Public Understanding Of Robotic Trading In The Context Of Trading Law: Strengths And Weaknesses

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Abstract

This literature review aimed to obtain evidence of scientific studies to answer and provide in-depth understanding to the public about system-assisted trading in the context of trading law advantages and disadvantages. To receive relevant data to answer this research question, we have successfully conducted a series of data searches electronically on several publications, journals, proceedings, books, and databases in the form of news and publications on robotic trading. We examine the data we find by involving a literature review system such as a data coding, data evaluation system that specifically criticizes and interprets the data so that it is easy for us to conclude data to answer questions and hypotheses of literature review about robotic trading in the all-digital era. Based on the existing data and after the final discussion, we can conclude that robotic trading is an all-digital trading strategy whose purpose is to save time costs and facilitate all-digital work by utilizing speed and digital access compared to the past, which relied on all humans. The writers hope this finding should be a precious input to improve the quality of research in trade science and technology for all applications in an era full of competition and freedom.

Keywords

Public Understanding, Robotic Trading, Trading Laws, Weaknesses, and the Advantages or Disadvantages.

Introduction

Advanced robotic trading is a strategy for executing orders using computerized exchange directions that are adjusted, taking time, cost, and volume (Nuti et al., 2011). This type of trading exploits the speed and count of PC assets compared to human traders. The algorithmic exchange has gained a foothold with retail and institutional traders in the twenty-first century. Speculative banks typically use profit reserves, shared assets, and
flexible investments that may have to send more extensive demand executions or execute exchanges too quickly for human traders to react (Gan et al., 2014). A review in 2019 showed that exchange calculations rather than people settle about 90% of Forex market exchanges. The term algorithmic exchange is often used as an equivalent to a computerized exchange framework. It incorporates various exchange techniques, some of which rely on recipes and numerical results, and regularly rely on specific programming (Giannozzi et al., 2017).

Examples of procedures used in robotic automated trading incorporate market creation, between market spreads, exchanges, or pure hypotheses, for example, the following pattern (Friederich and Payne, 2015). Many are highly repeat exchanges characterized by high turnover and a high demand-to-exchange ratio. The robotic trading technique uses a PC that sets complex options to initiate orders based on data obtained electronically before human traders can handle the data they see (Arnoldi, 2016). Therefore, in February 2012, the Commodity Futures Trading Commission held an extraordinary working meeting involving scholastics and industry experts to encourage robotic trading on the best way to characterize. Algorithmic exchanges and automated trading have brought about emotional differences in the microstructure of markets and the complexity and vulnerability of macro market dynamics, especially in the way liquidity is managed (Braun, 2016).

Automated trading systems or robotic trading frameworks - also referred to as mechanical exchange frameworks, algorithmic exchanges, mechanical exchanges, or framework exchanges - allow traders to set explicit principles for exchange paths and exits which, once modified, can be automatically executed utilizing a PC (Quarta et al., 2017). Indeed, different levels reporting about 75% to 85% or a more significant number of offerings trading on the USA stock trading comes from a programmatic exchange system. Financial backers could turn the proper path, exit, and cashing of board regulation into a computerized exchange framework that allows PCs to execute and screen exchanges (Cerrudo and Apa, 2017). Perhaps the greatest attraction of computerized systems is that they can remove some of the feelings of exchange because exchanges are consequently placed after specific standards are met. Part exchanges and leave rules can be established on primary conditions, such as moving regular hybrids or convoluted systems requiring a comprehensive understanding of the explicit programming language to the client exchange stage. They can also be based on a certified software engineer (Ahmad et al., 2020).

Mechanical trading frameworks usually require programming connected to direct access intermediaries, and specific guidelines must be written in the limited language of that stage (Scopino, 2015). The Trade Station stage, for example, uses the EasyLanguage programming language. Then again, the NinjaTrader stage uses Ninja Scripts. This shows an overview of the computerized system that triggered the three exchanges during the
exchange meeting. Trading platforms that have exchanged people mechanically have recently been in the center of expanded attention. Last February 2013, the European Securities and Markets Authority (ESMA) endorsed the ESMA Guidelines on frameworks and controls in the robotic exchange climate for the exchange stage; the ESMA 2012/1221 (Guidelines) fully intends to ensure regular, uniform, and predictable utilization of necessary arrangements when applied to the common frameworks and controls for automated trading and investment firms in a mechanized trading climate (Woodward, 2017).

