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# Cyber Crime in the Era of Industrial 4.0: Analysis of OTP Fraud in Hadith Perspective

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## Abstract

This research was conducted to examine cases of OTP fraud in the view of hadith. The results and discussion of this study indicate the existence of certain hadith that prohibit committing acts of fraud including OTP fraud. This study concludes that OTP fraud is an act of criminality by deceiving its target by pretending to be a staff of a certain institution to convince its target to provide an OTP code. This is prohibited in the Qur'an and hadith so it is recommended to do tabayyun when receiving information. This research recommends that technology users be careful and not give arbitrary codes containing confidential personal data to others.

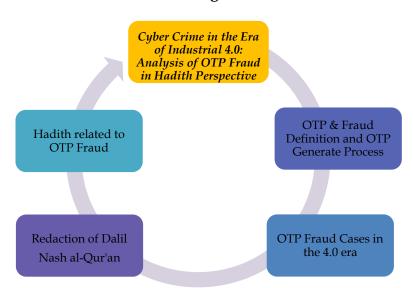
**Keywords:** Hadith; OTP Fraud; Technology.

# Introduction

OTP code can be interpreted as a one-time password applied by a security system that is processed by the OTP algorithm and the secret key of its users with a limited validity period and is starting to be used frequently in the 4.0 era (Rosano, Andi and Nur Ali Farabi, 2018). The industrial era 4.0 in the opinion of the Minister of Industry and Trade (Working Cabinet) Airlangga Hartarto "the era of production runs with the internet as the main support. All objects are equipped with sensor-assisted technological devices and are able to communicate themselves with information technology systems" in another sense it is said to be a cyber era or an era without boundaries and can foster science-technology advances (Prasetyo, 2017) (Priyanto, 2020). In fact, the industrial era, which is a more advanced era in terms of industrial technology which is considered positive in developing a country, has resulted in the emergence of forms of crime (cyber crime), for example, data hacking, carding, hacking, OTP Fraud and so on (Ramailis, 2021).

In the context of this OTP code, even though it is considered valid and its security is maintained, there are still those who think that this OTP Fraud is true. In the context of the Qur'an, everyone who deceives, betrays, and brings false news will receive a reply, and we as users if we receive news issues then we are ordered to bertabayyun first by cross checking carefully and finding out the truth and it has also been clarified in the prophet's hadith, but many do not know it. Therefore, it is necessary to further study the case of the issue or difference in understanding of OTP Fraud in terms of the hadith.

As a logical flow of running the research, it is necessary to have a framework designed. The framework is an initial explanation or theoretical gate for the results and discussion of the research. So that the preparation of the framework should be made a logical flow chart as a research journey that investigates various research questions in line with the research objectives (Darmalaksana, 2020). A good framework explains theoretically the relationship between independent and dependent variables. Then the relationship between these variables needs to be formulated in the form of a research paradigm, thus each preparation of the research paradigm must be based on a framework of thinking (Hermawan, 2019). In scientific theory, this OTP code is a type of valid password that is used for one-time login sessions on digital devices (Fitriyansyah & Hazri, 2020).



#### Chart 1. Thinking Framework

As shown in chart 1, this research will begin with a description of the definition of OTP and how fraud affects OTP generation. Departing from the definition, it will continue to the cases of fraud related to OTP. A review of the Quranic texts and hadith will be conducted by referring to the

proposition of Surah An-Nur verse 11, Ali Imran verse 161, and Al-Hujurat verse 6, as well as the hadith narrated by Muslim.

Previous research has been conducted by several experts; Hapsari, Nani S et.al. (2020). "Implementation of the One Time Password Method in the Online Ordering System", Journal of Budidarma Informatics Media. This research discusses the Implementation of the One Time Password Method in the Online Ordering System. This research uses a qualitative method descriptive approach. The results of this research and discussion are about the use of OTP codes in online ordering which provide security and confidentiality so that the OTP code entered is not known by others with a process scheme that applies mechanical 2FA (Hapsari, Nani Sarah, Yenni Fatman, 2020).

Sitoresmi, G and Wijarnato. (2019). "Analysis of RSA and LSB Algorithms on One Time Password for Financial Technology", Jurnal Eksplora Informatika. This research discusses the Analysis of RSA and LSB Algorithms on One Time Password for Financial Technology. This research uses quantitative methods with an expost facto approach. The results of this research and discussion are about the fast process of generating OTP codes in less than 1 second with the RSA and LSB Algorithms (Sitoresmi & Wijanarto, 2019).

