Consumer Disclosure

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ABSTRACT

As technological advances enable consumers to share more information in unprecedented ways, today's disclosure takes on a variety of new forms, triggering a paradigm shift in what "disclosure" entails. This review introduces two factors to conceptualize consumer disclosure: how (i.e., actively versus passively) and between whom (i.e., consumers and/or firms) disclosure occurs. We begin by exploring the drivers of active disclosure occurring in both social and commercial contexts: characteristics of (1) the discloser, (2) the situation in which the disclosure occurs, (3) the information being disclosed, and (4) others. Second, we review the limited but growing research on passive disclosure by focusing on (1) inferences observers make based on passively shared information, and (2) expectations disclosers have regarding the use and collection of passively shared information. Because the current understanding of passive disclosure is limited, we also outline what we see as fruitful avenues of future research. We conclude by pointing out what we perceive as key managerial insights.

1. Introduction

Consumers have arguably never shared (or been able to share) more personal information, more readily, and with wider audiences than they do today—a trend that is only likely to increase going forward. Where "self-disclosure" once suggested the intimate, in-person transmission of information about oneself to another (e.g., Cozby, 1973), today's disclosure takes on a variety of new forms. There are myriad ways in which consumers can and do freely provide information about themselves, their beliefs, and their preferences—from posting status updates or photographs on social media, to rating and reviewing the latest products or restaurants, to volunteering one's email address in exchange for a retail discount code. Understanding how and why this disclosure happens is an increasingly important research area for several reasons.

Most notably, consumers' personal data—a resource some have likened to the "new oil" (Economist, 2017)—have become increasingly critical to the financial success of many firms. For example, online advertising, an industry that is estimated to have surpassed $100 billion in revenue in 2018 (IAB, 2018), relies upon access to consumer data to personalize offerings and microtarget ads. Likewise, many "free" apps, including popular dating platforms such as Grindr and OKCupid, rely on the sale of users' personal data to third-party partners to monetize their products (Singer & Krolik, 2020). Indeed, the success of many modern business models hinges on both collecting and utilizing consumers' personal data.

Concurrently, there has been a paradigm shift in what "disclosure" entails. In an online world, what was once shared intimately between friends is now broadcast to entire social networks and beyond. This has blurred the line between consumer-to-consumer ("social") sharing and consumer-to-firm ("commercial") sharing. For instance, while platforms like

Facebook were ostensibly created to enable sharing between friends, it is now common knowledge that third-party firms access this same information to learn more about individuals' preferences and behaviors (Higgins, 2020). In the online domain, little disclosure remains truly private and personal.

Further, there has also been a blurring of the line between what is explicitly disclosed versus implicitly gathered or inferred. For instance, marketers do not need you to divulge your preferences for razors or shoes in order to know which you are most likely to buy. Thanks to clickstream data and tracking software (e.g., cookies), much of this information now exists in plain sight, thereby reducing the need to actively solicit such information. This reality represents a new and important form of disclosure: consumers passively leaving a trail of information about themselves simply by interacting with websites and apps, and making choices in increasingly observable contexts.

The result is a world in which the "disclosure" of personal information looks distinctly different from the past—both the content and consequences of disclosure have expanded exponentially. From a consumer standpoint, these new realities render the incentive to share ever murkier and the trade-offs to doing so more unclear. Consumers may derive social and psychological benefit from disclosure, from both an interpersonal and commercial perspective, but there are also non-negligible costs to sharing, including the forfeiture of one's privacy and negative impressions. Therefore, given the shifting backdrop against which consumers may disclose—i.e., the blurring of audiences and the changing nature of sharing—it is essential to understand when and why consumers share, as well as the (unintended) downstream consequences of sharing.

In this paper, we review the literature on consumer disclosure: How (and why) do consumers provide personal information about themselves to others—and, inversely, how do others implicitly glean personal information about consumers? We organize the paper into three main sections. In the first section, we lay out a framework for conceptualizing consumer disclosure, examining it in terms of what is being shared, by whom, and to whom. In the second and third sections, we review the existing literatures on disclosure—disclosure that is both actively and explicitly communicated (second section) and information that is passively and implicitly revealed (third section). Finally, we conclude by highlighting what we consider to be some of the most pressing and promising opportunities for future research.

2. What is Disclosure?

Before examining the causes and consequences of consumer disclosure, an important central question must first be addressed: What does it mean to "disclose"? Seminal social psychology work defined self-disclosure as "any information about himself which Person A communicates verbally to Person B" (Cozby, 1973, p. 73), and such work was often undertaken with the goal of understanding the role of disclosure in developing intimacy within personal relationships (e.g., Altman & Taylor, 1973). However, in today's environment, it is clear that disclosure has blossomed into a far more expansive construct with more broadly construed implications. Disclosure can be communicated in any number of ways: verbally (as Cozby [1973] specified)—but also nonverbally, online and offline, explicitly and implicitly, via commission and omission. Likewise, it may be shared among many audiences: one-on-one between Persons A and B—but also between Persons C through Z and beyond. (Indeed, the

disclosers and recipients may not be "persons" at all, but could also include companies, brands, or other nonhuman entities such as chatbots.) Such disclosure may also occur with a variety of goals: to develop intimacy within relationships—but also to enhance self-presentation (Jensen Schau & Gilly, 2003), convey information (Chen & Lurie, 2013), foster social connection (Aron, Melinat, Aron, Vallone, & Bator, 1997; Bargh, McKenna, & Fitzsimons, 2002; Sedikides, Campbell, Reeder, Elliot, & Gregg, 2002), and enhance mental and physical wellbeing (Pennebaker, 1995).

