# ETHICAL ASSESSMENT OF PRIVACY BREACHES IN EPIDEMIOLOGICAL INVESTIGATIONS AND INFORMATION DISCLOSURE IN THE INTERNET AGE: SAFEGUARDING IDENTITY INFORMATION FOR INFECTIOUS PATIENTS

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Abstract: While the Internet has brought convenience and speed to human life, it has also led to frequent privacy violations. In the context of epidemiological investigations and information disclosure regarding confirmed Covid-19 patients, many individuals have utilized the Internet as a means to disseminate information and engage in cyber manhunts, resulting in breaches of privacy for those involved. This phenomenon is particularly prevalent within the realm of the Internet, where the boundaries of privacy invasion become blurred. Various types of privacy infringements, both active and passive negligence, are evident on social networking platforms. The juxtaposition of the virtual world of the Internet with real-life scenarios presents novel challenges in the realm of privacy violations. The Internet era, coupled with the widespread use and integration of big data, has diminished the absolute right to privacy on the Internet. This paper examines the challenge of safeguarding the identity information of infectious patients through the lens of two theoretical frameworks —Kantianism and Utilitarianism— in an effort to address this ethical dilemma.

Keywords: ethical appraisal, internet ethics, epidemiological investigations, privacy breaches, infectious patients, identity information protection

## Evaluación ética de las violaciones de la intimidad en las investigaciones epidemiológicas y la divulgación de información en la era de Internet: salvaguardar la información de identidad de los pacientes infecciosos

Resumen: Aunque Internet ha aportado comodidad y rapidez a la vida humana, también ha dado lugar a frecuentes violaciones de la intimidad. En el contexto de las investigaciones epidemiológicas y la divulgación de información relativa a pacientes confirmados de covid-19, muchas personas han utilizado Internet como medio para difundir información y participar en cibercacerías, lo que ha dado lugar a violaciones en la intimidad de los implicados. Este fenómeno prevalece en el ámbito de Internet, donde los límites de la invasión de la intimidad se vuelven vagos. En las redes sociales, se manifiestan diversos tipos de violaciones de la intimidad, tanto por negligencia activa como pasiva. La yuxtaposición entre el mundo virtual de Internet con escenarios de la vida real plantea nuevos retos en el ámbito de las violaciones de la intimidad. La era de Internet, junto con el uso generalizado y la integración del bigdata, han mermado el derecho absoluto a la privacidad. Este artículo examina el reto de salvaguardar la información sobre la identidad de los pacientes infecciosos a través de la lente de dos marcos teóricos —el kantianismo y el utilitarismo— en un esfuerzo por abordar este dilema ético.

Palabras clave: valoración ética, ética de Internet, investigaciones epidemiológicas, violación de la intimidad, pacientes infecciosos, protección de la información de identidad

## Avaliação ética de violações da privacidade em investigações epidemiológicas e divulgação de informações na idade da Internet: protegendo informações de identidade para pacientes infectantes

Resumo: Enquanto a Internet trouxe conveniência e velocidade à vida humana, ela também levou a frequentes violações da privacidade. No contexto de investigações epidemiológicas e divulgação de informações em relação a pacientes confirmados de Covid-19, muitos indivíduos utilizaram a Internet como um meio para disseminar informação e participar de uma caçada cibernética, resultando em violações da privacidade para aqueles envolvidos. Esse fenômeno é particularmente prevalente no âmbito da Internet, onde os limites de invasão da privacidade se tornaram borrados. Vários tipos de infrações da privacidade, tanto negligências ativa como passiva, são evidentes em plataformas de redes sociais. A justaposição do mundo virtual da Internet com cenários da vida real apresenta novos desafios no âmbito das violações da privacidade. A era da Internet, juntamente com o amplo uso e integração de megadados (big data), diminuiu o direito absoluto à privacidade na Internet. Esse artigo examina o desafio de proteger a informação de identidade de pacientes infectantes através das lentes de dois enquadres teóricos —Kantianismo e Utilitarismo— em um esforço para abordar esse dilema ético.

