

PERSPECTIVE

# The paradox of disclosure: shifting policies from revealing to resolving conflicts of interest

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## Abstract

This paper explores the complexities and unintended consequences of conflict of interest (COI) disclosures in various professional settings. It highlights key psychological processes encountered by recipients of such disclosures. Notably, it describes the *burden of disclosure* effect, which paradoxically reduces trust while increasing compliance due to social pressures, and *disclosure's expertise cue*, where disclosures inadvertently increase trust and persuasiveness by signalling expertise. The paper also outlines best practices for improving COI disclosures, emphasising the need for external third-party involvement and encouraging deliberation. It concludes that effective disclosure depends not only on how recipients process information but also critically on how the disclosure influences the behaviour of advisors, underscoring the need for a holistic approach to managing COIs that goes beyond mere transparency. A version of this paper was presented as a keynote at the Second Annual International Behavioural Public Policy Conference at the University of North Carolina in September 2023.

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In the initial years of my medical career in the United Kingdom, my colleagues and I regularly encountered pharmaceutical representatives who generously offered gifts, such as stationery and complimentary meals. As physicians, we prided ourselves on our intellectual acumen and critical thinking abilities, firmly believing in our capacity to remain impartial despite these gifts. We readily dismissed the influence of such gifts on our clinical decision-making, believing that our 'professionalism' would protect us (Sah, 2022).

The reality of human psychology, however, paints a different picture. Despite our best intentions, the influence of industry marketing on our decision-making

processes is both subtle and profound, often occurring without our conscious awareness (Sah and Fugh-Berman, 2013). My subsequent experience as a management consultant in the pharmaceutical industry revealed the meticulous planning and calculated return on investment behind every interaction with healthcare professionals, from stationery gifts to lavish dinners.

In the United States, pharmaceutical companies invest significantly in marketing to physicians, more so than in other countries. These industry gifts create conflicts of interest (COIs) that influence physician decision-making (Chren and Landefeld, 1994; Wazana, 2000; Sah and Fugh-Berman, 2013). The prevalent fee-for-service model introduces additional COIs, as physicians receive remuneration for performing procedures and tests they personally recommend (Brook, 2010). Such conflicts can steer advisors away from their primary professional goal of providing the best impartial advice. They also contribute to increased healthcare costs, a major concern in US health policy, by leading physicians to recommend unnecessary tests or procedures, or to favour more expensive branded drugs over generic alternatives (Jacobson *et al.*, 2006; Larkin *et al.*, 2017).

COIs extend beyond healthcare, affecting many industries and professions. In the financial sector, commission-based advisors may favour the products that benefit them most, and credit rating agencies that evaluate mortgage-backed securities face potential biases due to their dependencies on the firms that hire them. These conflicts can have far-reaching consequences, impacting the well-being of the public and leading to dire outcomes like homelessness and unemployment.

To manage COIs, disclosure has been widely endorsed by financial regulators and medical associations alike. Notably, the American Medical Association, in its 2005 code of medical ethics, mandated that physicians directly disclose any referral fees they receive for enrolling patients in clinical trials to those patients. Furthermore, the Physician Payment Sunshine Act of 2010 requires public disclosure on a website of any transfer of value, even nominal amounts of around \$10, from industry to healthcare professionals. However, despite these measures, a study discovered that only 8% of participants were able to find their own doctor's information on the ProPublica website (Hwong *et al.*, 2017).

The prevalence of disclosure policies across various professions often stems from the belief that they equip advisees with crucial information, theoretically narrowing the knowledge gap between advisor and advisee and enabling more informed decision-making. This approach aligns with the ideals of transparency, free market operations, and individual autonomy. Additionally, disclosure is appealing to advisors as it allows them to maintain their current practices while fulfilling their obligation to disclose, potentially absolving them of personal responsibility, guilt, or liability for any adverse outcomes under the principle of '*Caveat Emptor*'.

Despite the widespread perception of its effectiveness, the actual efficacy of disclosure as a solution for managing COIs warrants scrutiny. My research has revealed several unintended consequences of COI disclosures, casting doubt on their effectiveness as a stand-alone solution. In the subsequent sections, I will discuss these findings and propose best-practice strategies to implement disclosure policies that mitigate these negative repercussions.