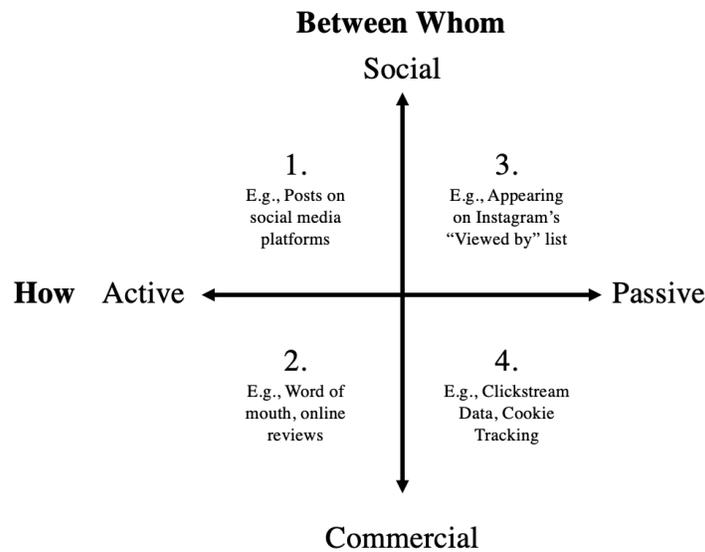All that to say: the landscape is expansive and the definition broad.

In keeping with Cozby's (1973) definition above, we conceptualize self-disclosure here as the provision of self-relevant details—i.e., those instances where the content of the disclosure is about (or directly relating to) a party involved in the disclosure. (For example, this would include someone sharing a personal detail about themselves or a recommendation for a product they have used, but would not include passing along of a piece of national news.) Likewise, we examine disclosure along the two key dimensions specified in the above definition: *how* and *between whom* the disclosure occurs (see Figure 1). Said differently, we look at (1) the ways in which the disclosure occurs, as well as (2) the parties involved on both the sending and receiving ends.

First, what is the nature of the disclosure? As one dictionary explains it, to disclose is both "to make known; reveal or uncover," as well as "allow to be seen; lay open to view" (Disclosure, n.d.). This definition touches on two important—but distinct—elements of disclosure: both explicitly sharing and implicitly making available information about oneself. In keeping with this, our first dimension situates disclosure along a spectrum from "active" to "passive" (see Figure 1). The former includes information that is explicitly shared—for instance,

that which is intentionally, directly, and/or knowingly disclosed (i.e., active disclosure). The latter includes information that is implicitly shared—for instance, that which is incidentally and/or indirectly disclosed or simply not concealed (i.e., passive disclosure). From the consumer's point of view, both active and passive disclosure are germane. Sometimes, consumers disclose actively both to other consumers and to firms (e.g., sharing a personal photo on Instagram; explicitly entering their email address in a website form); other times, consumers disclose more passively (e.g., allowing their choices to be viewed by friends; implicitly consenting to websites placing "cookies" on their computers to track activity more covertly).

Second, *between whom* does the disclosure occur? While early research tended to focus on interpersonal disclosure (e.g., Cozby, 1973), modern consumers also disclose to firms—a trend accelerated by the rise of the digital economy. Thus the second dimension concerns the parties involved—be it in the role of discloser and/or recipient—situated along a spectrum from "social" to "commercial." Purely social disclosure includes things like sharing a secret with a friend or telling another person an intimate personal detail—i.e., the sharing of personal or social information between individuals in a social context. Purely commercial disclosure includes, for example, a consumer's provision of demographic information (e.g., a personal email address) to a firm—i.e., the sharing of transaction-relevant information between consumers and firms. Of course, this distinction between social and commercial is not always dichotomous; some disclosures fall somewhere in between. For instance, word-of-mouth product recommendations are a mix of social and commercial—happening, say, interpersonally between consumers but pertaining to more transactional content.

Figure 1. Conceptualizing disclosure

Between Whom

Social

1.	3.
E.g., Posts on social media platforms	E.g., Appearing on Instagram's "Viewed by" list

How Active ←————————→ Passive

|	
2.	4.
E.g., Word of mouth, online reviews	E.g., Clickstream Data, Cookie Tracking

Commercial

Because of its substantive overlap in the literature, we review social and commercial disclosure together. While there are important ways in which these two domains could differ—for instance, privacy concerns may be more salient for commercial disclosures than for social ones—the line delineating them has become increasingly blurred. We outline some of these possible distinctions in the General Discussion and highlight areas where future research might further disentangle these two dimensions. By contrast, we lay out the research on active and passive disclosure separately, as their antecedents and consequences diverge in fundamental ways. For instance, consumers are often very conscious of the occasions in which they actively disclose personal information (e.g., sharing a photo on Instagram), but may remain unaware of the data they are passively communicating (e.g., the "digital footprint" they are leaving behind on websites, or the signals they are unintentionally sending with their choices). As such, the research on disclosing actively versus passively has evolved in more easily discernible ways, and will be reviewed separately.

