

Risk Challenges and Regulatory Approaches in Fintech Data Application Regulation

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Abstract: In the era of data capital, the combination of the traditional financial sector and emerging technological forces has forged a fintech industry with great potential. In the process of its prosperous development, ethical risks such as data ethical dilemma have arisen, and legal problems such as legislation, law enforcement, justice, and law-abiding have appeared. How to solve the multi-dimensional challenges brought about by ethical and legal risks requires not only the participation of multi-party subjects to formulate the relevant industry ethical standards and legal system, and to strengthen the supervision of relevant ethical and legal risks, but also the deepening of the corresponding judicial remedial system, and the formation of a good and orderly social ethical and moral atmosphere and law-abiding. It is also necessary to deepen the corresponding judicial relief system, so as to form a good and orderly social ethical and moral atmosphere and law-abiding environment, and help the healthy development of fintech.

Keywords: Financial technology, Ethical risk, Legal risk, Regulatory guarantee.

1. Introduction

The definition of financial technology (Fintech) is not yet uniform internationally, with countries and organisations having their own understanding. The Financial Stability Board (FSB) defines it as the innovative application of emerging technologies in financial products and services (Lagarde, Christine, 2018). The evolution of Fintech can be broadly divided into three stages: stage 1.0 is based on communication technologies, stage 2.0 realises the digitalisation of finance, and stage 3.0 improves the efficiency of services through big data and cloud computing (Kukuh Setiawan, Nadia Maulisa, 2020). This evolution marks the fact that mankind is stepping into a new era of digital civilisation.

In recent years, the emergence of new concepts such as Internet finance has led to the generalisation of finance, posing challenges to regulation and risk prevention, and the traditional regulatory approach has been weak in dealing with new risks. Therefore, there is a need to break through the traditional regulatory dimension, use technology to solve the problem of regulatory risk, and encourage innovation while controlling risks to ensure the healthy and orderly development of fintech (Artie W. Ng, Benny K.B. Kwok, 2017). This is not only a reflection of financial innovation, but also an important trend in the integration of financial and legal technology.

2. Basic Characteristics of Fintech

Fintech should have the dual attributes of finance and technology, and the combination of multiple elements makes it have more complex characteristics. In particular, it has the following basic characteristics.

First, digitalisation. Accompanied by the development of emerging technologies such as big data, artificial intelligence and cloud computing (Allen, Hilary J, 2024), society has entered a highly digitalised era consisting of smartphones, computer terminals and mobile internet. The wave of digitisation is impacting and subverting the traditional

financial sector in terms of innovative products, service models and customer experience. Traditional financial institutions are responding to the rapid development of fintech and the trend of profound changes in the financial service model, and are taking digital transformation as one of the core elements of future business transformation. Therefore, the development of fintech continues to empower the digital transformation of finance and reshape the digital future.

The second is networking. In order to meet customer needs, financial institutions provide corresponding business processes and product services on the network by digital means as much as possible, establish a closer connection with customers through the Internet, and meet the diversified financial needs of customers. The development of fintech has redefined the service targets and business thinking of financial institutions, making them pay more attention to serving long-tail customers and enhancing their ability to attract customers, thereby improving customer experience. Payments, loans and wealth management have been embedded in customers' lives through mobile terminals such as computers and mobile phones.

Third, inclusion. Inclusive finance refers to the provision of appropriate and effective financial services at affordable costs to all segments and groups of society with financial service needs under the premise of controllable risks. As the blood of the digital economy, fintech can reach all strata of society, build a new digital financial service system and promote financial inclusion. The openness and inclusiveness embodied in fintech based on information technology such as the Internet and big data has enhanced the convenience and security of financial transactions and provided effective support for the development of inclusive finance (Yadav, Yesha, 2020). For example, mobile payment provides a non-traditional channel for low-income groups in society to obtain financial services, solving the problem of their most basic financial needs.