## Unintended consequence of disclosure #1: the burden of disclosure

Imagine a scenario where a financial advisor offers a free consultation to a potential client. During this consultation, the advisor proposes that the client invest in a specific fund, but also discloses that they will receive a commission from the fund manager if the client makes the recommended investment.

This disclosure diminishes the client's trust in the advice given – arguably the intended response to such COI disclosures. However, at the same time, the disclosure induces a psychological discomfort in the client – a reluctance to appear distrustful and to insinuate that their advisor could be biased. This phenomenon, known as 'insinuation anxiety', involves hesitancy to express distrust, which stems from the perceived impropriety of suggesting bias (Sah *et al.*, 2019; Sah, 2019c; Sah, 2023).

Furthermore, the client is aware that rejecting the advisor's recommendation would deprive the advisor of their potential commission. Consequently, the act of disclosure, rather than being merely informative, implicitly resembles a request for a favour. This dynamic is termed the 'panhandler effect,' where there's a reluctance to appear unhelpful or non-cooperative (Sah *et al.*, 2013).

Both insinuation anxiety and the panhandler effect contribute to what is described as 'the burden of disclosure' effect (Sah *et al.*, 2013, 2019). This burden manifests as a conflicting psychological state in the client. On one hand, the knowledge of the COI prompts the client to desire to discount the advice; on the other hand, it creates increased pressure to act in alignment with the advisor's disclosed interest. Consequently, instead of functioning as a protective measure, disclosure can inadvertently impose a significant burden on the very individuals it is supposed to safeguard. This results in intensifying the pressure to comply with the advisor's recommendations, despite the acknowledged COI.

Over numerous experiments, my colleagues and I found evidence supporting the hypothesis that COI disclosures can lead to an increased inclination to comply with advice, even while advisees report a decrease in trust. To illustrate this, one of our experiments randomized participants into either a disclosure or nondisclosure condition. They read about a situation that they might face in a doctor's office:

*Imagine you are a patient suffering from early onset arthritis, and you have been seeing your rheumatologist, Dr. McLane, who you have known for the last 3 years. You are currently suffering from an acute attack which has left some of your joints aching and swollen. You decide to pay a visit to your doctor.*

*After examining you and reviewing some of your test results Dr. McLane says ...*

Participants then listened to a recording of the doctor who provided two treatment options: taking a standard drug that they had previously used or participating in a clinical trial. In both experimental conditions, the doctor recommended that the patient enter the trial. In the disclosure condition, however, the recording included an additional sentence where the doctor disclosed a financial COI:

*I do think it is important, however, to let you know I will receive a referral fee from the manufacturer of the drug if I refer you for the clinical trial.*

The results of this experiment were revealing. In the disclosure condition, participants reported a significant decrease in their trust in the doctor's advice. However, this decrease in trust was accompanied by a marked increase in insinuation anxiety. Both the reduction in trust and the increase in insinuation anxiety mediated the relationship between the disclosure of the COI and the participants' likelihood of following the doctor's advice. This finding suggests that while disclosure of COIs ostensibly serves to inform and protect patients by fostering transparency, it can concurrently lead to increased psychological pressure to comply with the advice, thus complicating the decision-making process (Sah *et al.*, 2019).

In another experiment, we shifted context to examine the behaviour of passengers on a ferry journey from Long Island to Connecticut. A middle-aged, professionally dressed White man approached over 250 passengers, offering them \$5 to complete a short survey about their ferry experience. The survey consisted of straightforward, non-intrusive questions, such as inquiring about the ferry's punctuality.

Upon completion of the survey, the man presented the passengers with a choice: they could either receive the promised \$5 or opt to participate in a mystery lottery with potential winnings ranging from \$0 to \$10, although the average payout was less than \$5. When the man made no recommendation, only 8% of the participants chose the lottery, indicating a general preference for the assured cash reward. However, when the man suggested choosing the lottery, the percentage of participants opting for it increased to 20%.

The most striking results emerged when he disclosed his COI: he mentioned that he would receive a bonus if the passengers chose the lottery. Despite this disclosure leading the passengers to trust him less, a surprising 42% chose the lottery – more than double the number in the nondisclosure condition (Sah *et al.*, 2019).