We begin by exploring drivers of active disclosure in social and commercial contexts—arguably the most thoroughly researched domain—and then examine the small but growing body of research on passive disclosures.

3. Active Disclosure

At the root of self-disclosure is a powerful truth: People have an inherent desire to be known by others. Yet even beyond this baseline intrinsic motivation, situational factors may also encourage (or discourage) the active sharing of social information. This section highlights what we consider to be some of the most intriguing drivers of disclosure in both social and commercial contexts, and those for which there exists a quorum of supporting evidence. We examine drivers of disclosure in four buckets: characteristics of (1) the discloser, (2) the situation in which the disclosure occurs, (3) the information being disclosed, and (4) others (i.e., individuals surrounding the discloser) (see Figure 2).

Figure 2. Conceptualizing the drivers of active disclosure
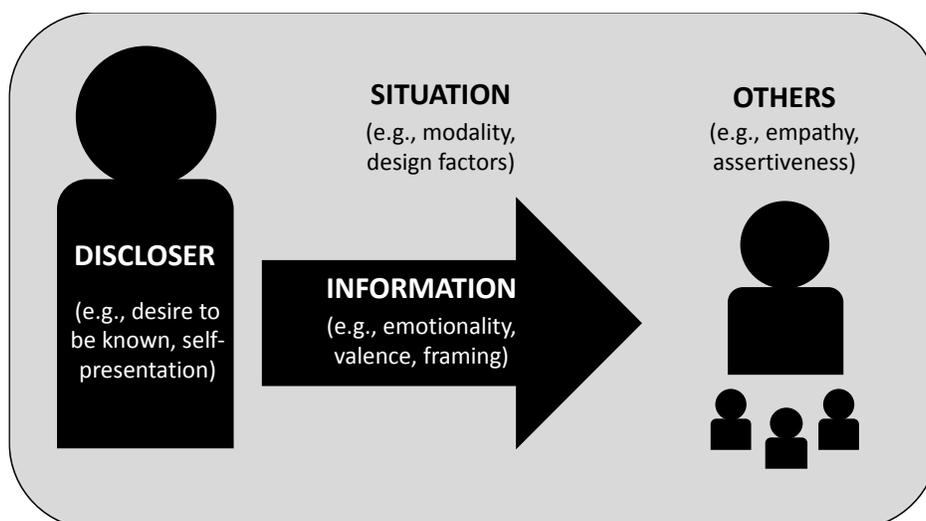
3.1. Characteristics of the Discloser

In a classic Seinfeld scene, Elaine contacts a woman that George Costanza is newly dating. When George discovers this, he is terrified that his worlds are "colliding"—that his close friends, who know him, warts and all, are mixing with a new person who (so far) only knows George on his best behavior, threatening to undermine his carefully constructed façade. And yet, there is also the tantalizing possibility that this converging will give George the possibility to be loved by the woman for who he truly is.

At the root of George's anxieties lies a core psychological driver of disclosure: the desire to be known—or, more aptly, a constellation of related drivers, including self-presentation and self-verification concerns. Sometimes we want to be known for who we truly are; other times, we want to be known in a certain, more polished light. Indeed, identity is multifaceted and complex (Linville, 1985) and serves as a powerful driver of disclosure behavior. Here we describe two identity-related drivers of disclosure: the desire to be known "warts and all," and the desire to be known in a certain, typically desirable, light.

Importantly, whether we are driven to disclose because we want to be known authentically or because we want to be known in an idealized way, making the self known to others is a potent psychological force—essential to healthy human functioning and serving our core need for affiliation (Baumeister & Leary, 1995). Consider, for example, that when people experience social exclusion—a kind of extreme form of being "unknown" —they experience distress (Baumeister & Tice, 1990; Williams, Forgas, & Von Hippel, 2005). Moreover, a wealth of research attests to how making the self known to others (via self-disclosure) creates

meaningful interpersonal bonds (Bargh et al., 2002) and is associated with both mental and physical wellbeing (Pennebaker, 1995).

Desire to be known "warts and all." Classic social psychological research attests to people's desire to be known for who they truly are—or, at least, for who they think they truly are. Specifically, undergirding self-verification theory is the notion that people want others' opinions of them to align with their self-views, such that even people who view themselves negatively prefer others to also view them in the same negative light. For example, in a classic experiment, participants chose one of two partners with whom they would do a task—one who knew them for who they truly were, warts and all, or one who had an inflated sense of their positive traits; participants tended to choose the former partner (Swann, Stein-Seroussi, & Giesler, 1992).

Broadly, this drive may help to explain the preponderance of self-disclosure on social media, a platform that enables people to share their authentic selves. Indeed, research analyzing the content of social media posts suggests that people are as (or more) likely to project their "true" selves on social media and in online contexts more broadly (Back et al., 2010), rather than an "idealized self," as had been commonly assumed. For example, in one study, Vazire and Gosling (2004) asked individuals ("authors") with personal websites to assess themselves on Big 5 personality traits—both actual and ideal. Observers then viewed the websites and predicted the authors' Big 5 personality characteristics. These impressions correlated more strongly with the authors' actual Big 5 traits than their idealized traits, suggesting that authors had, in fact, shared more authentic "warts and all" versions of themselves. That said, there was some evidence for idealization: authors presented themselves as slightly more extraverted and agreeable than reality.