Meiggers Herrenauw, J et.al. (2022). "Review of Criminal Law in Fraud of Buying and Selling Online Game Accounts through Social Media", TATOHI Journal of Legal Sciences. This research discusses the Review of Criminal Law in the Fraud of Buying and Selling Online Game Accounts through Social Media. This research uses a qualitative method with a normative juridical approach. The results of this research and discussion are about the buying and selling of online game accounts, one of which is by means of SLI which is a form of fraud by stealing sensitive information related to social media accounts, such as PINs, OTPs and Passwords and can be categorized as criminal acts of fraud because the fact that fraud in buying and selling online game accounts has fulfilled the elements of fraud in Article 378 of the Criminal Code and in Article 28 paragraph (1) of the ITE Law (Meiggers Herrenauw, Jefferson et.al, 2022).

Previous research has mentioned the implementation of the OTP method in online ordering systems (Nani S, 2020). There has also been an analysis of the rsa and lsb algorithms on one time passwords for financial technology with a short period of less than 1 second (Wijarnato, 2019). The difference between this research and several previous studies lies in the perspective of criminal law studies in the fraudulent sale and purchase of online game accounts on social media with the SLI system stealing PIN information, OTP, and so on (Jefferson, 2022). Here the researcher will focus on the context related to the hadith.

As a theoretical basis for this research, a literature review is needed. OTP code is a type of valid password used for one-time login sessions on digital devices usually sent via email or SMS, this is a step in strengthening authentication when entering ID and Password (Fitriyansyah & Hazri, 2020). In this 4.0 era, there are cases of OTP Fraud where many think this is due to fraud from the OTP code itself to trick OTP code users. In fact, this OTP code is what is most considered safe for the confidentiality of one's personal data because it has been systemized in the form of a single login session (Apriyanto, 2021). In the Qur'anic proposition QS. An-Nur: 11 which means the reward for a betrayer, cheater, bearer of false news (Herawati, 2019) and we as users must be careful as in QS. Al-Hujurat: 6 recommends tabayyun, which is being careful in receiving news or information and researching the truth first (Kadir, 2021). In addition to the Qur'anic argument, it is necessary to support the Prophet's hadith to clarify the issue of the OTP Fraud case.

The main problem in this study is that there are hadith related to the OTP Fraud case. The formulation of the problem is how the hadith related to the OTP Fraud case. This research aims to discuss the hadith related to the OTP Fraud case. The results of this study are expected to provide benefits, both theoretically and practically. Theoretically, this research is expected to provide a treasure of Islamic knowledge regarding hadith related to OTP Fraud cases. Practically, this research is expected to be a reference in the knowledge of hadith related to OTP Fraud cases.

#### **Research Methods**

The research method is an effort to explore and analyze a problem by means of scientific work carefully and carefully and can draw conclusions systematically and objectively (Abubakar, 2021). This methodology functions to find sources to solve problems, research methods can take the form of surveys, experiments, naturalistic, library research, action research, history, case studies and so on (Unaradjan, 2019). The purpose of this research method is expected to obtain precise, accurate, and accountable research results. This research uses a qualitative method with a case study approach, which is research based on understanding and behavior based on human opinion (Yona, 2006).

## **Research Results and Discussion**

## 1. Definition of OTP Code, Fraud, and OTP Generate Process

One Time Password is a verification code with a one-time login with a limited validity period (Taqwim, 2021) (Rosano, Andi and Nur Ali Farabi, 2018). Meanwhile, Fraud according to Statement on Auditing Standards No. 99 defines "an intentional act that results in a material misstatement in

financial statements that are the subject of an audit." Whereas, according to Black's Law Dictionary, it is defined as "every kind that a man can think of, and which a man attempts to gain from another by false suggestion or imposition of the truth, and includes all unforeseen means, full of cunning or hidden stratagems, and every unnatural way of causing another to be deceived." So, OTP Fraud is an act of fraud in OTP code fraud by pretending to be an admin of an application by asking users to send the OTP code. Adapun proses generate OTP ini terbagi menjadi 3 pendekatan utama, yakni: 1) Berdasarkan time-synchronization otentikasi server client yang memfasilitasi suatu password sehingga OTP valid jika dalam periode yang singkat; 2) Berdasarkan mathematical algorithm memungkinkan generalisasi new password berdasarkan password sebelumnya; 3) Berdasarkan mathematical algorithm password baru didasari oleh tantangan, misalnya penetapan nilai password secara random yang nantinya ditentukan oleh server (Imam Santoso, 2013).