Talking about trading rules with automatic systems, the consumer community can distinguish between legal and unofficial trading robots. One of them is related to permission from the service provider. Essentially, all of these trading robots will be illegal if trading activities are used in commodity futures or securities/stocks because they must obtain permission from CoFTRA or the Financial Services Authority (FSA) (Suzor and Woodford, 2013). The public can also avoid this illegal practice. If the traders are registered with CoFTRA and FSA, it is legal. On the other hand, if it is not on the list of the two institutions, the service, even with any sophisticated system, is an illegal trading system. Brokerage/trader companies are registered on the CoFTRA and OJK websites; apart from that, all activities are illegal.

Previously, the Directorate General of Consumer Protection and Trade Order and the Commodity Futures Supervisory Agency (CoFTRA) were known to have taken action on one of the expert advisor/robot sales businesses (Beketov et al., 2018). The action was carried out at PT DNA Pro Akademi. The company is considered to be running a trading robot selling business using the Multi-Level Marketing system and has not been effective, verified, or does not have a direct selling business license. For this reason, we are trying to find evidence of previous studies on understanding robotic trading from a legal context and its advantages and disadvantages before a large community is involved in that new trading system in Indonesia (Desyllas and Sako, 2013).

Method and Material

This method section will describe the chronology and procedures for conducting a literature review of public knowledge on robotic trading in the context of trading law from the point of view of its strengths and weaknesses (Lazkano and Beraza, 2019). Because this study uses secondary data design, we rely on scientific evidence from studies of robotic trading science that have been successfully published in various publications, both scientific journals, academic proceedings books, and various websites that we have visited electronically (Bechhofer and Paterson, 2000). Furthermore, the data and information that we collect must, of course, go through an in-depth stage which we have involved an in-
depth evaluation data coding system, critical interpretation and finally we conclude that this royal evidence is part of the results for us to discuss in order to become new findings how the public actually must understand and understand as well as be able to apply trading robots in the context of trade regulations and laws and focus on the advantages and disadvantages (Chalmers, 2013).

We report all data in a descriptive qualitative design that emphasizes the previous royal evidence, which we report in a qualitative form following the reporting of the previous study, which chose the critical literature review design earlier. Because when this paycheck was carried out, there were still public restrictions imposed, so the researchers relied on the data we were looking for with the help of an online Google engine or, in other words, a literature review which we believe can answer the core problem of this study with the principles of high trustworthiness and reliability. Summary of academic implementation strategies and methods obtained from the evidence published aspects of the public's view of robot-assisted trading in this increasingly sophisticated era in a legal context seen from the advantages and disadvantages of robotic trading operational systems (Taylor et al., 2016).

**Result and Discussion**

**Understanding Robotic Trading in Legal Business**

Robot Trading is a framework that runs stock exchanges accordingly utilizing a calculation, so clients do not need to try observing the market. As of now, the exchanging robot is thought about part of the way as a trick assuming some pretense of staggered advertising or MLM (Henrique et al., 2019). Investopedia explains that robotic trading is a trading support system that can innovate legitimate business lines and strengthen the rules of the executive game into computerized business models and frameworks that allow computers to run, replacing the role of humans in modern-day trading network systems. This new system has the strongest appeal with automated robotic trading systems. They can eliminate some of the feelings and tensions of trading and business systems because this trade is placed after specific standards such as legal aspects, efficiency, and innovation in the era of digitalization. The trading section and its rules can be founded on primary conditions, like moving average crosses or perplexing systems requiring an exhaustive comprehension of the programming language explicit to the client's changing stage. They can likewise be founded on the aptitude of a certified software engineer. Changing robots typically require programming connected to an immediate access dealer, and any extraordinary principles should be written in the language that the stage has a place with (Edwards and Veale, 2017). Exchanging robots are utilized in forex, securities exchanges, fate markets, and digital currencies. Cited from the YouTube channel Talking Money, making and exchanging
robots with a reliable success rate is difficult. They want coding abilities to make a program to make a changing robot. Behind it, there is a changing procedure planned by experienced merchants who comprehend the elements of the monetary business sectors (Hole et al., 2019).