Desire to be known in a desirable light. As Goffman (1978) described it, "self-presentation is the intentional and tangible component of identity" (as paraphrased in Jensen Schau & Gilly, 2003, p. 385). Indeed, a large body of research suggests that people engage in a variety of tactics to cultivate and manage the impressions that others have of them (to varying degrees of success). Importantly, this desire to be known in a desirable light is not limited to making impressions on others; rather, a vast literature on self-enhancement suggests that people engage in behaviors and cognitions that enable them to "know themselves" in a positive light. For example, people may take credit for successes and deflect failures to external factors (Gilbert & Malone, 1995). Within the context of disclosure, self-presentation concerns play out in the selective revelation of desirable information about the self. For example, Tice, Butler, Muraven, and Stillwell (1995) showed that people are more likely to present themselves in a favorable light especially when interacting with strangers.

Existing research also shows that self-presentation concerns drive disclosure behaviors in commercial contexts—particularly in word-of-mouth marketing. For instance, Packard and Wooten (2013) found that when people are primed to feel as though their actual knowledge base (e.g., of music) falls short of their ideals—that is, when they are made to feel as though they wish they knew more about music—they have an increased propensity to leave a review for music products. Further, the authors identified a psychological driver of this effect: dejection. Feeling as though one does not measure up to one's ideal self spurs feelings of dejectedness; however, as the authors argue, actively disclosing one's thoughts about a product via product reviews is a convenient, relatively low-effort way of reducing this feeling, by signaling your knowledge to yourself and others.

Other research has shown that consumers are especially likely to engage in word-of-mouth in contexts in which self-enhancement motives are salient. For instance, Barasch and Berger (2014) examined what consumers disclose when sharing with audiences of different sizes (holding audience type constant—i.e., whether one is divulging to friends or strangers). As they demonstrate, consumers are more likely to share useful informational content (e.g., that shoes are on sale) when sharing to only one other person ("narrowcasting"). By contrast, when sharing to large groups ("broadcasting"), consumers tend to focus more on sharing content that enhances the self (e.g., that a salesperson complimented them on how the shoes looked on them). The authors suggest that these effects are driven by self-presentation motives: Consumers are more likely to be concerned about the impressions they make on others when sharing to large, as opposed to small, audiences.

Relatedly, De Angelis et al. (2012) examined disclosure for first-hand versus second-hand word-of-mouth, comparing the sharing of one's own consumption experiences (e.g., your restaurant review) versus someone else's consumption experience (e.g., your friend's restaurant review), respectively. When it comes to first-hand word-of-mouth, self-enhancement causes people to generate positive word-of-mouth—for example, writing about and sharing information on their own positive consumption experiences. However, when it comes to second-hand word-of-mouth, self-enhancement motives cause people to generate negative word-of-mouth—that is, they are more likely to transmit others' negative (versus positive) consumption experiences. This pattern is consistent with self-enhancement research in social contexts, which indicates that people can bolster positive self-views by either emphasizing positive experiences associated with the self, or by emphasizing others' negative experiences.

How to reconcile these findings? While some research points to the fact that people are motivated to reveal their "true selves," other research finds the opposite—namely, that people are motivated to reveal an idealized version of themselves. The question therefore remains: When do people reveal their true selves versus idealized selves? One recent review suggests that consumers' decision to reveal true versus idealized selves may vary depending on whether they are disclosing in social or commercial contexts. For instance, providing an online product review—a form of active disclosure in commercial contexts—has the characteristics of asynchronicity, identifiability, and larger audiences, which tend to prompt self-presentation concerns, whereas synchronicity, anonymity, and smaller audiences tend to favor presentation of one's "true self" (Schlosser, 2020).

In sum, regardless of which self is presented, the desire to be known, writ large, appears to be a major impetus for self-disclosure.

3.2. Situation

Even holding constant the question being answered or content being offered, consumers may find themselves in any number of very different situations when disclosing. Are they being asked to reveal personal information in-person or online? To a peer or to an institution? With the expectation that the disclosure will be permanently recorded or fleeting and temporary? Situational factors such as these also determine whether consumers are willing to actively share.

Modality. Research has found that different modes of communication affect both whether and what people reveal, notably comparing disclosure that is (1) online versus face-to-face, (2) spoken versus written, and (3) communicated via various devices.

First, a cluster of work has focused on offline (e.g., face-to-face) versus "computer-mediated" (e.g., online chat) communication. As they document, the latter typically yields greater self-disclosure and disinhibition (Berger & Iyengar, 2013; Crockett, 2017; Joinson, 2001; Kiesler & Sproull, 1992). For example, Joinson (2001) manipulated whether dyads conversed face-to-face or via an online chat application, randomly assigning participants to one of the two formats. Content coding of conversation transcripts revealed greater levels of disclosure in the computer-mediated condition relative to face-to face. Joinson suggests that the computer may act as a mirror by "reflect(ing) back at the communicants themselves," causing individuals to become more self-focused. In other words, computer-mediated communication seems to trigger people's desire to be known.