This outcome raises intriguing questions about the psychological impact of COI disclosures. Despite their reduced trust in the man due to the disclosed COI, many passengers felt discomfort in rejecting his advice. They reported not wanting to reject the advice, as it could insinuate that they believed the man was biased — a classic case of insinuation anxiety. Additionally, the passengers felt pressure not to deprive the man of his bonus, indicative of the panhandler effect. Thus, the disclosure, intended to create transparency, paradoxically increased the pressure on passengers to comply with the advice. This demonstrates a complex interplay between trust and compliance in the presence of COI disclosures.

In a different series of studies, we explored the dynamics of COI disclosure using an experimental design that involved two participant roles: Advisors and Choosers. The Choosers were tasked with selecting between two different die roll lotteries, labelled as A and B, each offering different sets of prizes, for which they had full information. The expected value of Die A was more than two times that of Die B, and over 95% of participants in pilot studies exhibited a preference for Die A (Sah *et al.*, 2013).

In the no-conflict condition, Advisors were rewarded regardless of the die roll their Chooser selected. Here, nearly all the Advisors (93%) recommended Die A, aligning with its higher expected value, which led to 93% of Choosers selecting Die A.

However, in the other two conditions, Advisors faced a COI: they were incentivised to recommend Die B, as their reward was contingent on the Chooser selecting this option. In the disclosure condition, Advisors were required to inform the Choosers of this incentive by writing out a statement, while in the nondisclosure condition, they were instructed not to mention their COI.

The results were again revealing. When Advisors had a COI, the majority (approximately 85%) recommended Die B, with no significant difference between the disclosure and nondisclosure conditions. This recommendation was significantly biased against the Choosers' best interest. In the nondisclosure condition, 52% of Choosers complied with the Advisor's biased recommendation, indicating that the mere act of giving advice exerts some level of influence on decision-making. Strikingly, however, the compliance rate surged to 81% in the disclosure condition.

Choosers in the disclosure condition reported lower levels of trust in the advice they received compared to those in the nondisclosure condition. However, they also experienced greater discomfort in rejecting the Advisor's recommendation due to pressure to avoid depriving the Advisor of their reward, a reflection of the panderer effect. This led to a higher rate of compliance with the clearly biased advice when the COI was disclosed, despite the reduced trust (Sah *et al.*, 2013).

These findings reveal two important elements of disclosure in the context of managing COIs. The first is the informational aspect: the awareness of an advisor's COI, which invariably leads to a decrease in trust in the advice given. The second, and equally significant, is the social aspect: the increased pressure on advisees to comply with the advice, despite their awareness of the COI.

To explore ways to mitigate the latter aspect, we conducted an experiment where participants were assigned to one of two conditions. In the personal disclosure condition, similar to the previous experiment, Advisors directly informed the Choosers of their COI. Conversely, in the external disclosure condition, Choosers were made aware of the COI through a third-party source, thus not directly from their Advisor.

The results of this experimental setup were notable. In the external disclosure condition, compliance with the advisor's recommendation dropped to 52%, compared to 84% in the personal disclosure condition. Interestingly, the level of trust reported by Choosers was similar in both conditions. This suggests that the informational component of the disclosure, which decreases trust, was consistent regardless of the disclosure source. However, the key difference lay in the pressure to comply: it was significantly lower with external disclosure compared to personal disclosure (Sah *et al.*, 2013).

Another experiment took this investigation further by providing Choosers with the opportunity to revise their decision after their Advisor who disclosed their COI had left. This modification also had a profound effect: compliance dropped from 88 to 50% when the advisor was not present. This indicates that the public decisions of Choosers did not necessarily align with their private preferences.

In additional experiments, neither increased stakes in the decision nor greater expertise of the Advisors eliminated the burden of disclosure effect (Sah *et al.*,

2013). We also found the same pattern of results across various scenarios, including non-financial COIs and different ways of framing the disclosure, such as voluntary (I'd like you to know ...) or mandatory (I'm required to tell you ...). In each case, the awareness of the COI led to a similar decrease in trust and a similar increase in the pressure to comply, as the rejection of advice would still send a signal of distrust (Sah *et al.*, 2019).

While COI disclosure is a widely accepted practice and can lead to a decrease in trust – arguably a desired outcome to some extent – it also poses the risk of an overcorrection, due to a 'disclosure penalty' (see Sah and Feiler, 2020). This overcorrection might compel advisees to disregard valuable advice. Furthermore, the social dynamics of disclosure can make rejecting advice a more challenging endeavour, amplifying the pressure to comply with even obviously bad advice.

