



## Online Loan Application against Islamic Sharia from the Informatics Aspect

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**Abstract:** In discussing social and organizational change, religion is one important aspect that is often overlooked despite its significant role in social life and society. Religion influences culture, customs, behavior, and communication. Several studies on the use of information technology based on religion have been carried out with a case study approach in areas such as education, economics, and health. However, none of them have incorporated the religious aspect in the application design. One of the information technology and economic products that is closely related to everyday life is online loan applications. Many studies have been conducted on online loan applications in terms of law, economics, and psychology, but they have not explored Islamic Sharia-based on informatics aspects. As the main foundation for online loan applications, informatics should be the basis of studies used to consider making regulations for both general and Islamic Sharia. This study aims to conduct an in-depth analysis of Islamic Sharia values in online loan applications related to the informatics aspect. Based on the laws of OJK (Financial Services Authority) and the fatwas of MUI (Majelis Ulema Council) regarding online loan applications, it has been found that applications legally registered with the OJK have complied with Islamic Sharia as stipulated by the MUI. However, in illegal online loan applications, many detrimental problems are found that do not comply with Islamic Sharia. Therefore, it is deemed necessary to take action in the form of regulations, social education, and support for religious knowledge to address these online loan issues.

**Keywords:** *Fintech, Informatics, Social, Islam, Online Loan Application, Sharia, and Illegal Loan Application.*

**JEL Classification:** *G23, O16, and Z12.*

### Introduction

The relationship between humans and information technology has been going on for so long that researchers know it as Social Informatics (SI). This study discusses the social aspects of the use of technology by humans. One of them is a discussion of the norms and ethics of using technology. In general, Social Informatics is understood as a study that studies the social aspects of computerization including the role of information technology in social and organizational change (Fichman & Rosenbaum, 2014).

In everyday life, people are often faced with economic problems. The gap between the need and the ability to buy or own goods has made debts and loans the solutions. As technology develops, borrowing and borrowing methods begin to change. The concept of digitizing economic products, commonly called Fintech (Financial Technology), utilizes internet network technology to carry out debt and borrowing transactions. Here, people can make money lending transactions online without having to meet directly with prospective lenders.

The existence of this innovation is certainly well received considering the convenience offered to customers. Seeing the potential enthusiasm and the market size, many parties are then competing to make services in the form of online loan applications. As revealed on the official website of the Indonesian Financial Services Authority (OJK), 106 companies have had online loan products although this amount does not include unregistered or illegal online loan products.

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As one of the widely used fintech products, online loan applications then become the public concern. The Indonesian Ulama Council (MUI) as an independent institution representing Muslims in Indonesia also participates in supervising the activities and the use of online loan products based upon Islamic laws. In this case, the MUI has set a policy through the MUI fatwa, which discusses the use of online loans in Islamic law. This fatwa is used as a guideline for Muslims who will make online loan transactions.

Online loan applications are IT products developed by software developers by translating general loan business processes into an algorithm or program that is accessed using IT devices via the Internet. This online loan program or application is then used by the public including Muslims as a means to apply for loans or carry out debt transactions.

Although online loan applications have been running for years and gained legitimacy through the MUI fatwa in 2018, there has been no research that has conducted an in-depth study on whether online loan applications are complying with Islamic sharia. For example, research conducted by [Anwar et al. \(2020\)](#) and [Rifai \(2020\)](#) reviewed online loan applications from a legal and economic point of view. Meanwhile, from the field of informatics science, research on online loans has been studied only in terms of user experience, as conducted by [Rohmah and Ary \(2021\)](#).

So far, the assessment of the online loan application done through Islamic Sharia is only seen substantively. As long as the online loan application meets the pillars and conditions in accordance with Islamic law, then the use of the application is allowed and considered halal. Many things need to be deeply studied related to the system functionality and the business processes in it.

This study attempts to look further into technical aspects such as functional and business process components in online loan applications. With the descriptive analysis method, the researcher attempted to produce a study on online loan applications according to Islamic Sharia from an informatics perspective.

## Literature Review

The use of Information Technology has now spread to almost all fields of institutions and organizations. Various kinds of communication tools such as smartphones and laptops have become routine information equipment in people's lives. Websites, meanwhile, have become the main means of obtaining information, communicating, and making social connections with most people. This phenomenon makes researchers begin to ask deeper questions about how human lives become tied to information technology ([Fichman & Rosenbaum, 2014](#)). Researchers conducted a study of the dynamic and complex relationship between humans, technology, and context ([Smunty & Vehovar, 2020](#)). Since the mid-1990s, research on Social Informatics (IS) has been rapidly increasing. From 2006 until today, many studies on Social Informatics have begun to combine the fields of politics and economics.