Second, disclosure varies depending on whether the communication is spoken or written. Using lab experiments coupled with analysis of over 20,000 conversations, Berger and Iyengar (2013) examined how these two modes affect word-of-mouth processes. They concluded that written (versus oral) communication leads consumers to share information about more interesting products (e.g., augmented reality glasses) than more boring products (e.g., chairs). The authors attribute this effect to communication asynchrony and self-presentation concerns, concluding that: "written communication gives people more time to construct and refine what to say, and self-enhancement motives lead people to use this opportunity to mention more interesting things."

Finally, focusing exclusively on written content, Ransbotham, Lurie, and Liu (2019) examine how word-of-mouth content differs as a function of "mobile" (i.e., written on one's mobile device, such as a cell phone) versus "nonmobile" (i.e., written on a nonmobile device, such as a desktop computer). The authors find that—relative to content generated on nonmobile

devices—content generated on mobile devices is typically more affective, more concrete, and less extreme.

Design factors. Digital communication presents many design choices: How should consumers be asked for their information? In what contexts are they more likely to disclose information that firms and friends may find valuable? Recent research points to how design factors such as (1) permanence versus temporariness, (2) professionalism versus unprofessionalism, and (3) question ordering affect a consumer's likelihood to disclose.

First, there are temporal aspects that influence a consumer's likelihood to share information—and in particular, sensitive information. For instance, recent work has documented that people are more apt to make sensitive disclosures (e.g., sharing a risqué selfie) when randomized to use "ephemeral" sharing technologies such as Snapchat, whereby the recipient can view the disclosure only temporarily (Hofstetter, Rüppell, & John, 2017). This effect arises in part by dampening sharers' privacy concerns, in turn facilitating disclosure.

Second, in addition to the impermanence of disclosure, unprofessional-looking interfaces can also induce disclosure of sensitive personal information (John, Acquisti, & Loewenstein, 2011). In one experiment, participants were asked to provide researchers with answers to sensitive questions on one of three web interfaces: an unprofessional-looking site that featured a pixelated logo and *Comic Sans* font; a polished, highly professional-looking site; or a bland, neutral-looking site that served as the control. From a logical internet-privacy standpoint, the unprofessional-looking site should have set off "alarm bells" in people's minds as unprofessional-looking sites have been shown to have poorer data protection standards than more polished websites (Cranor, Egelman, Sheng, McDonald, & Chowdhury, 2008; Ivory & Hearst, 2002). However, people were almost twice as likely to divulge sensitive information on the

unprofessional-looking site compared with the professional-looking one (with similar disclosure rates on the professional-looking and control interfaces).

Follow-up studies ascertained what does—and does not—seem to drive this effect. It does not seem to be driven by rational inferences—for example, that the makers of the unprofessional site are incompetent and incapable of abusing user data. Instead, as with the research on temporariness, the effect depends partly on whether people are thinking about privacy at the moment they receive a solicitation for personal information. Once the concept of privacy is brought to mind, people became (appropriately) wary of the unprofessional-looking site. In one experiment, before completing the personal survey, half of participants took a test called "Phind the Phishing emails," in which they viewed emails and identified them as "phishing" (i.e., masquerading as a trustworthy source to obtain passwords) or "just spam" (i.e., junk email). Thinking about phishing suppressed the unprofessional interface's ability to lure people to divulge.

Finally, the order in which questions are administered seems to matter as well. In the "relationship induction task," interpersonal liking is induced by randomly pairing participants and having them answer a series of increasingly sensitive personal questions. Similarly, participants randomized to answer a series of increasingly sensitive personal questions reported greater rapport relative to dyads assigned to make small talk (Aron et al., 1997; Sedikides et al., 2002). Thus it appears that the mutual answering of sensitive questions, at least when those questions are presented in an increasing order of sensitivity, fosters self-disclosure, and in turn, rapport. On the other hand, recent work in which the ordering of sensitive questions was manipulated (Acquisti, John, & Loewenstein, 2012), shows that people disclose more when asked in a decreasing order of intrusiveness relative to when asked in either a random or

increasing order of intrusiveness. This effect appeared to be driven by a kind of "psychophysics" of perceived question intrusiveness: When questions are posed in a decreasing order of intrusiveness, after the first, highly sensitive question, each subsequent question seems relatively benign, thus inducing disclosure.

Future research could test for possible moderators that reconcile these seemingly contradictory findings. For example, conversational goal could matter: In the Aron et al. (1997) and Sedikides et al. (2002) work, whereby participants seemed to really "open up" when questions were posed in an increasing order of intrusiveness, the goal was social: getting to know each other. By contrast, in Acquisti et al. (2012), there was no such goal; the questions were simply asked starkly on a web page, in what might have felt like an interrogation. In this vein, future research could explore whether this contextual factor differs as a function of the social-versus-commercial continuum.

3.3. Information

Active disclosure is not only initiated by internal drivers, such as a desire to be known, or external, situational factors. Research has shown that the nature of the information at hand can also influence whether or not it is shared. Here, we review three types of content that predict whether that given piece of content will be disclosed: (1) emotionality, (2) valence, and (3) framing.