These findings underscore the nuanced and often counterintuitive impacts of COI disclosure on decision-making, highlighting the complexities inherent in managing COIs. However, this is not the only unintended consequence of COI disclosure we need to be aware of.

### **Unintended consequence of disclosure #2: disclosure's expertise cue**

Medical specialists tend to recommend the treatment they have been trained in and can deliver. For example, a survey revealed that a significant majority of male surgeons (79%) would opt for surgery if diagnosed with clinically localised prostate cancer, while a comparable majority of radiation oncologists (92%) would choose radiation therapy. This is despite both groups being cognizant of the side effects associated with each treatment option (Moore *et al.*, 1988; Fowler *et al.*, 2000).

Localised prostate cancer typically exhibits slow growth, affording patients time to evaluate their treatment options. Radiation and surgery, as two viable active treatment options, present similar 5-year mortality and morbidity rates. However, patients usually receive their diagnosis from surgeons who perform the biopsy. Some surgeons, in an effort to be transparent, voluntarily disclose their inherent bias towards surgery with statements like, *'I'm a surgeon, so I'm biased toward surgery'*.

In our research, my colleagues and I analysed the transcripts of over 250 recorded surgeon–patient consultations from four VA hospitals, in which men received a diagnosis of localised prostate cancer. An initial survey conducted before the consultation showed no significant preference for surgery between patients whose surgeons disclosed their specialty bias and those whose surgeons did not. However, 6 months post-consultation, a stark difference emerged: 71% of patients with surgeons who disclosed their bias opted for surgery, compared to only 26% of those whose surgeons did not disclose their bias (Sah *et al.*, 2016).

To further investigate the impact of specialty bias disclosure on treatment decisions, we conducted a randomised experiment with approximately 450 men, similar in age and race to the patient group in our observational study. These participants were shown video clips featuring a professional actor portraying a surgeon and were told to imagine themselves as patients visiting their doctor. Their doctor diagnosed them with localised prostate cancer and discussed the two treatment options. In the disclosure condition, the surgeon's bias towards surgery was explicitly stated in

an additional video clip: ‘*So, that’s where my bias lies... Remember, I’m a surgeon so I know more about surgery than radiation.*’ This phrase was directly taken from one of the transcripts of the observational study.

In this controlled setting, the tendency to choose surgery was again significantly higher in the disclosure condition (74%) compared to the nondisclosure condition (65%). Contrary to the decrease in trust observed in the first set of experiments, participants in this study expressed *increased* trust in the surgeon’s expertise following the disclosure. It was the perception of the surgeon’s expertise, rather than the pressure to comply, that mediated the relationship between disclosure and the decision to undergo surgery. This finding highlights a nuanced aspect of disclosure: while it can reduce trust in some contexts, in others, it may inadvertently enhance trust by signalling expertise, thus influencing decision-making in a different, yet equally significant, manner.

In this video study, participants appeared more focused on their choice of treatment rather than on the bias disclosure itself. This differed from earlier experiments, where COI disclosure was more salient and typically led to decreased trust. In the surgery-radiation scenario, participants were presented with more comprehensive information about the treatment options, which might have led to a more automatic, less conscious, processing of the disclosure, as opposed to the more deliberate consideration of COI disclosures in previous studies.

This observation led to a hypothesis: could the manner in which COI disclosures are processed – automatically versus deliberately – affect the level of trust? To explore this, we turned to a different context: consumer blogs (Sah *et al.*, 2018).

In 2013, the Federal Trade Commission issued guidelines for disclosures in social media to highlight COIs and encourage informed decision-making by consumers. This thinking aligns with the Persuasion Knowledge Model, which posits that awareness of ulterior motives decreases trust (Friestad and Wright, 1994). This also aligns with the findings in our first set of studies (Sah *et al.*, 2013, 2019; Sah and Feiler, 2020).

To examine responses to COI disclosures in a stimuli-rich environment, we focused on blog posts (Sah *et al.*, 2018). In several experiments, we used a post from a popular blogger, Carly, whose blog was called *The College Prepster*. Carly was a recent college graduate living in New York City and the target post was called, ‘10 ways to make a small space seem BIG’. In this post, she writes about *Apartment Guide*, an online portal for consumers seeking to rent an apartment, in a positive tone.

