



Truecaller's Spam Call and SMS Blocking Solution for Surveillance on Social Media

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ABSTRACT (9 PT)

The advancement of technology and communication has been impressively rapid. That are where emerging cybercrime technologies were born. Cyberspace activities involve the use of Internet users. One of them is a frequent social media user, which allows for communication interactions to take place without the need for face-to-face meetings. The Internet and social media, in addition to having a positive impact on users, also have a negative impact. One of them is a type of crime that is currently prevalent, namely digital cybercrime, which is a crime committed by varied individuals in order to deceive the target using data/information from the victim's social media account. Furthermore, in the current era of the Covid-19 pandemic, many victims have received fraud, such as spam calls and SMS, from people who use various methods to persuade, usually using the victim's family as tactic and overdue in loan payments as trap, and the number of these victims is growing. This study used a comparative study to examine the effectiveness of the Truecaller application in assisting smartphone users who are disturbed by continuous terror by using calls and Spam SMS, as well as overcoming victims' concerns.

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1. INTRODUCTION

Today's world society is defined by the occurrence of advances in digital technology that take place in almost every aspect of human life. The information and communication technology advancement is commonly viewed as reducing distance and geography, eliminating national and time zone boundaries, and increasing efficiency in data collection, payment, analysis, and possibly data use (Qosasi et al., 2019).

Technology is evolving at such a rapid pace that waiting another year or five years is no longer an option; technology has progressed at the same rate as the times and trends in society. In this case, the Indonesian state has seen an increase in the use of Social Media, which is accessed through their smartphones and various processes of use, as we know from numerous sources that say Indonesia is currently ranked third with the most Internet users after China. In this case, social

media is used by a diverse group of Indonesians, including researchers, students, entrepreneurs, and members of the general public (Stubbs-Richardson et al., 2020).

Indonesia has unquestionably entered the fourth-generation industrial era. This new chapter integrates physical, digital, and biological aspects of manufacturing, such as the use of artificial intelligence, robotics, and computers' ability to learn from data (machine learning). It entails using large amounts of data (big data), cloud data storage techniques (cloud computing), and Internet connectivity (Internet of things) (Ardi & Putri, 2020).

Social media, according to Parker and Solis in (Djanggih, 2018), is a way for people to interact with one another through social media by producing, sharing, and exchanging information and ideas in a virtual network and community through words, images, and videos. According to Ardi & Sukmawati (2017), it is divided into two categories: social networks and messenger/chat app/voip. A social network, also known as a friendship network, is a type of Internet service that serves as a forum for online communities, such as people who have similar activities, are related or interested in certain fields, or come from the same background/community, such as on YouTube, Facebook, Instagram, and Twitter. The messenger/chat app, such as Facebook Messenger, WhatsApp, or Telegram, is an infrastructure for exchanging messages between users, whether they are text, audio, images, or videos.

Smartphone users and their use of social media are increasing in all circles, particularly in this era of the Covid-19 pandemic, due to health protocols that all levels of society must follow. In this era of the Covid-19 pandemic, people use or create new social media platforms for a variety of reasons. They rarely do face-to-face learning as students and are replaced online using Zoom, Skype, and other similar programs, and they send their assignments via E-mail and WhatsApp (Ismail et al., 2021). Businessmen use social media to sell their wares to people all over the world, whereas the general public spends their time having fun by uploading their daily activities to their social media accounts (Holivia & Suratman, 2021).

The world's total population (population) in 2021 is 7.83 billion, as per data from Hootsuite (We are Social) in the Indonesian Digital Report 2021, with 5.22 billion unique mobile users (66.6 percent of the world's population), 4.66 billion Internet users (59.5 percent of the world's population), and 4.20 billion active social media users (53.6 percent of the world's population) (Gloria & Akbar, 2019). According to Yohanna's data (Yohanna, 2020) on Internet and social media user trends in Indonesia, the total population (population) is 274.9 million, with 345.3 million unique mobile users (125.6 percent of the total population in Indonesia), 202 million Internet users (73.7 percent of the total population in Indonesia), and 170 million active social media users (61.8 percent of the total population in Indonesia). As we all know, when you use or create a social media account, you must enter an e-mail address or phone number to verify your account. Begin with WhatsApp, then move on to Instagram, Facebook, and other social media platforms. Thus according We Are Social (2021) in (Lidwina, 2021), data on users of popular social media platforms in Indonesia show that YouTube users account for 93.8 percent of the total population, WhatsApp users account for 87.7 percent of the total population, Instagram users account for 86.6 percent of the total population, and Facebook users account for 85.5 percent of the total population (Berawi, 2019).