Emotionality. All else equal, people are more likely to disclose information that is highly emotional as opposed to information that is more dispassionate in tone. Prior research has shown that emotional content induces rumination (Horowitz, 1975) and also prompts individuals to seek

out the company of others (Cottrell & Epley, 1977), prompting the social sharing of emotion. Indeed, Luminet IV et al. (2000) found that participants who were randomized to watch emotional clips were more likely to then discuss their feelings with others. Moreover, in Rime et al. (1991), people were asked to recount an emotional experience and whether they had told someone about it. The vast majority—approximately 90%— indicated that they had, and this percentage held regardless of the specific emotion that the experience had elicited—from sadness, to joy, to fear.

Valence. Consistent with impression management as a driver of disclosure, people are generally more inclined to disclose positively (versus negatively) valenced personal information (Berman, Murphy-Berman, & Pachauri, 1988; Carbone & Loewenstein, 2020). For instance, Waterloo, Baumgartner, Peter, and Valkenburg (2018) found that content on social media platforms tended to skew positive as people are more likely to share positively valenced (rather than negatively valenced) information. And perhaps for good reason—after all, sharing negative information in social contexts can be met with reproach (John, Blunden, & Liu, 2019). At the same time, in commercial contexts, individuals motivated to share negatively valenced information may actually be valued by others. For instance, research has shown that in the context of online reviews, consumers prefer negatively valenced reviews as they find them to be more informative and valuable (Chen & Lurie, 2013).

Framing. Recent research has also shown that—above and beyond positive or negative valence—there is an effect of attitude framing (Catapano & Tormala). For example, people are more likely to disclose support-framed attitudes (e.g., "I support gun rights") than opposition-framed attitudes (e.g., "I oppose gun limits") (Catapano & Tormala).

3.4. Others

As social creatures, it should come as no surprise that a person's propensity to disclose is affected by others' disclosure behavior. Indeed, a wealth of research in psychology, consumer behavior, and allied fields points to how people take their cues from others on how to behave in a given situation; disclosure is no exception. Several studies have shown that seeing others self-disclose prompts people to self-disclose themselves (Ehrlich & Graeven, 1971; Jourard & Friedman, 1970; Mikulincer & Nachshon, 1991). Even merely inducing the perception that others are sharing can effectively prompt disclosure via perceived social acceptability (Chang, Krupka, Adar, & Acquisti, 2016).

Others' disclosure behavior, and the social norms this inculcates, seems to be a predictor of whether and what we disclose—even when the content is sensitive. In one study, participants were more likely to disclose sensitive personal information when informed that a large proportion of "other participants" had also done so (Acquisti, John, & Loewenstein, 2013). So strong is this urge to mimic others' disclosure behavior that even *nonhuman* entities' "self-disclosure" can trigger people to reveal personal information. For example, people were more likely to disclose intimate information about themselves when interviewed by a computer that precedes each question with some information about itself (Moon, 2000). Moon's explanation for this finding is rooted in the theory of social response, which posits that in responding to a stimulus that has human-like characteristics, people reflexively draw upon the same social behaviors as they would in a human-to-human interaction (Nass & Moon, 2000; Reeves & Nass, 1996). From this perspective, when a nonhuman entity engages in self-disclosure—a prototypically human activity—it can prompt reciprocation, just as in interpersonal disclosure.

This mechanism has implications for the social-commercial continuum, implying that firms' efforts to elicit consumer disclosure may be particularly successful to the extent that such requests feel social. For example, a firm that programs its automated chatbots to use colloquial (i.e., human) turns of phrases may find its customers to be more forthcoming. Future marketing research could test whether doing so might improve customer service—to the benefit of the firm and consumers alike.

A specific type of "other" —the recipient, or entity to whom information is disclosed—is worthy of special mention, for research indicates disclosure is affected by recipient characteristics. For example, people generally are more likely to disclose to targets who are compassionate as such recipients tend to be perceived as empathetic and helpful (Cowan, 2014; Slepian & Kirby, 2018). Moreover, and perhaps somewhat less intuitively, people are more likely to disclose to those who are assertive (Slepian & Kirby, 2018). Finally, group size also matters (Cooney, Mastroianni, Abi-Esber, & Brooks, 2020); Taylor, De Soto, and Lieb (1979) found that people are more likely to disclose secrets to a dyad relative to a triad, and that this is because small groups tend to feel more psychologically safe relative to larger ones.

4. Passive Disclosure

There are endless ways in which consumers can—and do—actively disclose their information to both friends and firms alike. However, these active disclosures are not the only source of personal information; more incidental, indirect passive disclosures, too, provide a wealth of information for observers to glean. Passive disclosures—such as the "digital footprints" that we leave via the websites we browse, the questions we ask Alexa, and the

cookies we accept—are becoming ever more prevalent in the age of big data, machine learning, and digital marketing. And these passive disclosures are not limited to the online world; there are myriad ways in which passive disclosures can occur offline as well—through behaviors as diverse as our emotional displays or our clothing choices. Therefore, although not traditionally included within the realm of disclosure research, we suggest that—for a fuller understanding of modern consumer disclosure—it is also critical to consider that which is left unsaid or merely passively revealed.