Participants, aged 18–24, were randomised into disclosure and nondisclosure conditions. In the disclosure conditions, an additional statement, in larger bolded font read, ‘*This posting is sponsored by Apartment Guide, which means I was paid to review their website in my blog.*’

Disclosure increased the persuasiveness of the post in several ways, including the intent to share it, the likelihood of clicking on the link for *Apartment Guide*, and the likelihood of taking Carly’s advice. Disclosure also increased perceptions of Carly’s trustworthiness – particularly in her expertise. Similar to the results from the medical specialty bias experiment, expertise mediated the relationship between disclosure and persuasiveness. Interestingly, less than half of the participants in the disclosure

conditions recalled the specific disclosure, suggesting that their reactions were more automatic than conscious (Sah *et al.*, 2018).

The Elaboration Likelihood Model suggests that deeper scrutiny of a message (by activating central deliberative processing) generally leads to reduced trust in the message source (Petty and Cacioppo, 1986). To test this, we prompted participants in one condition of another experiment to write down their thoughts about the disclosure in Carly's blog. This increased deliberation led to decreased persuasiveness, but often not to a level below that of nondisclosure. Moreover, perceptions of bias increased only in the condition where participants were encouraged to deliberate on the disclosure, not with disclosure alone. This supports the theory that disclosure can boost perceptions of expertise and persuasiveness when processed automatically, but that deliberate, thoughtful processing can mitigate this effect (Sah *et al.*, 2018).

Continuing with the exploration of disclosure in social media, we conducted an analysis of over 150,000 US blog posts over a 2-year period. These posts were sourced from the top 99 influential fashion and beauty blogs worldwide, as ranked in 2015. Surprisingly, only a small fraction (0.2%, or 346 posts) contained disclosures of COIs. This was an unexpected finding, considering the likelihood that such influential bloggers are frequently approached by companies to review products and services. One possible explanation for this low percentage of disclosures could be the bloggers' concern about the potential negative impact of such disclosures on their readers' trust.

However, our findings present a different view. Posts with COI disclosures garnered more positive consumer sentiment in the comments below the blog compared to those posts without disclosures. This result aligned with our experimental findings that disclosures in information-rich contexts could lead to an increase in trust and persuasiveness.

In summary, the effect of disclosure on trust appears to be context-dependent and heavily influenced by how the disclosure is processed. When disclosures are processed automatically, without much conscious deliberation by the reader, they can actually enhance trust, primarily driven by perceived expertise. However, when recipients of the information are encouraged to engage in a more deliberate and thoughtful processing of the disclosure, this effect is mitigated. This suggests that the effect of COI disclosures is not straightforward but varies depending on how the information is presented and how it is processed by the audience.

### **Best practices to improve COI disclosures for recipients**

In addressing the best practices to enhance the effectiveness of COI disclosures for recipients, it's crucial to consider strategies that mitigate the identified unintended consequences.

First, to counteract the social pressures to comply (Unintended Consequence #1), I recommend that disclosures be made by external third parties. Additionally, recipients should have the opportunity to make their decisions privately and be given the chance to reconsider their choices. This approach can help minimise insinuation anxiety and the panhandler effect, thereby reducing the burden of disclosure effect.

Second, to address the issue of disclosure's expertise cue (Unintended Consequence #2), recipients should be encouraged to engage in deliberative



processing of the disclosure. This can be achieved by providing the disclosure to recipients before they receive advice and ensuring that the disclosure is clear, salient, and easily understandable. Such an approach can help recipients better evaluate the information and its relevance to their decision-making.

With this understanding, my colleagues and I conducted a high-powered randomised pre-registered field experiment at Cleveland Clinic (Rose *et al.*, 2021). The experiment investigated the impact of a new policy mandating the disclosure of any financial relationship of \$20,000 or more between physicians and industry. The intervention was a single mailed disclosure letter sent to patients, alongside appointment information, before they met their physicians. The rationale was that a letter coming in advance of appointments from the hospital, rather than directly from the physician, would decrease social pressures to comply and promote more thoughtful consideration of the disclosure information.