## 2. OTP Fraud Cases in the Industry 4.0 era

In this industrial era 4.0, the world of technology is increasingly developing, various variations of passwords have emerged, one of the most frequently used types is One Time Password (OTP). Many fraud modes are often carried out by irresponsible people related to OTP codes, when the perpetrators of fraud succeed in obtaining the OTP code the perpetrators can use it as information to commit various criminal acts such as, misuse of credit cards, commit fraud through applications, and steal funds in accounts. The case of OTP code fraud is usually the victim will be called using a fake number by the perpetrator, then the fraudster impersonates a bank employee or others who say that the credit card is being misused by others, at that time the perpetrator acts like he wants to help block and ask the victim to mention the OTP code that entered the victim's cellphone, even though the fraudster is making illegal transactions using the victim's credit card. So, when the perpetrator manages to get the OTP code, it means that the security of the bank or application owned by the victim is no longer safe (Oktari, 2021). This has been similarly experienced by 2 students who were trapped and almost trapped in this OTP Fraud, expressed by MAR as follows:

"When I was sitting playing with my cellphone, suddenly the tone rang on the phone by an unknown person. The person claimed to be from the party or staff of Bank Mandiri, I happened to use a Mandiri account/ATM, the person ordered me to check the SMS message which turned out to be consecutive SMS. I immediately checked, and the person asked me to send the OTP code in the SMS message in order

to renew the ATM card period, I unconsciously mentioned the secret code, and as a result my Mandiri ATM card was blocked."

Another case was revealed by GS as follows:

"When I checked WhatsApp there was a person who sent a message asking for help to send a code in a foreign language in my SMS message to him. The person claimed to be an Alfamart employee on the grounds that he had entered the wrong DANA voucher number so that the SMS entered my number, at first I just believed it and almost sent it. However, because he spammed my WhatsApp with a little forceful element I did not send it, and I told a friend he said it was a new scam asking for an OTP code for his benefit."

#### 3. Editorial Dalil Nash al-Qur'an

OTP code is a secret code that can only be used once logged in and is limited in time and is popularly used in applications (Taqwim, 2021) (Rosano, Andi and Nur Ali Farabi, 2018). As a result of the popularity of the OTP code, criminal acts have emerged in the form of OTP Fraud or OTP code fraud among the public. As we know as Muslims, fraud is an act of disgrace and is prohibited by Allah Swt. as mentioned in Surah An-Nur verse 11:

"Indeed, those who bring false news are from among you. Do not think that the news is bad for you, rather it is good for you. Every one of them will be recompensed for the sin he has committed. And whoever among them takes the greatest share (of the sin he committed), he will have a great punishment (too)."

In this verse, it has alluded to humans who deceive by lying with various reasons so that the target can be trapped by him one day will get the appropriate reply from the mistakes he has made.

Then in another verse, in Surah Ali 'Imran verse 161, it is mentioned:

"And it is not possible for a prophet to betray (in matters of war booty). Whoever betrays, on the Day of Resurrection he will come with what

he betrayed. Then everyone will be given a perfect reward according to what he did, and they were not wronged."

This verse does not concretely explain the problem of fraud, but fraud is an act of betrayal or lying both with Allah Swt. and with fellow humans. Similar to the verse above, everyone will be rewarded according to what they do.

The rise of OTP code fraud means that we need to be humans who always tabayyun, namely selecting news and finding out the truth first, then believing it. As the tabayyun command is explained in Surah al-Hujurat verse 6:

يَايَّهُمَا الَّذِيْنَ امَنُوًا إِنْ جَآءَكُمْ فَاسِقُٰ بِنَبَإٍ فَتَبَيَّنُوًا أَنْ تُصِيْبُوْا قَوْمًا بِجَهَالَةٍ فَتُصْبِحُوْا عَلَى مَا فَعَلْتُمْ نْلِمِيْنَ

"O you who believe! If a wicked person comes to you with news, then research the truth, so that you do not harm a people through ignorance (carelessness), which in the end you regret."

In this verse, according to Quraish Shihab:

"If a wicked person comes to you with important news, then be diligent in seeking clarification. That is, research the truth of the information by using various means so that you do not inflict a calamity on a people without knowledge of the true situation and which in turn causes you to regret your actions a short time after the truth is revealed. Become people regretting your wrong actions (Arifin, 2018)."