**Palavras-chave**: avaliação ética, ética na internet, investigações epidemiológicas, violações da privacidade, pacientes infectantes, proteção da informação de identidade

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#### 1. Introduction

The Internet is intended to promote freedom of information and facilitate resource sharing. However, when information from the online world intersects with real-life scenarios, it presents a significant ethical challenge. The virtual realm of the Internet does not align seamlessly with real life, leading to inherent tension between the two. This misalignment has given rise to a range of ethical issues. Internet ethics falls within the domain of applied ethics and is a subset of computer ethics. In this context, we define Internet ethics as the ethical considerations related to internet technology, encompassing issues such as privacy, intellectual property rights, and the digital divide. In this article, we will focus on privacy concerns.

In the context of major public health crises, such as epidemiological investigations, the disclosure of information about infectious disease patients holds great significance. While this issue is subject to regulation by numerous policies and laws, the advent of the Internet era has magnified the impact of epidemiological investigation and information disclosure on patient privacy. Consequently, it has become an important bioethical concern deserving of attention.

The original aim of inventing the Internet was to facilitate information exchange, and the subsequent shift to a terminal-to-terminal era highlighted the decentralized nature of information exchange in the Internet era. While the desire for resource sharing is inherent, this decentralized exchange of information and the pursuit of sharing can often escalate seemingly normal situations into significant ethical issues. The extent of privacy disclosure for infectious disease patients has long been a topic of extensive discussion.

Following the onset of the COVID-19 pandemic, the process of epidemiological investigation and information disclosure of confirmed COVID-19 cases within epidemic prevention and control policies has seen many individuals using the Internet as a tool to violate the privacy of affected persons through widespread dissemination of information and cyber manhunts. During the COVID-19 prevention and control efforts, the whereabouts

and life trajectories of every confirmed patient were publicly disclosed. Although the CDC did not reveal the names and identity information of those diagnosed with COVID-19, numerous internet users disseminated the travel information and life trajectories of these individuals. This information was used by internet users to pry into and speculate about the lives of those diagnosed with COVID-19, and even subject them to stigmatization through unfounded imagination and conjecture. Moreover, some individuals managed to uncover the real identity information of those diagnosed with COVID-19 through cyber manhunts and other methods based on the travel information and life trajectories disclosed by the CDC, and then propagated this information on social networks, severely impacting the personal lives of the individuals and violating their privacy.

In his work "Ethics for the Information Age," Michael Quinn from the United States delves into the analysis and study of privacy issues in Internet ethics. He asserts that privacy is a prudent right, indicating that rational individuals consent to recognizing a portion of the right to privacy. According to Quinn, privacy concerns on the Internet predominantly center around information control. The desire to maintain privacy conflicts with the need to garner trust from others, necessitating the disclosure of some personal information (1).

Richard Spinello, also from the United States, expounds on the diminishing realm of personal privacy in an open network environment in his publication "Cyberethics: Morality and Law in Cyberspace." Spinello contends that the proliferation of the Internet poses a threat to human autonomy and personal security. He aims to probe the nature of these threats and discuss suitable countermeasures, highlighting that the technical framework for privacy infringement is more potent and intrusive than local gossip. Additionally, Spinello explores policy and moral considerations, comparing the divergent paths of privacy protection in the United States and Europe. Some European nations have enacted more proactive legislation to safeguard privacy rights compared to the United States. Western Europe views privacy as a concept of "data protection," imposing an obligation on countries to protect private information. In contrast, the United States places greater reliance on self-discipline rather than legal norms, unlike Europe(2).

Cees Hamelink from the Netherlands, in his book "The Ethics of Cyberspace," addresses privacy and information security. He posits that protecting privacy encompasses the autonomy granted to individuals by society and emphasizes the need to balance safeguarding the private domain of personal life with participation in social networks(3).