The greater the number of Internet and social media users, the greater the number of virtual threats. Fraudsters frequently generate income from committing fraud through the Internet and other social media, especially during the current pandemic. The tendency for changes in interaction patterns, such as those employed by cellular service providers, allows for the emergence of new types of crime from criminals exploiting ignorance, as well as public ignorance of cybercrime. Incoming SMS and phone calls to cell phones are frequently discovered to be a form of false information about fraud disguised as raffle prizes, money loans with no down payment, and so on. That is what these people call spam. With 115,756 case reports in 2021, online-based fraud cases have the highest ratio of all cybercrime cases (Salimi et al., 2019). All victims are unaware that the interaction of the perpetrators of the crime employs a socio-engineering approach in attracting potential victims' interest. Victims range from highly educated to uneducated circles, from adulthood to adolescence, and even from professionals and ICT who are actually very familiar with the types of cybercrime patterns.

Some cybers who carry out their activities send SMS or phone calls to their victims using numbers obtained from their social media accounts, despite the fact that they are already private, but the cyber obtains information from the victims' social media activities, where they are always updated about their activities. It is occasionally taken from the data of the seller/businessman who frequently posts their wares for sale, most of whom are intimidated by cyber who claims to be on the bank's behalf in order to collect debts from the businessman (Holivia & Suratman, 2021).

As a result, Indonesia has been identified as the country receiving the most spam in comparison to other countries; Indonesia would also receive 192 million spam calls in 2021 (Truecaller, 2021). Truecaller is a service that verifies phone numbers and blocks spam calls, with technological advances aimed at meeting the needs of today's society. Truecaller version 12 has been officially released, and it includes five new features for recording phone calls and making ghost calls. Truecaller was founded in Stockholm, Sweden between 2009 and 2021. Truecaller data shows that up to 192 million spam calls and 182 million spam calls have been blocked in Indonesia, according to (CNN Indonesia, 2021).

The latest version is designed to be more user-friendly. Truecaller currently includes essential features such as Call Alerts, Call Reason, Full Screen Caller ID, and advanced features for managing Smart SMS messages, backing up SMS data, and securing contact numbers, and it is available in 46 Truecaller languages (Truecaller, 2021). "Truecaller has built tremendous credibility, from being a spam blocker to now becoming one of the leading communication platforms trusted by over 300 million active users globally," said Alan Mamedi, Co-founder & CEO of Truecaller, in an official release received by CNN Indonesia today (CNN Indonesia, 2021).

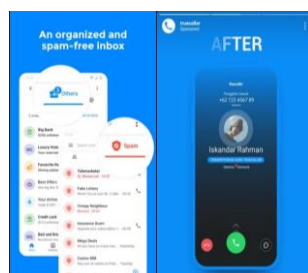


Figure 1. Truecaller application

According to a related study, changes in interaction patterns such as cybercrime, including fraud and the like, should be able to be overcome by any modern individual if they are related to the phenomenon known as the Society 4.0 era, but this is not the case. Many factors contribute to the fact that cybercrime persists and can harm its victims. The article's primary objective is to provide a descriptive description of clean crime patterns related to cybercrime in the form of telephone and SMS spam, as well as to determine whether using the Truecaller app is effective in reducing spam levels and future crimes (Lubis, Kartiwi & Zulhuda, 2017).



Figure 2. Truecaller Application Block & Detect Spam Call ID

The current study used qualitative approach to investigate the problem of spam calls and SMS, which is one of many issues confronting the Indonesian people today, who are experiencing an economic downturn as a result of the Covid-19 pandemic. Cybercrimes continue to be a challenge for the Indonesian people because they are unsure how to respond to them. Previous research only discusses the level of crime that exists, and it is frequently incomplete in cybercrime, because no previous research has been conducted to reduce or discover crimes that will occur. In this study, the researcher uses Truecaller as a guide to prevent cybercrime among active smartphone and Internet users in Indonesia.