#### 4. Hadith Related to OTP Fraud Cases

OTP Fraud is an act of fraud in OTP code fraud by pretending to be an application admin or employee staff of an agency by asking users to send the OTP code (Oktari, 2021). In this context, there are indications of fraudulent actions by deceiving the target, even though it is clear that in the perspective of the hadith it is not allowed to cheat, because the perpetrators of fraud are potential residents of hell, as for the hadith whose sanad is validated by Sheikh al-Albani, the Prophet said: "Evil plans and deceit are in hell."

There are other traditions regarding the prohibition of deception, as follows:

و حَدَّنَنِي يَحْيَى بْنُ أَيُّوبَ وَقُتَيْبَةُ وَابْنُ حُجْرٍ جَمِيعًا عَنْ إِسْمَعِيلَ بْنِ جَعْفَرٍ قَالَ ابْنُ أَيُّوبَ حَدَّنَنَا إِسْمَعِيلُ قَالَ أَخْبَرَنِي الْعَلَاءُ عَنْ أَبِيهِ عَنْ أَبِيهِ عَنْ أَبِي هُرَيْرَةَ أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ مَرَّ عَلَى صُبْرَةِ طَعَامٍ فَأَدْخَلَ يَدَهُ فِيهَا فَنَالَتْ أَصَابِعُهُ بَلَلًا فَقَالَ مَا هَذَا يَا صَاحِبَ الطَّعَامِ قَالَ أَصَابَتْهُ السَّمَاءُ يَا رَسُولَ اللَّهِ قَالَ أَفَلَا جَعَلْتَهُ فَوْقَ الطَّعَامِ كَيْ يَرَاهُ النَّاسُ مَنْ غَشَّ فَلَيْسَ مِنِي

"And narrated to us Yahya ibn Ayyub and Qutaibah and Ibn Hujr all from Ismail ibn Ja'far, Ibn Ayyub said, has narrated to us Ismail he said, has reported to me al-Ala' from his father from Abu Hurairah that the Messenger of Allah passed by a pile of food, then he put his hand into it, then his hand touched something wet, so he asked: "What is this, O owner of the food?" the owner replied, "The food was exposed to rainwater, O Messenger of Allah." He said: "Why don't you put it in the food section so that people can see it. Whoever cheats is not one of us." (HR. Muslim) (Effendi, 2017).

This Hadith is indeed more of our guidance in buying and selling, because it is in it for the recommendation of honesty for sellers. However, in the Hadith there is a sentence "Whoever cheats then he is not from among us." From this Hadith piece, it includes cheating. From this piece of Hadith, it includes OTP code fraudsters who disguise themselves as staff / employees of an institution to deceive their targets not belonging to the people of the Prophet Muhammad Saw. Sebagaimana yang sudah dipaparkan di atas, maka kita sebagai pengguna alat teknologi di era 4.0 ini harus lebih waspada dan berhati-hati dalam menerima informasi, dikhawatirkan informasi tersebut malah menjadi kerugian besar. Sebagaimana, telah diperintahkan dalam hadis untuk senantiasa tabayyun:

"Abu Hurairah reported that the Prophet said: It is sufficient for a person to lie if he tells everything he hears" (Muslim).

This Hadīth is in line with what Imam al-Munawi said: "If a person does not confirm the truth of the news he hears or carries, he is considered a liar, because usually the news he hears is sometimes true and sometimes false. So if a person transmits everything that he hears then he must be lying."

Thus, it can also be understood that when receiving news, it should not be conveyed entirely. From the context of tabayyun, if from the context of receiving information, do not immediately believe and accept it, let alone disseminate it again (Insani, 2021).

## Conclusion

From the explanation above, it can be understood that committing acts of fraud, fraud is strictly prohibited in the Qur'an and Hadith. The threat of retribution is not just a threat, but it will really happen. As a user of increasingly sophisticated technology in this 4.0 era, it is also expected to be more vigilant and always bertabayyun for information received in accordance with the recommendations in the text of the Qur'an and Hadith so as not to get caught up in the design of fraudsters' strategies including this OTP Fraud case. The results of this study are expected to be a reference for not committing fraud and always bertabayyun and this research is also expected to add insight into the action of OTP Fraud which is still rampant among the public in the current 4.0 era. The limitations of this research lie in the determination of the selected hadith which is not much and there are still those with maktub value and few sources. This research recommends to be used as a reference before giving this very confidential OTP code to others so as not to be trapped in the OTP Fraud action.

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