Fourth, sharing. The traditional financial institutions' operation mode is relatively solidified, with low tolerance for risk, making it difficult to meet the diversified needs of customers. With the development and popularisation of new-

generation information technology, the financial industry can make use of modern information technology to collect massive amounts of user information and realise the interconnection of financial transactions, payments and clearing. The growth of the Internet-using population has helped to increase consumers' willingness and ability to accept technology. Fintech, through new platforms, products and services and its network diffusion effect, carries out cross-market, cross-industry and cross-time penetration, in order to reduce transaction costs and thus promote the development of the sharing economy. Currently, fintech is re-establishing and reshaping the order of the financial market, providing a strong supporting force for the sharing of the digital economy era.

Fifth, compliance. The application of technologies such as big data, artificial intelligence, blockchain and social media has constructed a digital society, providing a foundation for data aggregation and information dispersion. The development of information technology, such as cloud computing and search engines, facilitates the aggregation, dissemination and use of relevant information, which helps to form a reputation evaluation mechanism for those in need of funds, and to a certain extent, helps borrowers or other information users to detect potential fraud, and form a corresponding supervision and credit collection mechanism, thus facilitating the development of compliance in the financial industry.

3. Legal Risk Challenges of Fintech

The legal risk of financial science and technology refers to the possibility that financial science and technology may appear in the process of innovation and development to endanger the interests of society and violate the provisions of the law, thus causing the national legislature and law enforcement agencies to rapidly adjust and govern. At present, fund-raising fraud, pyramid schemes and other illegal and criminal behaviours under the cloak of traditional finance have become more rampant with the development of the Internet and mobile phone APPs, and the luring methods under the packaging of new technology are even more defensible, and the development of financial kryptonite has also led to an increasing legal risk.

Specifically, financial science and technology as a new thing, in the process of its development of the accompanying legal regulation has a relative lag, for the legal protection of the field of legal protection has increased the corresponding legal risk. The legal risks of fintech can be subdivided into legislative risk, law enforcement risk, judicial risk and compliance risk from the point of view of categories.

3.1. Legislative Risk Challenges

China's current legislation on fintech is insufficient, first of all, the number of legislations is relatively small, the current specialised legislation on fintech is relatively lacking, and the current law is due to its lag in dealing with fintech, there are some loopholes in the financial science and technology, unable to meet the needs of the financial science and technology in the field of legal remedies (Guild, James, 2017). Secondly, the legislative level is low, today's legislation on fintech is mostly departmental regulations or policy provisions, its legal status is low, it is difficult to set up a standard of legal regulation in the field of complex fintech. In addition, there is a lack of clear and detailed legal normative constraints. There is a lack of basic legislation on the

protection of financial users' rights and interests and fintech, and the laws and regulations on data and information protection need to be further improved. Once the data is leaked, not only the information and property rights and interests of fintech consumer subjects are infringed upon, but also the financial rights and interests of the relevant users cannot be protected, and there is some difficulty in convicting and sentencing network financial fraud and other related offences. At the same time, with the rapid development of the fintech industry, its business gradually penetrates into various fields, cross-border financial business involves a number of subsidiaries and departments, the integrated operation is more complex, which increases the difficulty of the relevant lawmaking.

3.2. Challenges of Law Enforcement Risks

At present, the lack of special legislative provisions for the law enforcement and supervision of fintech in China has led to the lack of corresponding legal guidance for the relevant regulatory authorities in the law enforcement of fintech, and has not yet formed a unified standard law enforcement norm, which has increased the risk of law enforcement in the field of fintech.

At the same time, due to the long-term implementation of China's industry-specific regulation, each department has the right to supervise and enforce fintech, but because of its different sub-divisions, in the face of cross-cutting areas of regulation of fintech, it is often difficult for departments to regulate the regulatory ineffectiveness of shirking responsibilities.