Technological Advances, Today's society has advanced through industrialization, and as telecommunications technology has advanced, borders have become global in nature, resulting in the formation of a new world system. As a result, its impact on the development of Indonesian society during the reform era has unavoidably been met with a number of political, economic, and socio-cultural crises, all of which must be addressed in order for the Indonesian nation and state to be considered to exist among the nations of the world.

The Internet, through social media, helps to bring together a large number of people who have similar interests and narratives (Priansa & Suryawardani, 2020). Content can quickly spread over social media networks until it turns viral. Furthermore, social media facilitates the rapid transmission of facts or singular viewpoints without the ability to verify the veracity of the news.

Social media is one of the platforms that appears in cyber media. As a result, consider social media, which shares many similarities with cyber media. Bryan (2020), define key concepts to help readers better understand what cybermedia is and what it entails. In addition, when discussing the nature of social media, it is to build a network among its users. It makes no difference whether the users know each other in real life (offline), but the presence of social media provides a medium for users to connect via technological mechanisms.

It is nearly hard to function in today's society without being influenced by social media. Furthermore, whether we realize it or not, social media, with all of its content, is an inseparable part of life from human activities. This is significant because the presence of social media in society is becoming more diverse and widespread in this increasingly virtual era. In other words, the emergence and growth of social media introduces a completely new and unprecedented mode of communication in society. Social media is also present in a new concept, so it shifts the previously one-way communication paradigm in today's society into multiple directions (Adhiarso & Suyanto, 2018).

Digital Cyber, When the number of active Internet users in Indonesia in 2018 reached 64.8 percent or 171.176 million, a 27.916 million increase over the previous year, it is not surprising that various cybercrime cases have evolved in response to the advancement of existing technology. Personal data security is currently being jeopardized by irresponsible and potentially harmful parties (APJII, 2018). According to the Katadata site, published in October 2019 (Lidwina, 2019), the number of reports regarding online fraud dominates, with as many as 1,243 cases reported at the Directorate of Cyber Crime (Dittipidsiber) of the Criminal Investigation Department of the Police from January 2019 to July 2019. Cybercrime in the form of online fraud takes first place with 1,243 reported cases, followed by 1,136 cases of spreading provocative content. There were 198 cases of pornography, 153 cases of illegal access, 126 cases of electronic system hacking, 98 cases of extortion, 97 cases of data/identity theft, 62 cases of data manipulation, 15 cases of gambling, and 2 cases of changes to the site's appearance during that period.

Truecaller, a platform that verifies phone numbers and blocks spam calls, has released "Truecaller Version 12." This most recent version has more user-friendly features. Truecaller 12 not only improves on existing Truecaller features, but it also adds new features requested by the Truecaller user community.

This application, that is available in 46 languages, retains all communication features such as Call Alerts, Call Reason, Full Screen Caller ID, and advanced message management features such as Smart SMS, SMS data backup, and secure contact numbers. With Video Caller ID, an updated user interface, Call Recording, Ghost Calling, and Call Announcement, users can now enjoy a new experience. All of these new features will be rolled out gradually to all Android users worldwide.

"Truecaller has grown tremendously in credibility from being just a spam blocking app to becoming one of the leading communication platforms trusted by over 300 million active users worldwide." Version 12 provides users all over the world, including those in Indonesia, with several new features that promote more efficient communication. Truecaller is committed to prioritizing consumer needs and giving them the ability to control all personal data stored on the Truecaller platform independently. "This latest version incorporates several features suggested by our critical users and was released to ensure a more enjoyable communication experience for users, as well as to better deal with spam call threats," Truecaller Co-founder and CEO Alan Mamedi said.

2. RESEARCH METHOD

In this study, the qualitative descriptive research method was used. The objective is to collect comprehensive data, identify problems, make comparisons or evaluations, and learn from the experiences of others who have faced similar challenges in order to make future plans and decisions. As a result, qualitative descriptive research only describes reactions to situations or events, rather than explaining causal relationships or testing hypotheses.

2.1 Research Design

This study utilized a qualitative approach. According to Perreault, Cannon, & McCarthy (2020), qualitative research is a type of study that aims to delve deeper into data and accepts all responses rather than just yes or no responses. This study aims to elicit people's thoughts on a subject without giving them any direction or instructions on what to say.