Moreover, exchanging robots likewise have high versatility to change techniques when the market changes. While making a changing robot, developers can adopt a few strategies. For instance, they utilize an exchange methodology, which checks numerous business sectors and recognizes contrasts in the cost of similar resources between various business sectors. With this methodology, exchanging robots can recognize and execute exchanges rapidly to benefit. Another methodology that can be taken is to execute exchanges in light of specialized pointers (Delgado et al., 2019). Along these lines, the developer should work with brokers with a demonstrated recipe to get a high execution win rate. Thus, every time a brilliant cross happens, the exchanging robot will naturally submit a purchase request, and each time there is a dead cross example, the robot will accordingly put in a sell request or take benefit.

By the by, merchants should glance at a few markers before finishing value development. Brokers additionally need to decide how much is assigned and each request, computing the danger of each request. The main thing is to decide on a stop misfortune or cut misfortune technique assuming the examination is off-base. All of that should be customized in the exchanging robot, so the exchanging robot has an essential premise while simultaneously restricting the danger of misfortune if the investigation results are not accurate to form (Mason et al., 2020). Furthermore, the changing robot calculation should be consistently refreshed by economic situations whose elements continually evolve. Fundamentally, exchanging robots and manual exchanging is something very similar. If conditions are hostile, the methodology utilized is different when economic situations are bullish or sideways.

However, exchange execution is more compelling on an exchanging robot because the PC speed is quicker than human hands. Moreover, with a changing robot, they also do not have to screen the market constantly and freeze since they neglected to set a stop misfortune, and they will not press some unacceptable button while requesting or other human mistakes (Chen and Dorairajoo, 2020). Generally, all human blunder elements can stay away from changing robots. However, the Head of the CoFTRA Market Development and Development Bureau, Tirta Karma Sanjaya, said that changing robots likewise have drawbacks. Shortcomings of exchanging robots, which are static, inclined to specialized disappointment, have extra expenses, and are connected with checking. Even though it can work accordingly, brokers need to screen the exhibition of the exchanging robot since specialized issues can happen whenever, either from inward robots or outside factors.
"Furthermore, backtesting (BT) is likewise regularly not quite the same as a forward test (Sun et al., 2019).

Regulation Robotics Trading

The use of foreign exchange robots known as 'forex exchanges' is a confusing question (Evans, 2014). The foreign exchange, usually done by representatives and traders, is now done by exchanging robots. The use of exchange robots is a modern revolution 4.0 that relies on artificial reasoning and a network of things. For this situation, it is essential to understand that automatic exchange is just an artificial intelligence-based tool adapted to use calculations and other projects to create hope on the foreign exchange (Bahrin et al., 2016). This exchange robot is a kind of advancement from the Sophia robot, introduced at the 2019 CSIS Global Dialogue. Individuals need to understand that what is conveyed by the exchange robot is absolute hope, so it has good and bad opportunities in a choice.

Robotic exchanges cannot expect sudden things from an unknown trading exchange market. For example, changes in global political celestial bodies and security situations that affect unknown trade values were essential (Vallor, 2015). Mascarenhas and Mascarenhas, (2018) illustrates that robot exchange is difficult without humans because they are essential tools in an unknown trading exchange. It cannot wholly replace people's work as traders and brokers in the foreign trade market because they cannot adapt to the latest events and conditions, especially those that occur suddenly, for example, changing political and security conditions. It should be underlined again that the exchange robot will choose based on the conditions and the best choice at that time. In this way, no foreign trade administrator would dare to give such unshakable certainty. The client administration that will use it will continue to sign a structure, which states that the foreign exchange administrator cannot be held responsible for all the harm and misfortune due to foreign trading (Hoffmann and Prause, 2018).

Three legitimate perspectives are essential for managing foreign trading robot exchanges for this situation. To begin with, part of customer insurance. Second, it is part of the Commodity Futures Trading Regulatory Agency (CoFTRA), and third, the general and administrative point of view helps foreign trade using trading robots. In recent times, it should be understood that the continuous publication of foreign trade using trading robots can be very detrimental to the general public due to the lack of promotional substance. The buyer's assurance regulation can be disadvantaged due to the insufficient substance of publications and data from foreign trade administrators related to trading robots.