In the previous section, we introduced four different factors that drive active disclosures in both social and commercial contexts. However, unlike active disclosures that are, by definition, intentionally and knowingly shared, passive disclosures encompass the disclosures that individuals may or may not have intended to make, and may or may not be aware they actually did make. How can individuals and firms glean and interpret such information? Further, how do the disclosers feel about others collecting and using their passive disclosures? In this section, in addition to reviewing research that responds to each of these questions, we outline several opportunities that seem promising for future research.

4.1. Recipients of passively shared information

In addition to fundamentally shifting the ways in which firms and consumers interact, digital technologies have enabled marketers to gather a tremendous amount of data about consumers' online behaviors, and in turn, make inferences and predictions about consumers' wants and needs. A growing number of researchers are studying how passive disclosures may be used to generate accurate assessments of consumers. For instance, Matz et al. (2017) found that

passive disclosures such as people's Facebook likes accurately predict their personality characteristics. Moreover, they also found that targeting people based on these inferred personality characteristics can drive clickthrough and purchase rates. Relatedly, Gladstone, Matz, and Lemaire (2019) showed that marketers can accurately predict people's personality traits based on their spending records. These papers suggest that passive disclosures can be a valuable source for firms as they can identify and target consumers with an unprecedented degree of precision and personalization—in turn, facilitating the discovery of products uniquely suited to consumers' needs and wants (Tam & Ho, 2006).

Looking forward, future research could examine what types of passive disclosures observers—ranging from friends and family to marketers—are most likely to rely on to make inferences about the discloser. For instance, research suggests that emotional displays serve as a prevalent form of passive disclosure, because they tend to occur spontaneously and naturally— and thus unintentionally and/or indirectly disclose one's underlying state—through the expresser's facial expressions (Ames & Johar, 2009), body language (Meeren, van Heijnsbergen, & de Gelder, 2005), and voice (Hancock, Landrigan, & Silver, 2007). People tend to think that emotional displays serve as informative and credible cues about an individual's untainted self— perhaps due to the very qualities of spontaneity and naturalness (Barasch et al., 2014; Harker & Keltner, 2001; Newcombe & Ashkanasy, 2002). One open question is whether these effects hold in the digital space, where emotion detection may be impoverished relative to in-person interactions. That said, new media have been emulating in-person interactions with increasing fidelity. For example, platforms such as Instagram and Twitch enable users to broadcast video to—and interact with—their followers in real-time.

Relatedly, many social media platforms allow users to signal their attitudes through a single click (e.g., "Like", "Upvote"), which can be interpreted in many different ways ("liking" someone's new profile photo is different from "liking" a post on someone's cancer diagnosis) (Wohn, Carr, & Hayes, 2016). Despite this ambiguity, considering that digital contexts are highly ambiguous and prompt individuals to be overly reliant on contextual cues (Valsesia, Proserpio, & Nunes, 2020), observers may still choose to overtly rely on someone's "likes" as an informative cue and proceed to make (inaccurate) inferences about the discloser.

More broadly, future research can explore the psychology of observers—how they rely on, and interpret, active versus passive disclosures. For instance, do observers believe that passively shared disclosures are more indicative of a target's core, true identity?

4.2. Disclosers of passively shared information

Consumers passively disclose information about themselves in myriad ways—often without realizing that they are doing so. Thus consumers may often be surprised to discover the extent to which firms can make accurate inferences about them. Consumers may even (erroneously) think that firms have collected and used their data without their consent. For instance, a minority of consumers read privacy notices: A recent Deloitte survey of 2,000 U.S. consumers revealed that more than 90% of consumers consent to legal terms and conditions without reading them (Cakebread, 2017). And can you blame them for not doing so? One study concluded that it would take a person roughly a month of working hours if they were to read the privacy policy of every website they visited in a given year (McDonald & Cranor, 2008). Moreover, such notices have only grown longer and more complex over time (Milne, Culnan, &

Greene, 2006). Therefore, the average consumer is likely to be naïve about what personal information is collected—i.e., the information they are passively and implicitly disclosing—and the ways in which such passive disclosures are used.

However, consumers are becoming increasingly conscious of, and concerned about, how marketers may be using their information (Lambrecht & Tucker, 2013; Morey, Forbath, & Schoop, 2015). Marketers should seek to identify possible downstream consequences of this increased awareness. In this vein, we recently investigated how consumers react to ad transparency—firms' voluntary disclosure of the ways they collect and use consumers' personal data to generate behaviorally targeted ads (Kim et al., 2019). For example, clicking on the AdChoices icon placed in the corner of many online ads allows consumers to learn why they received that ad. We suspected that upon doing so, many consumers would be surprised to learn of the breadth of ways their data has been (passively) collected,[1] and sought to understand when such knowledge would increase versus decrease ad effectiveness. Specifically, we developed and tested a theory of offline-to-online norm transference, drawing on the notion that whether such transparency heightens or dampens ad effectiveness depends on whether the marketer had adhered to well-established communication norms in the offline world (e.g., Grice, 1989; Goffman, 1956; Nissenbaum, 2011). Mirroring the offline norm of (to put it colloquially) "don't talk about people behind their backs," people disengage from ads when they discover that those ads were generated based not on their own active disclosures of their data, but on passive, third-party data sharing. On the upside, in field experiments with online retailers, ad effectiveness was

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[1] (Indeed, when one of us clicked on one such icon, she was surprised to learn that the resultant ad was a product of over 40 trackers, surreptitiously placed on her browser – and she studies privacy!).

enhanced when consumers learned that ads were generated based on information they had actively shared with the marketer.