## 2. Privacy infringement from an ethical perspective

## 2.1 Traditional privacy infringement

When considering the ethical issue of privacy infringement, it is essential to examine this matter within the context of a time when the Internet had not yet pervaded public life to its current extent. The right to privacy is a legal concept, and the ethical and moral understanding of privacy forms the foundation for legal principles. Our foremost task is to uphold the rationale that privacy deserves protection from ethical infringement.

First and foremost, privacy serves as a reflection of human dignity, as highlighted in the seminal paper "The Right to Privacy." The safeguarding of personal privacy also equates to the protection of individual dignity. Personal privacy encompasses one's private life and signifies a form of independence and equality of personality. Preserving privacy contributes to the autonomy of personality. Each person possesses their own privacy, and it is imperative for everyone to respect the privacy of others. This safeguarding of privacy extends to all individuals (4)

Moreover, personal privacy is intricately linked to freedom and autonomy. According to Roessler, people value privacy because they consider autonomy to be invaluable. It is only through leveraging privacy conditions and asserting privacy-related claims that all facets of autonomy can be manifested, and the full significance of autonomy can be articulated (5) Without privacy protection, autonomy becomes a moot point. If all aspects of privacy are exposed to the public, individuals cannot exercise complete autonomy in their decision-making under public pressure. These two

points stand as ethical defenses for shielding personal privacy from infringement.

### 2.2 Privacy infringement in the internet era

## 2.2.1 The impact of the internet on blurring privacy boundaries

The advent of the Internet, as a novel form of civilization, starkly contrasts with previous agricultural and industrial civilizations, signifying the erosion of elite discourse power and the rise of popular discourse power. While this transformation may not have fully materialized, it undoubtedly represents a prevailing trend. The rapid evolution of the Internet is inherently tied to its core characteristics. The TCP/IP protocol enables unrestricted communication from terminal to terminal. Fundamentally, the public yearns to eradicate hierarchy, attain equality, and dispel authority, all characteristics embedded within this protocol. However, individuals do not have complete control over their basic online resources, leading to privacy and security concerns.

Nevertheless, the privacy violations stemming from the Internet are fundamentally akin to those arising from other channels; they all contravene privacy as an aspect of human dignity and impede freedom and autonomy. However, the magnitude of privacy breaches varies, with the unique features of the Internet magnifying the consequences of such violations. Specifically, privacy breaches occur more swiftly and frequently in the realm of the Internet. Furthermore, the involvement of the Internet blurs the boundaries of privacy violations, leading internet users to subconsciously overlook such infractions as privacy violations, ultimately giving rise to increasingly tumultuous ethical phenomena online. Failing to address and delineate the encroachment of Internet privacy, and establish clearer boundaries, will result in further disorder within the cyberspace.

## 2.2.2. Active negligence and passive negligence in privacy violations on social network platforms in the Internet

The rapid expansion of the Internet has led to pervasive privacy violations occurring across various platforms. In the context of epidemiological investigations and the disclosure of information concerning infectious disease patients, particularly referencing the disclosure of COVID-19 patient information during the pandemic, a focus is placed on the prevalent privacy violations that commonly transpire on social network platforms.

Social networking services, commonly known as SNS (Social Networking Service), have evolved from email-based communications, originating from social networks. The internet, fundamentally a network connecting computers, enables free communication between terminals. With the exponential growth of the internet, the exchange of information transcends barriers of time and space. Social networking on the internet mirrors interactions in real life and is an integral part of online socialization.

The privacy violations that occur on social networking platforms can be broadly categorized into two types: active negligence and passive negligence. Active negligence involves individuals actively publishing information on social network platforms, which may unintentionally lead to widespread exposure due to the broad reach of the internet and the diverse audience it attracts. On the other hand, passive negligence occurs as a result of default platform settings or unknowingly releasing personal information, leading to privacy violations.

In the specific case discussed, it is evident that netizens reposted and commented on the itinerary and life details of COVID-19 confirmed cases disclosed by the Center for Disease Control and Prevention following epidemiological investigations. This resulted in excessive exposure of their personal information to the public. The actions of the netizens placed the affected individuals in an incredibly passive and vulnerable position, where they had no control over the dissemination of their personal life information, leaving them feeling oppressed and restricted. The repeated reposts and comments by netizens compressed their personal lives and infringed upon their sense of freedom. This behavior aligns with the notion of active negligence, where individuals contribute to the privacy violations through their deliberate actions.