In addition to the combination of social concepts with information technology, some researchers are also searching for a correlation between technology and religion. David F. Nobel in his book described a relationship between religion and technology, including discussing the history of its development. Nobel stated that technology in the West has been developed based on the values that exist in religion ([Nobel, 1997](#)). Religion itself is something that has always been attached to society and plays a crucial role in civilization. It takes part in the social life of society and even the state ([Johnstone, 2007](#)).

Several studies on religious studies on information technology have been carried out. Marcus Richardson in his study on dating applications examined the motivations and factors determining people to use these applications ([Richardson et al., 2020](#)). Another study examined e-Learning, which was used as an Islamic assistance to the learning of Informatics Engineering students ([Setiawan et al., 2019](#)). Although there have been many studies on the relationship between information technology and religion, there has been no research on the study of religion from the informatics aspect. Most of the research conducted only examined the substances and benefits of the application.

One example of the technology utilization often encountered is an online loan application. Data from the Financial Services Authority (OJK) revealed that there are 106 online loan companies officially registered in the OJK. While 182 companies have been detected as unregistered and have no permits. The high number of online loan companies shows that these online loan services are in great demand by the public, which later on triggers questions about what factors make them decide to make online loans.

Marta Widian Sari in her research attempted to determine the factors behind someone making an online loan (Sari & Novrianto, 2020). The results of this study showed that decisions to apply for online loans have been determined by cultural and psychological factors with the mediation of religious factors. The psychological factors of a person coupled with the support of the surrounding culture such as power distance between individuals and the mindset about debt formed in society make him or her move to apply for an online loan, especially when it is reinforced by religious arguments, which commonly are the highest norm in society.

In the religion domain, the Indonesian Ulama Council has issued a fatwa against online loan fintech products in Fatwa No. 117/DSN-MUI/II/2018 regarding information technology-based financing services based on Sharia principles. MUI stated that in its application online loans must not conflict with sharia, namely avoiding *usury*, *gharar* (unclear contract), *maysir* (speculation), transparent, *dharar* (danger), *zhulm* (loss), and *haram*.

The research examined the MUI fatwa showed that in online loans there are at least the types of contracts allowed (Anwar et al., 2020) including:

1. *Mudharabah* refers to a business cooperation contract between the owner of the capital (*shahibu al-maaf* providing all the capital) and the manager (*'amil/mudharib*). Here, the profit sharing will be based upon the ratio agreed in the contract, while the loss will be borne by the owner of the capital.
2. *Musharakah* refers to a cooperation contract between two or more parties for a particular business in which each party contributes venture capital funds (*ra'su al-maal*) provided. Here, the profits are divided according to the agreed ratio or proportionally, while the losses are borne by the parties proportionally.
3. *Wakalah bi al ujah* is the contract of delegation of power to carry out certain legal actions accompanied by rewards in the form of *ujrah* (wages), and
4. *Qard* is a loan agreement from the lender with the stipulation that the borrower is obliged to return the money he or she received by the agreed time and method.

If reviewing the MUI fatwa, it can be substantively judged that the online loan application is legal as it includes the type of allowed contract, namely *Qardh*. However, it is still questioned whether online loan applications are made and used by Islamic Sharia. From the perspective of informatics, there are several components in the application that need to be researched related to system functionality and business processes in the application.

## Research Methods

This research was conducted qualitatively with a descriptive analysis data processing method. The method was applied by reviewing the results of previous studies and related theories and making conclusions about these various literacies.

## Results and Discussion

### *What is Informatics?*

Before going to further discussion, it is deemed important to figure out the definition of informatics. Informatics has become a branch of science that is studied in many universities as a field of study that discusses computer science or information technology. It is the study of the structure, behavior, and interactions between computing systems, both natural and engineered (*What Is Informatics*, n.d.). The term Informatics or Informatics itself has other equivalent words. The term Informatics is used in Europe, while in the USA they use the term Computer Science more often (Simon et al., 2015).

Informatics itself has many aspects that cover several existing disciplinary such as Artificial Intelligence (AI) and Computer Science, each of which has a different domain of knowledge. Artificial Intelligence (AI) refers to the study of system design adopting the knowledge of nature and the environment. Whilst, Computer Science studies the computational analysis and design of computing systems. In addition to having specific domains such as AI and Computer Science, Informatics is related to other scientific domains such as mathematics, electronics, linguistics, and psychology.