According to Moleong (2020), qualitative research tries to comprehend the phenomena of what the study subject experiences holistically and through description in the form of words and phrases, such as behavior, perception, motivation, action, and so on, as well as language, in a specific natural context using various natural methods. Through in-depth data collection, qualitative research attempted to clarify the phenomenon as thoroughly as possible. This study does not prioritize population size or sampling, despite the fact that sampling is extremely limited. There is no need to look for additional sampling if the data collected is comprehensive and can explain the phenomenon under study. The issue of data depth (quality) is more important in qualitative research than the amount (quantity) of data (Kriyantono, 2019). Researchers are a vital component of the data, which means they help to determine the sort of data needed. As a result, researchers are relegated to the role of research instruments, requiring direct participation in the field. As a result, qualitative research is subjective, with more case-specific outcomes that should not be generalized. The research design may change or be adapted in response to new research findings. In general, qualitative research has the following characteristics (Kriyantono, 2019):

- a. In-depth, researchers participating in field settings over an extended period of time, with researchers functioning as the principal research instrument.
- b. Field notes and other documentary evidence must be meticulously documented.
- c. Analyse field data.
- d. Results are included in the report, along with full descriptions, quotes, and comments.
- e. There is no such thing as a single reality; each researcher builds their own version of reality as part of their research. Reality is seen as dynamic and socially constructed.
- f. Subjective and exist only in the researcher's reference. As a technique of obtaining data interpretation, researchers are used.
- g. Reality is a whole that can't be broken down.
- h. Researchers create one-of-a-kind explanations for things and circumstances.
- i. Depth is more important than breadth.
- j. Methodology: empirical-rational and unstructured.
- k. Theoretical, conceptual, and empirical data correlation: data produce or establish a new theory.

2.2 Participants

The informants were chosen based on the case's peculiarity. According to Miles & Huberman, (1994), the informants were chosen based on the following criteria:

The sample must come up with a plausible description or explanation (in the sense that applies to real life). One facet of qualitative research's validity is whether it delivers truly convincing

findings and an explanation for what is observed. These criteria can also raise questions about the credibility of information sources, such as whether they are full and free of significant biases that would limit the types of explanations that can be relied on them.

The goal of qualitative research isn't to extrapolate findings from earlier studies. Qualitative research findings are more contextual and caustic since they apply at a specific time and place when the study is undertaken. As a result, in qualitative research, the term sample is not utilized. Informants or research subjects in qualitative research are people who are chosen to be interviewed or observed based on the study's goals. The informant is referred to as a research subject rather than an object because he or she is regarded an active participant in the construction of reality rather than merely an item who fills out a questionnaire (Kriyantono, 2019).

Ordinary people/the general public are used as research subjects, including housewives, active smartphone users, university students, and part-time workers.

2.3 Instruments

The strategies or methods employed by researchers to acquire data are known as data collecting methods. Researchers typically use a variety of data collection techniques or methods. Depending on the problem, researchers can use one or a combination of existing methods (Kriyantono, 2019). The data collection techniques used in this study are listed below.

a. Interview

An open standard interview, in which standard questions are asked, was used in this investigation. Each respondent receives the identical questions in the same order, with the same wording and in the same format. The ability to ask probing questions is limited, and it is based on the circumstances of the interview and the interviewer's abilities. If it is thought necessary to decrease as much as possible the variation that may occur between interviewees, this type of interview is used. Implementation is nothing more than an attempt to eliminate the potential of errors. To make structured interviewing approaches easier to utilize, the researchers created their own challenges and questions to ask (Moleong, 2019).

b. Documentation

According to Arikunto (2020:72), the retrieval of data collected through documents is a technique for gathering data with documentation. In practice, documentation data is secondary data, which refers to knowledge regarding research difficulties gleaned from books, the Internet, periodicals, newspapers, and other sources.

2.4 Data Analysis

The descriptive qualitative analysis method with a constant comparison method or Constant Comparative Method was used in analyzing the data obtained from the data, both primary and secondary, because in data analysis, it is constantly comparing categories with other categories.

a. Data Reduction

- 1). Identification of units. At first, something was identified, namely the smallest part found in the data that had meaning when associated with the focus and research problem.
- 2). After the units are obtained, the next step is to make coding. Making coding means assigning a code to each "unit", so that the data/unit can still be traced, from which source. It should be noted that in coding for data analysis using a computer, the coding method is different.

b. Categorization

A category is nothing more than a collection of piles arranged according to thoughts, intuitions, opinions, and specific criteria.