## 2.2.3. The tension between the virtual world of the Internet and the real life world

In the real world, privacy violations can also occur; however, they are typically within the control of the affected individual. This means that the consequences of infringement in the real world are more measurable, and the affected party has greater agency to seek legal or other remedies to mitigate losses. In contrast, in the virtual world of the Internet, the affected individual has less control and initiative. Additionally, infringers in the real world tend to have a greater awareness of their actions compared to those in the Internet world

The extensive liberalization of information exchange on the Internet has blurred people's understanding of privacy, often leading individuals to prioritize the speed and freedom of information exchange while overlooking the content of the information and its real-life implications. It is important to recognize that the internet is intricately linked with real life, and the amalgamation of information from both spheres can significantly impact individuals. The disruption caused by the internet's influence on real life can be burdensome, and attempting to separate the internet from real life comes with substantial costs. Often, the real world forms interconnected relationships with the virtual world on the network, establishing a relatively corresponding relationship between the two domains.

Social networking platforms have expanded individuals' social reach, transcending the barriers of time and space. They have given rise to a "virtual me" or "digital me" in the internet world, which holds significant importance for the realworld "me". This establishes two interconnected subjects, where the "virtual me" depends on the existence of the "me" in the real world, and the establishment of the "virtual me" is rooted in the real-world subject's intentions. It is crucial to note that in the internet, "virtual" denotes digitalization rather than falsity. The so-called virtual world established on the internet presents authentic content.

In the context of the article, even after a CO-VID-19 patient, whose information was disclo-

sed, has recovered, their personal information continues to exist on social media platforms, yet they have lost control over this private information. In response to this issue, a "right to be forgotten" can be proposed. The right to be forgotten entails specific obligations for others. Essentially, if the involved parties do not wish for their information to be exposed, others are obligated not to disclose it.

## 2.2.4. The Internet does not have an absolute right to privacy

This paper contends that absolute privacy does not exist in the internet world. Essentially, this phenomenon arises from the fact that in today's digitally reliant world, everyone's information can be tracked online, and their browsing activities are stored. Through extensive big data analysis, individuals can be intricately and accurately profiled.

As previously mentioned, individuals lack full control over the fundamental resources of the internet, which means that personal data is not entirely within their grasp. Once information is published online, it becomes beyond complete control. Consequently, some contend that real personal privacy does not exist in the internet world. In contrast, in the physical realm, certain aspects of people's privacy reside in their thoughts, within their own minds, and under their complete control. This represents genuine privacy that remains inviolable.

The intrinsic nature of the internet protocol dictates that users must agree to terms to access the internet, effectively signifying absolute openness. This prompts the question of whether the protection of privacy in the internet era should diverge from that in previous agricultural and industrial civilizations. The concept of privacy in pre-internet eras was associated with safeguarding human freedom and autonomy. However, in the internet era, the irresistible nature of the internet stems from its ability to eliminate hierarchy, reflecting people's pursuit of equality and rejection of authority.

In the internet world, the equal right to engage in dialogue unleashes individuals' inner yearning for

freedom. Respect for people's quest for equality and freedom is paramount. While the unrestricted freedom of information exchange is an absolute goal of the internet, it inevitably encroaches upon personal privacy. Achieving freedom comes at the cost of intrusion. Evidently, the absolute freedom of information exchange on the internet is not entirely benevolent and unavoidably clashes with privacy protection.

Given the unique nature of the internet, it becomes imperative to reconsider the connotation of privacy and make certain sacrifices or concessions, thereby finding a balance point by compromising without compromising principles. By doing so, a more harmonious order can be established in the increasingly liberated internet world.