We piloted the disclosures with patients for understanding, and our final sample consisted of just over 1900 patients at two outpatient clinics. In addition to the primary disclosure, we also provided information about the risks and benefits associated with such COIs. The control group received standard appointment letters without any COI disclosures.

Following their appointments, patients were surveyed. The results showed that 57% of patients were aware of their physician's financial COI, indicating the effectiveness of the disclosure letter. For a single mailed letter as an educational tool, this is a large effect size: information was getting to patients, and they seemed to understand it. However, there were no significant differences in trust towards the physician or the hospital between the control and intervention groups. This was unexpected, given our high power to detect even small differences in trust. Furthermore, the disclosure did not significantly affect the rate of missed or cancelled appointments. The results were robust under different models such as when we focused only on patients who remembered receiving the letter or only on new patients, or when excluding patients who had discussed the disclosures with their physician.

Interestingly, when asked about the importance of these disclosures in their medical care decisions, a majority of patients (66%) reported that they were not influential. Similarly, of those who recalled receiving the COI letter, only 6% reported that it affected their opinion of their physician. This suggests that patients were engaging in motivated reasoning to maintain trust in their physicians, overlooking the disclosed COIs. Although patients may be generally concerned about industry COIs, they had little concern about their *own* physicians' COI. This behaviour aligns with previous findings that show that when it's costly to get a second opinion, advisees trust their primary advisor more (Sah and Loewenstein, 2015). It's hard for patients to consider shopping around for another doctor when they are ill.

Overall, while the disclosure letters enhanced patient awareness of their physicians' financial relationships with the industry, they did not significantly impact trust or appointment adherence. This raises critical questions about the actual effectiveness of COI disclosure. It appears that, even in the absence of unintended consequences, disclosure alone may not fully address the complexities of COIs. To truly enhance the effectiveness of COI disclosures, strategies should enable recipients to easily select advisors who are free of conflicts, without incurring significant costs or inconvenience.

## Disclosure's impact on providers

One of the major problems with disclosure is that it often falls to the recipient to use the information competently. I believe we should shift this responsibility back to providers, leaders, policymakers, and advisors to enhance the quality of advice and foster environments that prioritise the recipient's interests.

An intriguing aspect of disclosure is its potential to motivate advisors to avoid COIs, allowing them to report the absence of any conflicts (Sah and Loewenstein, 2014). This behaviour might be driven by reputational concerns and a desire to avoid being perceived as biased or corrupt. However, advisors are more likely to eschew COIs if they are aware of the obligation to disclose them at the time of their acceptance. Often, there is a delay between accepting a COI and its disclosure, and in some cases, COIs may be unavoidable. In such scenarios, disclosure can either enhance or diminish the quality of advice, depending on the professional norms (Sah, 2019a).

Through a series of studies with real-world advisors, including 'framed field experiments' — in which the nature of the subject pool and task are relevant to the field context (Harrison and List, 2004) — I found that disclosure increased the salience of professional norms, encouraging advisors to contemplate the most appropriate course of action when providing advice (Sah, 2019a). When professional norms prioritised client welfare, disclosure improved advice quality. Conversely, if the prevailing norms favoured profit or self-interest, disclosure led to poorer advice quality (Cain *et al.*, 2011; Sah, 2019a, 2019b). Therefore, the context in which disclosure occurs plays a critical role, with the potential for either curbing or exacerbating bias due to the dominant professional norms (Sah, 2019a).

In conclusion, the effectiveness of disclosure is not solely contingent upon how recipients process the information but is also significantly influenced by its impact on the advisors themselves. When disclosure prompts advisors to prioritise the interests of their advisees, it can serve as a powerful tool to mitigate biases and enhance the integrity of their advice. However, transparency in itself is not sufficient; it must be coupled with strong professional norms that emphasise client well-being above all.

The broader implication of this analysis is the recognition that relying too heavily on disclosure policies can lead to complacency, fostering a false sense of fulfilment of our moral obligations to manage COIs. Such an overreliance on disclosure can inadvertently obscure more effective strategies for managing these conflicts. Therefore, a more profound and holistic approach is required — one that not only involves disclosure but also actively seeks to eliminate conflicts and realign the interests of recipients and advisors. This comprehensive approach would ensure a more ethical and effective management of COIs, ultimately fostering trust and integrity in various professional domains.

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