- 1). Arranging the data into clearly related content sections
- 2). Create the rules that determine the inclusion of each data in the category, as well as the basis for determining the data's validity.
- 3). Ensure that each category that has been compiled with each other adheres to the principle of obeying the principle.

c. Synthesis

- 1). Synthesizing involves searching for correlations between one category and another.

- 2). The link of one category with another is given a different name/label.
- d. Formulating a Working Hypothesis
A proportionate statement is used to do this. This preliminary hypothesis has already been developed into a solid theory (that is, a theory that originates and is still related to the data), and it should be remembered that the working hypothesis should be related to and at the same time answer research questions (Moleong, 2019).

The following techniques are used in this study to ensure the validity and reliability of the data used by researchers:

- a. Triangulation
Triangulation is a method of determining the validity of data that makes use of something other than the data for verification or comparison. The triangulation used in this study is called source triangulation. In qualitative research, source triangulation refers to comparing and verifying the degree of trustworthiness of information obtained at different times and with different tools. This can be accomplished in one way or another by comparing the results of interviews with one resource person or informant to the results of interviews with other research sources (Moleong, 2018).
- b. Using Reference Materials
The existence of supporting material to prove the data that we have discovered is referred to as reference material in this context. To support the credibility of the data, interview data, for example, must be supported by recordings/transcripts of interviews, photographs, or authentic documents. Furthermore, the study's findings were strengthened by comparing them to the findings of previous studies.

3. RESULTS AND DISCUSSIONS

Advances in information and communication technology, particularly those based on the Internet, have persuaded nearly everyone to use and benefit from it. The modern convergence of telecommunications, Internet, and broadcasting technology has simplified a wide range of community activities, bringing people closer together and more involved in technological developments. This technology's advancement not only benefits society, but it also creates new criminal threats in cyberspace. This is one of the driving forces behind the need for state infrastructure facilities and infrastructure to be protected using information technology.

The first occurrence of cybercrime was documented in 1870, when several teenagers harmed the country's new telephone system by changing the authority of the country's network. The following cybercrime occurred in the early 1960s at a computer facility in a university laboratory with a large computer mainframe, with artificial intelligence (Putri & Sukihananto, 2018).

Cybercrime occurs in all countries, including Indonesia. Cybercrime now targets not only government-owned agencies, but also ordinary people, teenagers, and highly educated lecturers. As we all know, technological advancements have the potential to spread crime via their smartphones, which they carry with them. Cyber-based threats added a new dimension to understanding security threats from the past century at the beginning of the twenty-first century. Cybercrime is defined as an illegal act committed using a computer system or an Internet network to profit by causing harm to others. Cybercrime can occur in a variety of ways and for a variety of reasons. People who understand and master the field of information technology are more likely to commit these crimes (Nugraha, 2021).

During the Covid-19 pandemic, all economies began to negotiate terms. Local and international trade, investment, and so on. Making people switch to online sales by putting their personal phone numbers and personal information on social media. From there, cyber criminals began to terrorize them by stealing their personal social media data.

According to the findings with correspondents in cases involving ordinary people or households, approximately fifteen of them stated that they had received telephone and SMS spam claiming that they had received an online-based money loan without conditions but had to make a down payment in accordance with the amount of money lent or borrowed.

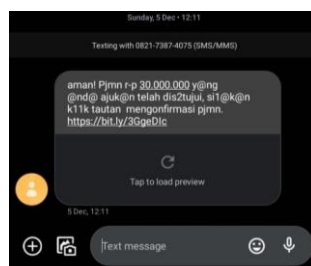


Figure 3. Spam SMS sent to the target

Correspondents among teenagers, college students, or university students have been the most likely to receive spam calls because they frequently update their daily activities on social media and thus become targets of fraud or crime from these terrorists. As one student put it, "I often get a call like that, even though it has a number, but you can't call it back." "Yes, I frequently say it when my family has an accident, even though my mother is at home..... Then I asked again, saying that my mother was at home, and she insisted on saying no, but she was sick of him."

