example, may lead neutral content to be interpreted in a formal light (i.e., assimilation) but it could also make the relative informality of a neutral message even more apparent and thus lead it to be seen as more informal (i.e., contrast).

Selection of Communication Mediums

We focused on how modes, devices, and channels impact communication, but work might also consider when communicators choose particular mediums to achieve specific goals. Someone who wants to talk about a tough day, for example, may do so via video chat rather than text, hoping that the channel will facilitate a more personal response. Similarly, someone in a heated argument may choose to write from their larger computer keyboard rather than feel confined by the smaller keyboard on their phone.

Importantly, however, note that selection of a medium, and the impact of that medium, should combine to shape the content communicated. While someone might choose video chat to share something vulnerable, for example, the fact that they are video chatting in particular (rather than say, talking over the phone), will affect what they say during the conversation. In addition,

whether they choose to video chat with their mobile device, or over the larger screen of their PC, will further impact the content produced, even in unintended ways.

Combining Communication Mediums

Future research might also explore the relative strengths of the different relationships outlined in this framework, and contexts that moderate them. Devices determine the ease of producing messages, for example, but this relationship is clearly moderated by modality. While the process of writing differs greatly from laptop to phone to smart watch, the process of producing verbal communication seems to be much more uniform across devices.

More interestingly, both synchronicity and social presence increase audience salience, but synchronicity may have greater impact in written channels while social presence may matter more in spoken ones. Similarly, while the learned associations connected to smartphones mean that smartphone communication is often more social, and self-disclosing than on PCs, could channel (e.g., email vs. social media) moderate this effect? Future work could also examine whether decreasing synchronicity or decreasing ephemerality leads to more deliberative content and to what extent using a smartphone to draft an email makes the audience more or less salient than using a personal computer to create a social media post.

Lastly, while opportunity for deliberation and audience salience are often counterbalanced (i.e., modalities and devices that increase one tend to decrease the other), channel features can more than compensate for the difference. Future research should explore whether strategic combinations of modalities, devices, and channels can be used to facilitate specific conversational goals. For example, imagine using profile pictures to increase social presence, and therefore audience salience, in written communication channels (where

opportunity for deliberation is already high). Might this allow for persuasive content that is clear, organized, and well-reasoned, as well as personal, emotional, and tailored to the audience? These testable hypotheses leverage the framework developed here to examine the effects of modes, channels, devices, and most importantly, the drivers of communication, in new ways.

Conclusion

In conclusion, communication is an integral part of consumer behavior. Consumers share word of mouth, salespeople pitch products, and customer service agents communicate to solve problems. Communication, however, doesn't just happen. It is produced through a mode (i.e., speaking or writing), a channel (e.g., text or email), and often a device (e.g., smartphone or PC). These mediums combine to shape communication. By integrating modalities, channels, and devices into a comprehensive conceptual framework, and delineating the underlying processes that drive their effects, we hope to shed light on how context shapes communication and how mediums shape the message.

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