## 3. Ethical implications

## 3.1. Evaluating from Kantianism

Kantianism, a representative of deontology, embraces a viewpoint that stands in stark contrast to consequentialism. Deontology posits that actions possess inherent moral worth independent of their potential outcomes. According to this ethical framework, the moral legitimacy of an action hinges on its adherence to specific obligations or rules and is unrelated to the calculation of its benefits. Kant delineates these obligations or principles into two categories: the principle of empirical practical rationality and the principle of pure practical rationality, further categorized by Kant into hypothetical imperatives and categorical imperatives. Hypothetical imperatives are only applicable when particular desires are present, regardless of whether these desires are explicitly articulated. Categorical imperatives, on the other hand, apply universally, irrespective of personal desires. All moral principles adhere to this structure, with some being more foundational than others. Kant sought to identify the highest moral principle and proposed three formulations to express it: the universal law formulation, the end-in-itself formulation, and the autonomy formulation.

The universal law formula, designated as one of the categorical imperatives by Kant, act only according to that maxim whereby people can at

the same time will that it should become a universal law(6). According to Kant, a world based on this principle can be universally applicable as long as it does not contain contradictions in concepts or will. Actions guided by this principle are therefore morally justified. Put simply, the contradiction in concepts refers to inconsistencies that arise upon generalizing the criterion, leading to self-contradiction and rendering its establishment unattainable. Conversely, the contradiction in will pertains to the test of indifference, signifying that we would not desire a world devoid of warmth. Instead, we seek to partake in a specific kind of world and embrace the prospects associated with it.

From the perspective of the universal law formula, the disclosure of travel paths and life information of individuals diagnosed with COVID-19 by the CDC following epidemiological investigation is seen as necessary for the prevention and control of the virus, and does not inherently violate personal privacy. However, netizens searching for and disseminating personal information of confirmed cases through cyber manhunts on social media platforms represents a form of privacy infringement. In reality, individuals generally do not desire excessive exposure of their private information to public scrutiny or attention. Everyone perceives this intrusion as encroaching upon their private space. In such a world, no one would willingly participate, and there is a lack of endorsement for an internet environment characterized by such actions, signifying a contradiction in will.

Therefore, based on the universal law formula, a principle of Kantian absolute commands, the behavior of indiscriminately sharing personal information on social network platforms is not morally justified.

The free purpose formula is relatively straightforward, centering on the principle that people will never treat human nature, whether in themself own person or in the person of any other, as a means only but always at the same time as an end(6). This perspective underscores the importance of respecting moral subjectivity, encompassing moral capacity, moral responsibility, and self-determination. In the context of this case study, even if individuals simply forward and discuss

information released by the Centers for Disease Control and Prevention without engaging in cyber manhunts, there are still ethical concerns. This is because the act of forwarding by netizens essentially reduces the diagnosed person to a topic or tool for their online discussions, failing to treat the diagnosed person as both an "end" and disregarding the moral subjectivity of the individual being discussed.

#### 3.2. Evaluate from utilitarianism

Utilitarianism, representative of consequentialism, focuses solely on the outcomes generated by actions. According to this ethical framework, the righteousness or legitimacy of an action is contingent upon whether it yields the greatest good(7). Utilitarianism contends that morally correct behavior is that which produces the maximum good or the least harm among all possible behaviors(8). In essence, the overall outcome of an action determines its moral legitimacy. Utilitarianism also recognizes that causing harm to an individual can be justified if it results in the maximization of good for others.

From a utilitarian perspective, the forwarding behavior of netizens in this case has led to a situation where it may seem complex to determine whether the maximum amount of goodness has been achieved. On one hand, the extensive forwarding, discussion, and even cyber manhunts of personal information of confirmed cases have undoubtedly caused harm to the affected individuals and their families. However, supporters of utilitarianism might argue that the netizens' forwarding behavior serves to alert potential infected individuals, raise awareness about the issue, and contribute to the prevention and control of the COVID-19 epidemic, thus benefiting society as a whole.