The next correspondent is a part-time worker who reported receiving SMS spam after borrowing money from an online loan site. "After I borrow money online, I frequently get spam SMS about gifts from big banks that they frequently use," he explained. The bank's name is Bank BTPN or Bank Bukopin, and the loan amount is substantial.... I occasionally receive a collection call from someone claiming to be from an online loan that I borrowed, even though I had made a payment or settlement, and even then, I asked the caller where it came from, but the perpetrator didn't answer, instead insisting on paying off according to the account number he gave." Obviously.

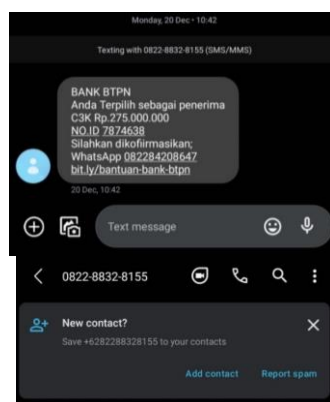


Figure 4. Spam SMS by attaching bank accounts

As we can see from the correspondence data received by the researchers, the actions they take are very disturbing to the comfort and privacy of a person who has made payments on time or who does not have a family who is under threat or accident. They frequently block the phone number but continue to receive calls from other numbers. They also frequently report or look for the identity of the caller but don't get any information; it's even more difficult because they can't make a call back and they still have to wait for 24 hours before reporting it to the authorities, which they say is too long. It infringes on their personal comfort.

Smartphone users, particularly business people, are becoming increasingly concerned and irritated as a result of terror attacks. Which receives spam calls or SMS messages on a daily basis. Calls from unknown numbers, as well as spam, are frequently irritations for some users. The general public must be vigilant when receiving calls because crime can begin with a cell phone number, either personal or business.

As of today, Indonesia has the highest spam threat in Southeast Asia. In Indonesia, the average user receives more than 18 spam calls per day, posing a threat to data security. Furthermore, it influences spammer behavior during the Covid-19 pandemic.

However, in 2009, a Stockholm-based company called Truecaller launched an application. They come up with new ways to minimize or reduce cybercrime on smartphone users who receive spam from terrorists. Truecaller, a service that provides caller ID and spam blocking, can be used as a solution for those that can result in losses. The Swedish company has 280 million users worldwide who rely on it to help them communicate more securely and efficiently.

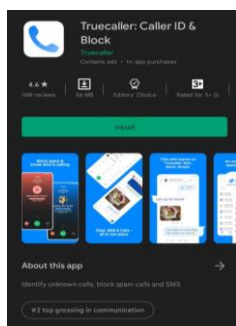


Figure 5. Truecaller download homepage

This service is extremely beneficial, particularly in assisting the new adapter group, who are still learning how to use digital technology and are frequently vulnerable to telephone call fraud. Some of the information obtained by the researchers from correspondents regarding statements about whether or not they were aware of the Truecaller application. And only a few of them are aware of, and have installed, the app on their smartphones for continuous spam call protection.

"I had no idea there was an app that could block incoming messages or calls from terrorizing individuals..." According to the housewife correspondent.

"At first, I had no idea. However, take a look at the advertisements that frequently appear on social media. I eventually found it on the Google Play Store. I'll keep attempting..." said the correspondent, who works part-time and is a student.

"I tried looking in the Play Store because I thought there was an app that could detect and block unrecognized calls. And it was there after I looked." According to the student being interviewed.

According to a review of the results of interviews conducted by researchers regarding whether they had previously known the Truecaller application, only 5 people out of 20 active Internet/social media users in households knew about the Truecaller application, and 15 of students/workers only 7 of those who know about the Truecaller application, and there are 10 online businesses out of 20 online businesses who know about the Truecaller application. As a result of this, the Truecaller application can be identified from their various social media applications because the Truecaller application frequently advertises and directs social media users, specifically those who are haunted, to the Truecaller application.

The researcher handed back several questions to the correspondents, including whether they simply knew about the Truecaller application or if they used it.

"I'm not worried because there's Truecaller, because even though I haven't saved it, I already know who the caller ID is," said the student correspondent.

"Make use of it. It's extremely useful. So, I don't have to worry about spam calls that just charge me money. In fact, I was the one who teased the prank call, but they were consistent with the victim, saying the same thing over and over..." explained the part-time worker.