Thus recipients of passively disclosed information should be careful not to "overstep" that which is acceptable to know. However, as "big data" become the new normal for businesses, entirely avoiding the use of passive consumer disclosures will be practically infeasible. Thus future research might examine ways in which firms could counteract the negative impact of collecting and using passive consumer disclosures, without having to overhaul their data infrastructure—for example, by providing consumers with greater control over the aspects of their digital footprints that firms are allowed to use, or by showcasing the personalization benefits of generating recommendations based on passive disclosures. Researchers could also look toward everyday conversational norms to derive inspiration for potential moderators. For instance, just as a person may be upset if her best friend of 20 years fails to infer—and celebrate—her pregnancy despite noticing changes in eating habits, consumers may find it upsetting if brands they feel especially close to refrain from using all the information they have to provide personalized experiences. Future research may also seek to identify potential downstream consequences of violating consumers' expectations of how their passive disclosures ought to be used. Do consumers make different inferences about marketers' motives when an ad is based on an active versus passive disclosure (Friestad & Wright, 1994)? If consumers find the use of passive disclosures more aversive, are they more likely to take privacy precautions? Might consumers forego personalization benefits and boycott the firm? Questions abound.

Finally, consumer attitudes about the collection and use of personal information have changed over time, and will inevitably continue to change into the future. As technological advancements continue to enable firms to gather data about consumers in novel ways, what

consumers today deem invasive and unsavory may tomorrow be considered benign and acceptable. Empirical research must keep pace.

5. General Discussion

As technological advances enable consumers to share more information in unprecedented ways, today's disclosure takes on a variety of new forms, triggering a paradigm shift in what "disclosure" entails. In this review, we introduced two factors to conceptualize disclosure: how (active-passive) and between whom (commercial-social) disclosure occurs (Figure 1). Because we observed that extant research on disclosure within commercial versus social contexts had a fair amount of overlap, we organized our review into two sections. First, we explored some drivers of active disclosure operative in both social and commercial contexts: characteristics of (1) the discloser, (2) the situation in which the disclosure occurs, (3) the information being disclosed, and (4) others. Second, we reviewed the limited but growing body of research on passive disclosure by focusing on: (1) inferences observers make based on passively shared information, and (2) expectations disclosers have about the use and collection of passively shared information. Throughout, we have highlighted what we believe to be promising areas for future research.

Beyond those, we encourage future work to systematically explore the differences between each of the four quadrants, in the service of uncovering effects distinct to each. How might consumer disclosure in commercial contexts be systematically different from social contexts? For example, as we speculated in our review of active disclosure, self-presentation concerns may loom larger in certain commercial (versus social) contexts due to the

characteristics of asynchronicity, identifiability, and audience size (Schlosser, 2020). More generally, it is possible that people's propensity to disclose may depend on the norms specific to the context of disclosure. In commercial contexts, the parties involved typically interact with each other in a transactional manner by engaging in an ongoing cost-benefit analysis, while interactions in social contexts are characterized by generosity and trust (e.g., Clark & Mills, 1993). These insights suggest that people who disclose in commercial—versus social—contexts may feel more entitled to receive something in return, whether it be a more personalized experience or a financial reward. Furthermore, since interactions in commercial contexts are often characterized by an underlying lack of trust, privacy concerns may be more salient for commercial disclosures than for social ones.

To close, we underscore what we see as some key trends of the "digital age" that are of relevance to consumer disclosure, and thus have implications for modern marketing practice. First, we suggest that as consumers become increasingly aware of the different ways in which their data are collected and used by firms, they are demanding greater transparency from firms— a better idea of when and what consumers are implicitly disclosing. While transparency is generally considered a laudable practice, recent research suggests that it can serve as a double-edged sword, as it sometimes promotes (Buell, Kim, & Tsay, 2017; Mohan, Buell, & John, 2020)—but other times undermines (Kim et al., 2019)—the quality of consumer-firm relationships by revealing unsavory information. As transparency practices become more common, it is ever more important for firms to stay vigilant in monitoring consumer attitudes about the collection and use of personal information—and adjust their practices accordingly.

Relatedly, with technological and digital advancements enabling firms to elicit information from consumers in many different, innovative ways, it will be critical for firms to

understand the risks that come with those practices. Several papers we discussed here suggest that firms may benefit by turning to the well-established norms that guide our offline, social interactions (e.g., Kim et al., 2019; Moon, 2000). After all, when interacting in unfamiliar territory without established rules of behavior, individuals will look for "the contours of familiar social activities and structures" (Nissenbaum, 2011) to inform how they should behave. This is especially likely given that norms of behavior in the digital space are still being established.

Disclosure, it seems, is an essential part of the human experience. Our hope is that this review sparks new ideas to advance our understanding of disclosure in the digital age.

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