Regarding Point 4 of Law No. 8 of 1998 on Consumer Service and Protection, customers were entitled to data and security. Because foreign trade exchange customers are using
exchange robots, they are eligible for complete data in addition to the possible dangers. Given the UUPK, if the foreign exchange manager does not provide complete data, including regarding the dangers of using an exchanging robot, the administrator cannot exercise his disclaimer freedom in the event of an accident. By exchange robots (Holland et al., 2021).

**Robotic Trading as New Knowledge**

Autotrading or a mechanized exchanging framework is a component for taking an interest in coordinated monetary business sectors comprising utilizing an algorithmic exchanging framework with which financial backers place exchanges to trade monetary instruments consequently (Eguchi, 2017). To do this, a calculation program executes orders by carrying out foreordained, or financial backer customized rules. To utilize this mechanized framework, which ends up being the most widely recognized in protections advertisements, the financial backer chooses a stage where various foreordained boundaries and rules are set up. Through these frameworks, the financial backer picks and sets up many redone rules as indicated by which, assuming that specific foreordained factors or conditions are satisfied, or certain occasions happen, the connected trading orders are executed consequently.

One of the fundamental patterns in auto trading is the duplicate exchange or exchanging social framework, in light of replicating the developments made by at least one merchant. When the financial backer has settled on many administrators or brokers whose developments wish to recreate, he/she signs the command to execute the request to trade those monetary instruments, which repeats the picked speculation system. From an administrative stance, this action is typically treated as an optional portfolio the executive's administration, through which the client employs, by going into an arrangement, an element approved to offer said support to deal with their capital for their sake, and the substance, consequently, embraces to deal with the client's capital loyalty following the client's foreordained guidelines (Henderson and Birdthistle, 2013).

Hence, for an element to have the option to give an auto trading administration, it will require an earlier approval from the Spanish Securities Market Commission to give an optional portfolio to the executive's administration, as well as satisfying the other material regulation, including the commitment to sign an optional portfolio the board concurrence with every financial backer or an appropriateness evaluation for every client (Edwards and Veale, 2017).

**Advantages of Robotics in Trading**
Autotrading presents a distinct advantage over traditional exchange frameworks, where the most notable benefit is the lack of emotional tendencies. Because it is organized around many rules or calculations and human feelings have no impact on them, automated trading avoids the production of unreasonable decisions by financial proponents, such as arrogance or risk aversion, by establishing a predetermined system of speculation (Maringer and Ramtohul, 2010). Another significant benefit that this assistance offers is more prominent access to a wide range of monetary instruments and the business sector worldwide, which allows for creating a more enhanced speculative methodology (Weber, 2010). In addition, automated trading allows multiple exchanges within the same timeframe and at any time of the day instead of orders made by a typical broker.

In addition, these regulations are created more quickly than conventional traders do because the robotics trading framework reacts quickly to changing economic situations, and market entry or exit must be possible very quickly. Autotrading also enables a more definitive examination of business sector factors; demand is created naturally in an ideal business situation. As a result, this robotic framework allows trade-offs to be quickly and effectively established within predefined boundaries and reduces human error rates in conventional change frameworks (Ryu et al., 2021).

Disadvantages

Understanding illegal trading robots is becoming increasingly important, considering that robot trading applications are popular in Indonesia (Lemley and Casey, 2019). Naturally, many say that robot exchange can make it easier for someone who is just investing in more profits, but that does not mean that robot exchange has no weaknesses. Trusted exchange robots can help make the right investment choices for novice financial backers. However, robotic exchanges are also widely used in forex investment fraud and have become a new mode of fraudulent investment (Lin, 2016).

Automatic exchange is a system that executes transactions automatically using a hurricane so that users do not have to worry about the market. “The Commodity Futures Trading Supervisory Agency (CoFTRA) of the Ministry of Trade appealed to the public not to be easily tempted by promises offered by investment fraud perpetrators with robotic exchanges”. The reason is that the exchange of robots also risks loss, especially if they steal advantage of the exchange (Morse, 2020). For this reason, the public is asked to be vigilant to be more vigilant in utilizing this robot exchange. The Head of the CoFTRA Market Development and Development Bureau, Tirta Karma Sanjaya, explained several things. He explained that an exchanging robot is computer software that can be automated to unify the market, work to calculate entry opportunities, place
transactions, and carry out risk management based on algorithms that have been embedded in the program lines (MacKenzie, 2017).