It is undeniable that such actions have played a role in promoting the prevention and control of the epidemic and public health safety within society. This defense of utilitarianism seems to provide strong support for the argument that the forwarding behavior, despite its negative implications for the affected individuals, may have contributed to the overall greater good by helping to combat the spread of COVID-19.

From a utilitarian perspective, it becomes apparent that the disclosure of information by the CDC regarding confirmed cases and the exposure of their personal privacy are not equivalent. It is feasible to promote social attention to such events while safeguarding the personal privacy of the individuals involved, thus contributing to the maximum amount of good in society without sacrificing the privacy of the confirmed cases. Therefore, within this framework, the Internet communication behavior of netizens cannot be deemed morally justified, as it has resulted in harm to the affected individuals without necessarily maximizing the overall good within society.

#### 4. Conclusion

Indeed, it is unfounded to dismiss criticisms of Internet technology simply because of the convenience it offers. While the transformative impact of Internet technology on lifestyle is undeniable, its convenience should not overshadow the ethical issues it brings into real-life scenarios. Particularly within the realm of ethics, it becomes imperative to critically reconsider the implications of Internet technology.

Some scholar believe that the Internet, as a technology originating from the United States, has its own values of liberalism(9-12) The assertion that the values embedded in Internet technology, originating from the United States, are fundamentally incompatible with Confucian ethical values in modern China is a thought-provoking perspective(13). It suggests that the foundational nature of Internet technology prioritizes fundamental equality between individuals, rather than equality based on social roles, which may be incongruent with societal norms deeply rooted in Confucianism(14,15). While it is true that Confucian ethics emphasize social roles and hierarchy, it is crucial to recognize that even within societies influenced by Confucian culture, individuals possess an innate desire for freedom(16).

The observation that the liberalism value inherent in Internet technology is independent of individual users and raises ethical concerns beyond the scope of internet users alone is particularly noteworthy. This prompts critical questions about the core values of Internet technology and

whether there is a need to reevaluate its foundational principles. By questioning the assumptions surrounding the spread and pervasive influence of Internet technology, it becomes possible to address privacy infringement issues in the realm of Internet ethics more effectively.

Ultimately, ongoing interrogation of Internet technology's inherent values and its global proliferation will prove instrumental in addressing complex ethical dilemmas, including those related to privacy, in the digital age.

The emergence and utilization of any technology are inherently intertwined with human responsibility, particularly in acknowledging the role of human subjectivity. It is apparent that many individuals engage with the Internet without actively choosing to do so, passively accepting its functions without fully contemplating the potential ethical implications. In the context of forwarding personal information of confirmed cases, many individuals may not critically reflect on the ethical dimensions of their behavior, instead embracing the notion of unfettered information freedom.

While it is essential to uphold personal freedom and individual judgment regarding the dissemination of information, it is equally crucial to recognize the reciprocal nature of freedom – respecting the freedom of others. Despite the passive entry into internet spaces by many modern individuals, it does not necessitate a perpetual state of passive compliance. Instead, it calls for active introspection regarding the values and considerations that should precede one's engagement with the internet, which is not merely a technological tool but an integral part of real life.

By fostering proactive reflection and critical thinking, there exists the potential to reduce behaviors that infringe upon personal privacy and cause harm on social network platforms, ultimately contributing to a more civilized and respectful internet environment.

The progression from the agricultural era to the industrial era and now to the Internet era has been characterized by increasingly rapid and intense change, binding us to technological advan-

cement. In this process, it is easy to default to all technical settings and assume a passive role as mere onlookers, seemingly forgetting our intrinsic nature. The allure of the internet world often leads us to believe that we have discovered equality, freedom, and life values that elude us in the real world. However, the challenge lies in finding a civilized ethical space that integrates traditional life with the complexities of the internet.

It is essential for individuals to calmly contemplate the impact of the internet on human existence and elevate the relatively abstract concept of privacy to a more prominent position within their consciousness. As people become more attuned to their own privacy concerns, they will naturally develop a greater understanding of the importance of respecting the privacy of others. This collective shift in perspective holds the potential to foster a more ethically conscious and considerate online environment.

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