

PERSONAL PRIVACY ISSUES IN THE CONTEXT OF THE SMART ERA: THE CASE OF CHINA

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In the smart era, cases of personal privacy leakage in social networks are common, and life tragedies due to personal privacy leakage occur from time to time, and the prevention and control of personal privacy leakage has become a social problem that needs to be solved in the smart era. For this reason, it is necessary to take measures to strengthen the protection of personal privacy in social networks through a multi-pronged approach at the technical, operational and legal levels.

Keywords: Internet users; social networks; privacy breaches; risk assessment.

ПРОБЛЕМЫ ЛИЧНОЙ КОНФИДЕНЦИАЛЬНОСТИ В УСЛОВИЯХ ЭПОХИ СМАРТ-ТЕХНОЛОГИЙ: ПРИМЕР КИТАЯ

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В эпоху смарт-технологий случаи утечки личной информации в социальных сетях стали обычным явлением. Трагедии, вызванные утечкой личной информации, происходят регулярно, и предотвращение таких утечек стало социальной проблемой, требующей решения. В связи с этим необходимо принимать меры для усиления защиты личной информации в социальных сетях, используя многогранный подход на техническом, оперативном и правовом уровнях.

Ключевые слова: пользователи Интернета; социальные сети; утечки данных; оценка рисков.

While the scale of social network users grows, it also brings the risk of privacy leakage to a large number of user groups due to the serious privacy and security problems. Therefore, how to protect personal information on social networks has become an important issue in the development of social networks. Privacy leakage risk assessment can effectively detect privacy leakage on social networks, which is of great significance to users themselves, social network platforms and social development. The current research on privacy leakage risk assessment is mainly from the perspective of users and based on the attribute information and privacy preference settings provided by users, and a few studies

have considered the network environment and behavioral characteristics of users, so the comprehensiveness of the risk assessment is lacking. In order to address this issue, this paper conducts research from relevant perspectives, and comes up with some practical suggestions for future contributions to the issue of personal privacy in the context of the smart era.

With the rapid development and wide popularization of the Internet, more and more people prefer to communicate and interact through the Internet. Online social networks (OSN) have attracted a large number of users because of their simplicity and effectiveness. OSN provides users with a communication platform without geographical and age limitations, where people can express and communicate on OSN and share and discuss ideas and activities with others. In addition, different types of social networks provide users with a variety of rich functions: most of them, such as Telegram, Viber and WeChat, can be used for instant messaging and social media: Weibo and X are mainly used for the publication of social news and public activities; Jieyin and YouTube mainly provide video-centered social networking services. The 50th Statistical Report on the Development of the Internet in China The survey shows that the development of the Internet has been accompanied by the evolution and change of subcultures, and socialization has gradually become a core attribute of the Internet, especially the mobile Internet. According to statistics, in recent years, the scale of Chinese social network users is huge and increasing year by year, (fig. 1), Chinese social network users have exceeded 1 billion.

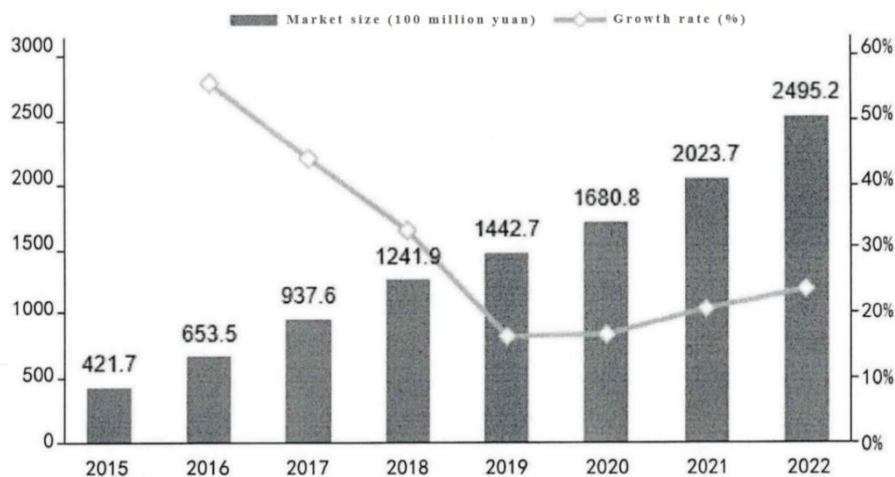


Fig. 1. China's Social Network User Size and Growth Rate, 2016-2022

In order to avoid the leakage of users' private information, many OSN platforms provide users with optional security settings, such as friend permissions, ways to add friends, information visibility range, etc., and define the categories of users who are allowed to comment, view personal information, or view textual photographs, such as visible to themselves only, to specified

friends, or to everyone. However, due to the relatively hidden location of privacy settings, the number of setting steps or the complexity of the operation, most users will choose the default settings, resulting in these security settings provided by the platforms are virtually useless and cannot achieve the expected protective effect. Therefore, protecting personal information and limiting the leakage of private information are key issues that need to be addressed in the future development of social networks.