"Make use of it. Truecaller was particularly useful to me. So, let us not be tricked again. Small businesses like this don't make much money, and they've suffered a lot as a result of spam calls being terrorized. But I've found Truecaller to be highly useful since I started using it." According to the online seller.

It is undeniable that technological advances can contribute to the long history of cybercrime that has evolved in parallel with technological advancements. With new technologies, we can also find other forms of support from applications that benefit users in need, such as Truecaller. Truecaller is a good application for users because it does not require a lot of personal data and has

been downloaded more than 200 million times by users from all over the world. The Truecaller application also includes a number of features that allow users to tailor these features to their specific requirements (Truecaller, 2021).

Aside from tracking the identity of a phone number, the Truecaller app has the following interesting features: 1) save new phone numbers without having to type them in; 2) Determine who will be able to contact you; 3) The blue verified badge for a more professional profile; 4) A call reason feature is required for emergency calls to be effective. 5) Truecaller smart SMS; 6) call alerts—receive call notifications before your phone rings; 7) Spam statistics-shows spam rating on incoming calls.

So, according to researchers, technological advances that grow and continue to grow so speedily that we forget the bad side and also forget the other good side where the problem also has a solution even though it is related to digital, because developers design and follow current developments and times. current fashions. As a result, there aren't as many newspapers, and Truecaller can help reduce digital crime in Indonesia and around the world. Indonesia is an active user and user of the Truecaller application; according to Truecaller data, as many as 192 million spam calls and 182 million CNN Indonesia spam calls have been blocked in Indonesia (Truecaller, 2021).

4. CONCLUSION

It is reasonable to conclude that the Truecaller app is highly beneficial to online business owners, teenagers who are threatened by Catcalling, and ordinary people like housewives, students, and part-time workers. After receiving spam calls and SMS, they decide to use the Truecaller app. Truecaller is also a safe app for users because the features requested by the app during registration do not require a lot of personal information. As a result, many users select Truecaller as their partner to protect them from spam calls and SMS from unknown callers, as well as to reduce fraud caused by the social media activities.

We make the following recommendations based on several findings in this study.

For those who frequently use the Internet and their smartphones, to emphasizes the importance of not entering too much personal information into your social media sites. And be even more cautious when using the Internet, such as on unknown or suspicious websites, so that you do not enter and attempt to complete a survey that turns out to be useless to you; instead, your data will be stolen by scammers for data counterfeiting.

To emphasize the significance of conducting research on specific groups or individuals involved in the problem for future researchers. Furthermore, use a variety of research methods, such as ongoing case studies, to provide more specific data and calculations for future research.

REFERENCES

- Adhiarso, D. S., & Suyanto, M. (2018). Media Literacy And Social Media Usage Analysis In Communication And Non-Communication. *Jurnal Informasi*, 48(2), 29–42.
- Ardi, Z., & Sukmawati, I. (2017). Social Media and the Quality of Subjective Well-Being; Counseling Perspective in Digital Era. *International Counseling and Education Seminar*, 21(6), 28–35.
- Ardi, Zadian, & Putri, S. A. (2020). The Analysis of the Social Media Impact on the Millennial Generation Behavior and Social Interactions. *Technology and Sciene*, 1(2), 70–77.
- Asosiasi Penyelenggara Jasa Internet Indonesia [APJII]. (2018). LAPORAN SURVEI 2018: PENETRASI & PROFIL PERILAKU PENGGUNA INTERNET INDONESIA. APJII.
- Berawi, M. A. (2019). The Role of Industry 4.0 in Achieving Sustainable Development Goals. *International Journal of Technology*, 10(4), 291–319. <https://doi.org/https://doi.org/10.14716/ijtech.v10i4.3341>
- Bryan, L. L. (2020). Effective Information Security Strategies for Small Business. *International Journal of Cyber Criminology*, 14(1), 341–360.
- CNN Indonesia. (2021). 5 Fitur Baru Truecaller: Rekam Panggilan Telepon Hingga Ghost Call. <https://www.cnnindonesia.com/teknologi/20211125200848-185-726198/5-fitur-baru-truecaller-rekam-panggilan-telepon-hingga-ghost-call>
- Djanggih, H. (2018). The Phenomenon of Cyber Crimes Which Impact Children as Victims in Indonesia. *Yuridika*, 33(2), 212–231. <https://e-journal.unair.ac.id/YDK/article/view/7536>
- Gloria, S. A., & Akbar, S. (2019). The Impact of Social Media Usage to Academic Performance. *Jurnal*