Robot trading as a tool in commodity Futures transactions is to unify the market, calculate entry opportunities, execute transactions, and risk management embedded in the program script (Li et al., 2020). The robot exchange will automatically manage the risks with discipline and consistency. However, the automatic exchange also has its drawbacks. The disadvantages of automatic exchanges are that they are static, prone to technical failures, have additional costs, and associated monitoring. Even though it can work automatically, merchants still have to complete the robot exchange because technical problems can occur anytime, both from the robot's internal and external factors. "In addition, backtesting (BT) is also often different from the forward test (FT).

Backtesting results on paper may be following the merchant's expectations (benefit), but after being applied to actual market conditions (forward test/FT). On the same occasion, the Directorate General of Aptika, Kemenkominfo Anthonius Malau, explained that, in fact, the use of official exchange robots, which is currently booming, is legitimate. In Indonesia, legitimate robot exchanges can help place technology in every aspect of life, especially during a pandemic when space is limited. However, this practice must be based on a permit that is assumed to be legal that exists and is registered from the Electronic System Operator (PSE) so that the robot exchange becomes a trusted robot exchange. "This is the goal to organize a reliable, safe, reliable, and responsible electronic transaction system," he wrote. That way, Anthonius stated that it would be easier for the public to trade with illegal exchanges that use robots illegally because they already know who the organizers are and the electronic system registered as a PSE (Alaiad and Zhou, 2014).

Regarding the drawbacks or weights of automatic exchange, it should be underlined that, even though it is a mechanical structure, this does not mean it is unreliable because, being founded on an algorithmic programming system, its use carries the risk of PC-related or mechanical errors, which could interfere with the proper assistance provided (Vitse et al., 2021). Furthermore, the norm or constraint for executing commands is established before execution, the plan of which, by expecting a sneaky or outdated database to be used to set them, executed requests can give uneven results or have an antagonistic effect. Moreover, as each request is made, consequently, the capacity of the framework to respond is lost, the genetic component of all manual exchange frameworks through which traders can discern patterns and open doors in the monetary business sector and exploit them incrementally. Ultimately, automated trading is dangerous, leading to excessive downsizing (Konys, 2019).
Robotics Trading System in Islam

Islamic law has regulated the terms and pillars of business and tradings. One of these exchanges is the existence of muta'aqidain, two people who agree (Hartanto, 2021). However, what is the ruling on trading using robots or Autotrade Gold 4.0? Muhammad Syamsudin, through the official Nahdatul Ulama website, said, explained in nushush al-shari'ah (fiqh texts), the scholars agreed that the provisions of aqil, baligh, and hurriyah must be fulfilled. Aqil, which means intelligent Baligh, means that he has reached the age of puberty (age enough). Furthermore, it does not consist of people who are mahjur (detained for the interpretation of their wealth), muflis (bankrupt people), safiih (weak in mind and mind), and majnun (crazy) (Sezgin, 2015).

Referring to these conditions, the so-called transaction is only valid if it is carried out by humans, not robots, machines, or the like (Savelyev, 2017). In other words, a transaction is invalid if robots only carry it out. In scholars' understanding, robots and machines do not have a reason or stipulations for baligh of Hurriyat. So, the question has been answered that based on the original provisions of the sale and purchase, the Autotrade Gold 4.0 robot is not allowed because the conditions as a contract are not fulfilled. Spot transactions are one-point transactions (Paolillo, 2015). In the context of the secondary market in the financial/forex sector, spot trading is defined as a currency transaction or asset that is already held on the same day at the price agreed upon in the contract assembly on the second day and the same day, with delivery at any time. For example, spot trading is like going to the market and buying goods. We make transactions directly with the seller, then submit the price, and the seller delivers the goods (Christin, 2013).