The study of informatics comes with various challenges. The first challenge is to determine to what extent the theory of software engineering and information processing can be applied to human life. The

second one is to determine to what extent knowledge from nature and the environment can be adopted and applied to the development of information technology engineering. The third challenge is to explore how artificial intelligence systems can help to solve any problems facing humanity and help to improve the life quality of all beings (Michael Fourman, 2022)

From these three challenges, it can be concluded that Informatics consists of three main components, namely:

- a. Getting information,
- b. Processing information, and
- c. Presenting information.

These three components are the basic concepts of informatics (Boell & Cecez-Kecmanov, 2012), which will also be studied in depth using the perspective of Islamic sharia.

### Getting Information

In this digital era, the circulation and exchange of information are becoming more massive. Information is anywhere and anytime through various types of media. Getting information is now becoming something simple similar to giving and disseminating it through information technology.

The exchange of information between users and systems is a form of interaction in the digital world. As in the real world, every interaction has an ethical basis that should be followed. Collecting the user data should be done without any ethical violation. For example, when intending to use the user's personal information to be processed in the program, the user is first asked by the system to have permission (Consent) (Carpenter, 2020). Things such as transparency of how data will be modeled and used, the extent to which data is used, and whether the use of data poses a particular risk are important to inform data owners. The system needs to inform the user of the purpose of collecting the information.

Manual data collection in the form of submission or interview typically has gone through the correct procedures and ethics related to asking for permission. Terms and Conditions (ToC) is a form of consent mostly found and used as a one-door gateway for service providers to obtain user consent. Despite having good intentions, researcher Ewa Luger found that what was conveyed in the ToC document was difficult for adults to understand (Luger et al., 2013).

Another document that is often encountered is the privacy policy, which specifically conveys how a system will use or protect the privacy of its users. Nili Steinfeld in her study stated that few people are willing to look at privacy policy documents (Steinfeld, 2016). This document has explained the purpose of using the data and the possible risks to the user.

With regard to privacy concerns, Islam has set one's privacy in the QS in Surah An-Nur verse 27 (Soediro, 2018) stating:

يا أيها الذين آمنوا لا تدخلوا بيوتا غير بيوتكم حتى تستأنسوا وتسلموا على أهلها ذلكم خير لكم لعلكم تذكرون (27) فإن لم تجدوا فيها أحدا فلا تدخلوها حتى يؤذن لكم وإن قيل لكم ارجعوا فارجعوا هو أزكى لكم والله بما تعملون عليم (28) ليس عليكم جناح لو ائتمنتم (29) لئن لم أت الله لئن لم أئتمنتم

"O you who believe, do not enter a house that is not yours before asking permission and greeting its inhabitants. That is better for you so that you (always) remember (27). If you don't find anyone in it, then don't enter until you get permission. And if it is said to you: "Go back (only), then you should return. It is clean for you and Allah is Knowing of what you do (28). There is no sin on you entering a house that is not prepared for habitation, in which there is your need, and Allah knows what you reveal and what you hide (29)."

The verse explains the etiquette when visiting someone's house and it can also be interpreted as etiquette in accessing someone's information. According to Soediro, this paragraph is by the regulations related to data privacy as outlined in the ITE Law Article 30 paragraphs 1-3 concerning accessing information belonging to others, without the right to obtain information, and violating, breakthrough, exceeding, or breaking into the security system (Soediro, 2018).

In addition to the verses of the Qur'an, some hadiths tell about the etiquette of visiting. Abu Hurairah narrated that the Prophet sallallahu 'alaihi wa sallam said:

لَوْ لَا اطَّلَعَ لَيْكَ إِذْنٌ، إِذْ، اِنْ لَيْكَ اح

"If someone looks or looks into your house without your permission, then you throw a pebble at him until his eye goes out, then there is no sin for you" (Narrated by Al-Bukhari and Muslim).

These two arguments show how Islam has regulated the distribution of information, one of which is about the protection of personal data privacy.

In the case of a loan online application, the issue of data privacy has been regulated in the Financial Services Authority Regulation No. 77/POJK.01/2016 concerning Information Technology-Based Borrowing-Lending Services, which is emphasized in Article 26 that the organizer is responsible for maintaining the confidentiality, integrity, and availability of the user's data, and in its use, it must obtain approval from the owner of personal data unless otherwise stipulated by the provisions laws and regulations (Nurmantari & Martana, 2019).

In practice, most cases of privacy data breaches occur on illegal online loans. The difficulty in taking action against illegal online loan businesses is that there are no regulations that provide strict sanctions against the existence of illegal online loans. These conditions make online loan service users involved in psychological and social problems when billing. Illegal online loan parties often collect using threats and terror techniques that lead to human rights violations (Pardosi & Primawardani, 2020).