Privacy has been studied for many years, but there has been a lack of a standardized definition. In a certain sense, the definition of privacy is dynamic, depending on the particular context and subjective will of the individual, and will change with time, place, culture, etc. In the research related to social network privacy, the definition of privacy varies in different research perspectives. In the research on social network privacy, the definition of privacy varies in different research perspectives. From the current research, user privacy on social networks can be mainly categorized into three types: individual identity information, connection information and content information [1], in which individual identity information refers to attribute information, label information and structural location information related to personal identity, etc.; connection information refers to the privacy relationship, i.e., user relationship, information about following and being followed in the social network, etc.; and content information refers to the content that can disclose the node privacy related content, such as posted text and images.

As social networks around the world already have a certain user base, and with the construction of 5G and product innovation, the value of social networks will be further released (fig. 2). The rise and popularization of social networks in the smart era has led to a great change in the way of interpersonal communication. People socialize in a virtual space, breaking through the barrier of time and space, and the scope, content and form of social activities have undergone profound changes. While the scale of network users grows, it also brings the risk of privacy leakage to the majority of network users due to the existence of serious privacy and security problems. Therefore, how to protect personal information on social networks has become an important issue in the development of social networks. Privacy leakage risk assessment can effectively detect the state of privacy leakage on social networks, which is of great significance for users themselves, social network platforms and social development.

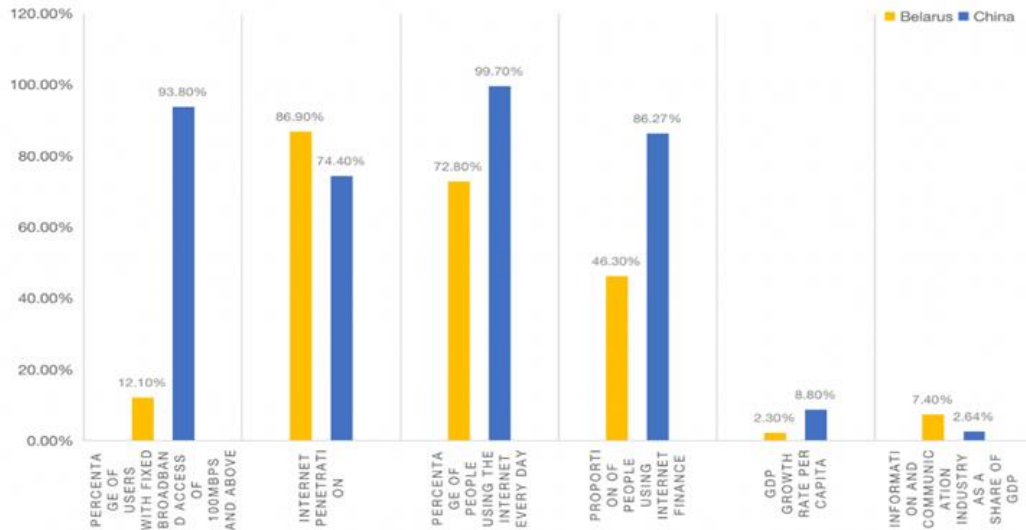


Fig. 2. Network infrastructure construction in Belarus and China in 2021.

Source: [2]

The growth in the size of social network users has also brought the risk of privacy leakage to the general user community because of serious privacy and security issues. On the one hand, most OSN providers require users to fill out user profiles to provide basic information, such as age, address, gender, etc., in order to improve the usability of the platform; on the other hand, due to the lack of privacy awareness of the users, they may unintentionally disclose sensitive information, such as educational experience, occupational information, and religious beliefs, in the form of photos or texts. Attackers may also make use of the user's friend relationship information to infer the user's personal and behavioral characteristics, indirectly causing the leakage of the user's private information.

In social networks, users' private information mainly comes from two sources: On the one hand, it comes from user profiles. In order to improve usability, most social network platforms require users to fill in user profiles to provide basic information, such as age, gender, location, etc.: On the other hand, it comes from text content. When users publish text, they may inadvertently leak sensitive information, such as educational experience, religious beliefs, disease and health information, etc. This article starts from the user's own perspective and evaluates the privacy leakage risk of social network users from two aspects: user information and text content.

The goal of this article is to provide users with an early warning of the risk of privacy leakage by systematically researching and analyzing privacy leakage pathways in social networks. As a result, I summarize the following three reflections.

1. From the perspective of the users themselves: the establishment of a secure network environment cannot be separated from the users themselves, and

the improvement of users' privacy literacy is the key to solving the privacy security problem. Quantifying the risk of privacy leakage of users can let users understand their privacy leakage status, let users really feel their privacy leakage crisis, so as to cause users to pay attention to and make targeted changes to avoid the leakage of privacy information from the root.

2. From the perspective of social network platforms: privacy and security is one of the hot topics in recent years. If social network platforms fail to protect users' personal information, on the one hand, it will seriously damage the credibility of the platforms and lose the trust of the users, and on the other hand, the platforms will also face a large number of lawsuits and penalties from the regulatory authorities, which will bring economic losses to the platforms. Evaluating the risk of privacy leakage in social networks can help platforms make targeted improvements to avoid privacy and security problems.

3. From the perspective of social development: the implementation of the bill can provide citizens with protection of personal information at the legal level, but since the current legal system on privacy protection is not yet perfect, it is not enough to rely on legal regulation alone for the protection of personal information. Assessing the risk of privacy leakage can technically provide security warnings for the leakage of personal information, thus creating a good security environment for privacy and information, preventing behaviors detrimental to the public interest, and contributing to the maintenance of social stability.

The risk assessment of privacy leakage in social networks is of great importance both for the users themselves, the social network platforms and the development of the society.

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