- Pendidikan Kedokteran Indonesia, 8(2), 1–9.
- Holivia, A., & Suratman, T. (2021). Child Cyber Grooming Sebagai Bentuk Modus Baru Cyber Space Crimes. *Bhirawa Law Journal*, 2(1), 98–110.
- Ismail, S. J. I., Kusnandar, T., Sanovia, Y., Mayasari, R., Negara, R. M., & Mahayana, D. (2021). Study of Internet and Social Media Addiction in Indonesia during Covid-19. *IJAIT (International Journal of Applied Information Technology)*, 4(2), 69–80. <file://journals.telkomuniversity.ac.id/ijait/article/view/3423>
- Kriyantono, R. (2019). *Pengantar Lengkap Ilmu Komunikasi Filsafat dan Etika Ilmunya Serta Perspektif Islam*. Prenada Media.
- Lidwina, A. (2019). Penipuan Online, Kejahatan Siber yang Paling Banyak Dilaporkan. <https://databoks.katadata.co.id/datapublish/2019/10/31/penipuan-online-kejahatan-siber-paling-banyak-dilaporkan>
- Lidwina, A. (2021). 94% Orang Indonesia Akses YouTube dalam Satu Bulan Terakhir. <https://databoks.katadata.co.id/datapublish/2021/02/17/94-orang-indonesia-akses-youtube-dalam-satu-bulan-terakhir>
- Lubis, M., Kartiwi, M., & Zulhuda, S. (2017). Privacy and Personal Data Protection in Electronic Voting: Factors and Measures. *Telkonnika*, 15(1), 512–521.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE Publications.
- Moleong, L. J. (2018). *Metodologi Penelitian Kualitatif (Revisi)*. PT. Remaja Rosdakarya.
- Moleong, L. J. (2019). *Metodologi Penelitian Kualitatif (Revisi)*. PT. Remaja Rosdakarya.
- Moleong, L. J. (2020). *Metodologi Penelitian Kualitatif (Revisi)*. PT. Remaja Rosdakarya.
- Nugraha, R. (2021). Perspektif Hukum Indonesia (Cyberlaw) Penanganan Kasus Cyber Di Indonesia. *Jurnal Ilmiah Hukum Dirgantara*, 11(2), 44–56.
- Perreault, W., Cannon, J., & McCarthy, E. J. (2018). *Essentials of Marketing (16 ed.)*. McGraw Hill.
- Priansa, D. J., & Suryawardani, B. (2020). Effects of E-Marketing and Social Media Marketing on E-commerce Shopping Decisions. *Jurnal Manajemen Indonesia*, 20(1), 76–82.
- Putri, S. E., & Sukihananto. (2018). Penerapan Sistem Teknologi Informasi dan Komunikasi (TIK) dalam Promosi Kesehatan pada Lansia di Indonesia. *Wawasan Kesehatan*, 3(2), 71–77.
- Qosasi, A., Maulina, E., Purnomo, M., Muftiadi, A., Permana, E., & Febrian, F. (2019). The Impact of Information and Communication Technology Capaility On The Competitive Advantage of Small Businesses. *International Journal of Technology*, 10(1), 167–177.
- Salimi, D., Tavasoli, K., Gilani, E., Jouyandeh, M., & Sadjadi, S. J. (2019). The impact of social media on marketing using bibliometrics analysis. *International Journal of Data and Network Science*, 3, 165–184. <https://doi.org/10.5267/j.ijdns.2019.2.006>
- Stubbs-Richardson, M., Hubbert, J., Nelson, S., Reid, A., Johnson, T., Young, G., & Hopkins, A. (2020). Not Your Typical Social Media Influencer: Exploring the Who, What, and Where of Islamic State Online Propaganda. *International Journal of Cyber Criminology*, 14(2), 479–496.
- Truecaller. (2021). About Truecaller. <https://www.truecaller.com/>
- Yohanna, A. (2020). The Influence of Social Media on Social Interactions Among Students. *Indonesian Journal of Sosial Sciences*, 12(2), 34–48.