### **Processing Information**

The information that has been collected will be processed to become new insights. In terms of processing information by the system, many methods or algorithms can be used to process information. The information processing model used can vary according to the needs and objectives of the system. For instance, a search system collects every word and sentence the user is searching for. This user search data is processed into information such as trending topics, user preferences, topics of interest, and others. In this case, the model or algorithm plays an important role.

An algorithm can turn simple information into information that affects perceptions, viewpoints, and decision-making (Mittelstadt et al., 2016). It is known that technology is neutral, similar to the algorithm of informatics which is just a harmless, objective, and neutral set of logic and mathematics. However, it should be noted that algorithms are created by humans who generally have values and principles in thinking and acting. These values and principles held by humans, in this case, Programmers or Developers, more or less influence the programs created.

Regarding information processing, Islam has determined the rules that need to be considered by its people. One of the rules is about *Qashash (Naba al Haq)* as stated in QS Hud verse 120 as follows (Kahfi, 2006):

وَكُلًّا نَقُصُّ عَلَيْكَ مِنْ أَنْبَاءِ الرُّسُلِ مَا نُثَبِّتُ بِهِ فُؤَادَكَ ۚ وَجَاءَكَ فِي هَذِهِ الْحَقُّ ۚ وَمَوْعِظَةٌ وَذِكْرٌ لِلْمُؤْمِنِينَ

"And all the stories of the apostles We tell you, are stories with which We strengthen your heart; and in this letter, the truth has come to you and a teaching and a warning to those who believe."

The verse explains the truth of information by referring to the stories of the apostles told in the Qur'an as true and contains useful information in the form of teaching and warning for humans, especially Muslims who believe in it.

### **Presenting Information**

Information can be presented in various forms and purposes, either in the form of text, images, and audio, or in the form of video for education, entertainment, and others. The information presented in a system or service certainly cannot be separated from the applicable ethics. To illustrate this, from the user's point of view in a video platform service such as *YouTube*, the ethics of users in using the information or content in it is not to disseminate information that has copyright without the knowledge or permission of the content owner. Meanwhile, from the service owner's point of view, it is to protect user data in the service (Allen et al., 2004).

When viewed from the perspective of Human-Computer Interaction, the form, and design of the information presentation affect the user's response to the system. For example, when the system displays a privacy policy document in one long page of text, it will make users feel lazy to read. In a study, it was found that some services have displayed their privacy policies better and do not facilitate the "accept the agreement" button directly, which turns out to be effective in getting users to read and observe the submitted privacy policy (Luger et al., 2013). On the other hand, some services may intentionally make the privacy policy document somehow unattractive; as a consequence, users are not concerned with the content of the information in it.

Regarding the ethics of presenting information, Islam has warned its people not to harm others (Dalam Islam, 2018) by the Qur'an Ash-Syu'ara verse 183 below:

لَوْلَا تَبَخَّسُوا النَّاسَ أَمْثِيَاءَهُمْ وَلَا تَعْتُوا فِي الْأَرْضِ مُعْسِدِينَ

"And do not harm people by reducing their rights and do not make mischief in the earth."

If interpreted based on the current conditions, this verse can state that harming humans and reducing one's rights can be taken in any form of action. One example is in the case of copyright infringement or copyright. Copyright is owned by a person or group of people when creating a work, be it academic, artistic, or anything related to the results of human thought and creativity.

When someone owns the copyright to something, that person has a right to publish the work. If other people participate in publishing the work without the permission of the owner of the copyright, then the action is seen as a violation that can harm the copyright owner. Because if there is an incident caused by the work, either in a positive sense (such as fame that brings money) or negative (such as the emergence of slander), then the copyright owner will be affected by the loss. In addition to violating social etiquette in Islam, this also violates ethics in general (Allen et al., 2004).

### ***Online Loan Application against Islamic Sharia from the Informatics Aspect***

As one of the applied sciences, information technology becomes a neutral object of knowledge because technology basically aims to facilitate human life. Information technology has facilitated humans to obtain, study, and disseminate information. It begins to tend to have positive or negative values when it intersects with social and religious values. The impact is on the application and acceptance of information technology in social or religious communities.

Islam as the second-largest religion, which has approximately 1.8 billion adherents in the world, has a great influence on the formation of beliefs, norms, and social behavior of its followers. The successful implementation of information technology in Muslim communities cannot be fully achieved unless information technology is managed, operated, and used with techniques and models in accordance with local wisdom (Abdul-Gader & Al-Buraey, 1998). Therefore, an understanding of religious values is deemed important to instill in information technology actors, either developers or users.