We can also receive the goods, then the price will be submitted in the future, but the amount is agreed upon at the contract assembly. We buy eggplant 1 kg; the price is 5 thousand rupiahs. We bring the goods, the money is delivered right away or delivered later. Both of these transaction models fall into the spot trading category. What is clear is that prices and goods are agreed upon on the spot (Karlan et al., 2011). Transactions such as this illustration are legally valid. However, what about the Autotrade gold 4.0 robot? Does it perform the spot trading function as illustrated? In his writings, Muhammad Syamsudin explained that the company claims that the Autotrade Gold 4.0 robot can work on its own automatically and carry out trades on its own. "Humans have a maximum capacity, so the need for rest should not be neglected. We just need to set the program, and the robot will run automatically, every day, without needing a break. Auto Gold 4.0 is an application that we need to check," wrote the developer of the robot (Kodandaramaiah et al., 2012).

Based on this information, we can indirectly understand that buying and selling transactions on the Autostrada Gold 4.0 robot are carried out by the tool itself automatically and
simultaneously, even though the trader is not accessing it (People, 2020). Thus, this kind of practice is characteristic of speculation (gharar). Even though the Prophet Sallallahu alaihi wasallam has prohibited buying and selling in gharar. The related official page also says, "Another reason why you should try Autotrader Gold 4 is how fast it works. Forex robots generally provide fast and effective performance in making decisions, not only the software we mentioned. In addition, they can determine the strategy that seems appropriate, and the robot will find the best solution by comparing the situation in the market (Lee et al., 2010).

Thus, the perpetrator who carries out the transaction is not eligible for muta'aqidain. Through this kind of machine decision intermediary, as a result, the trading system is pure luck (Davies, 2017). This causes this transaction to become a practice of gharar, which is prohibited by syara' and haram. Is Autotrade Gold 4.0 a Money game? The money game is nothing but the practice of passing finances without any wasilah of the goods being traded, accompanied by the need to find members or members. Member income depends on the presence or absence of new members who enter. Meanwhile, Autotrade Gold 4.0 does not show the criteria as money games. Wallahu a'lam bish shawab (Debeauvais, 2016).

Conclusion

In this last section, we will summarize the essential points of a series of studies that examine the search for authentic evidence from previous studies on people's understanding of the application of robot trading in terms of the economic law of trading. As well as the advantages and disadvantages of this digital business application by searching for data in several well-known publications in academia and scientific papers, we managed to get as much data as possible for us to study under the phenomenological approach, an approach that obtains the broadest possible data, then we look for conclusions that can answer the problems of this study by adhering to the principle of validity and reliability of the data findings. We are sure and aware that the present data have limitations and weaknesses, considering that this study is based on previous findings publicly published in various national and international publications. Without further due, we will conclude the essential points which, among others, in the results and discussion section we have described the first is to seek understanding and understanding of robotic trading, which is seen as a new thing in the context of understanding and business law.

This understanding is fundamental considering that this trading robot trading system is a new and phenomenal thing in terms of the effectiveness and also the legality of this system. In the next point, we describe how the regulation of the use of robots in trade is viewed from technological developments and aspects of political law that exist in various scientific and legal contexts in various countries. We also see how robotic trading is a new understanding and knowledge in business and legal applications at the next point. This
innovation results from the creativity of the players and creators of the lake, particularly for business. Then we see that this trading robot is not only in terms of legality issues in a trading system, but we also describe the advantages possessed by the application, which of course is an assistance system that offers various conveniences and advantages in doing business not only in a country but in various countries and this is a business system in an increasingly global era.

In addition to the advantages and advantages of using robotics in trading, we also found various weaknesses and inaccurate views from a legal point of view as well as business goals that help humans offer various financial activities, this machine, as well as a system operated by humans, certainly has various weaknesses, including Others, this creates market doubts and also requires recognition of the recognition of a more transparent and automated work system of course also carries the risk of digital-based governance which is a new thing and requires various studies in order to avoid various illegal practices which of course can have an impact. The negative impact on the implementation of business, which so far is still manual, is replaced by a technology-based system, namely fully automated robots.

Finally, we also explain that the point of view of the Islamic economic system is essential considering that Indonesia is a country that has Muslims who are currently in the process of developing an alternative economy, namely an Islamic economy based on Islamic law in the form of the Koran and hadith which are collected into fiqh books which developed by Islamic scholars who of course have various stages and views and principles that must be upheld.

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