The study of ethics in informatics was initiated in 1999 through a peer-reviewed journal Ethics and Information Technology. The research conducted discusses ethics and information technology in various branches, ranging from robotics, software design, and privacy, to AI. Previously, we briefly explained three main activities in informatics, namely obtaining, processing, and presenting the information. There have been many studies that discuss social ethics in these three activities, but there are still few studies that examined them from religious values.

Ethically, the process of collecting data on online loan applications in the form of user registration tends to be normal like other applications. After getting customer data, it will be processed to check the credibility of the prospective borrower and to decide whether the prospective customer is eligible for a loan. The last component is the aspect of presenting the information. The information presented in online loan applications commonly includes the loan nominal, credit installment nominal, and loan maturity date.

In general, there are no critical issues regarding online loan applications, which have been registered and supervised by the OJK Institution. The registration process, user data checking, loan distribution, and installment payment have met the provisions of the OJK and the requirements of the MUI fatwa. Many problems arise in illegal online loan applications (BBC News Indonesia, 2021). Although OJK has blocked many online loan applications, many new applications have sprung up (Sugangga &

[Sentoso, 2020](#)). Issues that are often found in illegal online loan applications might be in the form of the aspect below.

#### *Information Collection of Violating Data Privacy*

Starting from stage *registration*, illegal online loan applications have been done in abnormal ways. They generally will ask for access to all personal information on the user's cell phone, such as access to all contact numbers on the cell phone, photos, storage, and others. The data are then misused when billing (OJK, n.d.). This borrower's data is often used to terrorize borrowers who cannot repay the loans. They perform terror and billing not only on the user or the user's emergency contact but also on many contacts on the user's device. It is not uncommon for them to spread photos and other personal data to all user contacts, causing personal panic and even worse affecting the user's career ([BBC News Indonesia, 2018](#)).

#### *Information Processing*

After getting personal information from the registered prospective customers, the next step is to check the credibility and ability of prospective customers to get loans. However, in illegal online loan applications, many frauds are found; they provide loans at random with the lure of fast disbursement. They do not concern with both selling loans and credit scoring. Also, they use borrower data to carry out actions that violate the law and harm users such as threats, and dissemination of personal data ([Wahyuni & Turisno, 2019](#)).

#### *Information Presentation*

The presentation of information that is often not transparent can also be found in online loan applications. This is done to trick customers, for instance, regarding loan installments. Online loan applications, it does not transparently inform about loan interest; as a consequence, the customer has to pay installments and interest that is initially unknown.

These three things have also been regulated and prohibited in Islam in Islamic-Qur'an as well as hadith. However, in this case, the fault is not only borne by the online loan application. The lack of knowledge from potential customers about illegal online loans also becomes one of the reasons for many incidents of fraud in online loans.

In this case, the parties in charge of making regulations both in general and in the context of Islamic sharia take part in this phenomenon. As a universal religion, Islam has an adaptive character. The verses of the Qur'an as a guide for Muslims are relevant throughout the ages. The science of fiqh and sharia develops a number of changes in civilization. So, it is only natural that the fatwas issued by the Ulama on the problems of the people are also relevant from time to time following the dynamics of the existing problems.

### **Conclusion**

The digital world and information technology are very close to human daily lives and they affect various life aspects. For this reason, it is appropriate for us to look at informatics and criticize information technology products from a social and religious perspective. One example is the online loan application, which has recently been widely discussed for taking many victims.

Online loan applications are divided into two types: legal (registered and supervised by the OJK) and illegal (run by companies or individuals without clear legality). In legal online loan applications, almost all regulations have been prepared to prevent any losses between the two parties, so that this online loan application is considered socially and religiously safe. The entire business process from registration to transactions is supervised by the authorized institution so that everything goes well and no party is harmed.

It is different from illegal online loan applications in which many practices violate social ethics and religious norms. At the registration stage, they take almost all of the user's data that are not relevant to the loan, such as access to storage on the cell phone and contacts on the user's cell phone. Then, at the

information processing stage, they do not carry out a credit scoring process to see someone's ability to pay so it is not known whether the user needs a loan and can pay the instalments. In presenting information, they often manipulate it; they do not transparently inform the loan interest, which then harms users that have to pay many times for the loan installments.

The number of cases found in these illegal online loans is detrimental to the community for no legality protecting them. In general, illegal online loans violate social ethics as well as Islamic religious advice regarding the misuse of information. From the research and assessment of online loan cases that have been carried out, it is concluded that the regulatory product from the Islamic side of fintech online loans is not yet fully ready. This is evidenced by the many cases of victims of fraud in illegal online loan products. Serious steps are needed both in terms of regulation, social education, and support for religious knowledge to follow up on this online loan issue so that the number of victims does not increase in the future.

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