At present, due to deep-rooted reasons such as institutional mechanisms, China's sectoral regulatory system is extremely unsuitable for the development trend of mixed business operation. Specifically, China's regulatory authorities are affected by the planned economy thinking, 'emphasis on development, light supervision', triggering market segmentation, regulatory arbitrage and other phenomena, has affected the order of the financial market and the efficiency of resource allocation. At the same time, the lack of uniform regulation of the same financial products under the premise of regulatory competition, easy to evolve into a race to lower regulatory standards, leading to the phenomenon of 'bad money driving out good money', undermining the effectiveness of regulation and financial stability, and prone to regulatory arbitrage between different industries. Although China has promulgated a series of regulatory systems and set up 'one committee, one line, two chambers and other regulatory bodies in recent years, this kind of separate regulatory system is obviously incompatible with the mixed operation mode of China's financial institutions, which is prone to breeding regulatory arbitrage and has become the biggest structural risk in China's financial regulatory system. How to supervise the integrated platform of fintech by the relevant law enforcement and regulatory agencies simultaneously is still an outstanding issue.

At the same time, law enforcement agencies have placed too much emphasis on centralised and ex-post regulation, neglecting the importance of special regulation and ex-ante and ex-ante regulation, which has also led to law enforcement risks in the area of fintech. Blockchain technology, which has attracted much attention in recent years, has obvious decentralised features, and our traditional centralised supervision concept can no longer adapt to the development trend of specialisation. Currently, fintech has entered a period

of rapid development, and the traditional supervisory idea of first identifying problems and then formulating countermeasures and the regulatory system have deviated from the development characteristics of fintech. In the links of policy rule-making and supervision and implementation, financial regulators lack effective communication and interaction, and are unable to timely and effectively discover and solve the new risks and problems brought by fintech. At the same time, financial regulators do not know the real situation of enterprises in a timely manner, and will not intervene until the situation deteriorates, which is very likely to cause serious adverse consequences.

In addition, the regulatory methods of law enforcement departments are relatively single and backward, and there are regulatory gaps and regulatory failures. For one thing, China's current regulation of fintech mainly focuses on network financing and e-money (Restoy, Fernando, 2019), while fintech in other industries is still in the exploration and development stage. In regulatory practice, the main body of regulation, responsibility and standards are not clear enough. Secondly, it lags behind finance in terms of regulatory means and the strength of scientific and technological development, and the response measures are not yet comprehensive and targeted enough, and the regulatory cooperation mechanism is not sound and coordinated, leading to an ever-expanding regulatory vacuum and blind spot. The evaluation of the current regulatory system, regulatory methods and risk assessment is not compatible with the innovation of financial science and technology, and there is a lagging phenomenon. At the same time, China's financial regulatory model is relatively single and not flexible enough, and the characteristics of the capital adequacy-led regulatory system do not match the fintech industry.

3.3. Judicial risk challenges

Along with the rapid development and innovation in the field of fintech, the construction of relevant laws and regulatory systems has become particularly important. While the advancement of specialised legislation and law enforcement can regulate and guide the development of fintech to a certain extent, it also inevitably brings new judicial risks.

Firstly, there is a lack of specialised legal basis for the judiciary to face the increasingly complex fintech-related judicial disputes. As an emerging field, fintech involves a large number of new technologies and new business models, and traditional legal norms are difficult to fully cover these new things. This leads to the dilemma that the judiciary is often faced with a lack of legal basis when hearing fintech cases. Although the principle-based provisions of the law can provide some guidance, how to apply these principles in specific cases remains a great challenge. This lagging and imperfect nature of legal norms creates greater uncertainty in the judgements of the judiciary and increases judicial risk.

Secondly, judicial officers face greater challenges. Fintech, as a highly cross-cutting and complex emerging field, involves specific content that often involves multiple disciplinary fields such as finance, science and technology, law, and economics. This puts forward high requirements for the comprehensive quality of judicial personnel. Judicial personnel not only need to have solid legal knowledge, but also need to understand the basic principles and mode of operation of financial technology, and even need to have a certain technical background. The lack of such high-quality

composite talents makes it often difficult for the judiciary to find suitable trial judges when dealing with fintech-related cases, or results in trial judges being overwhelmed when dealing with these cases, thus increasing the judicial risk.

In addition, the complexity and specialisation of fintech cases themselves have posed new challenges to the judicial authorities' procedures and methods for hearing cases. Traditional judicial procedures and methods may be difficult to adapt to the characteristics of fintech cases. For example, fintech cases may involve a large amount of technical evidence and data analysis, the collection, preservation and analysis of which require special technical means and expertise. The use of these technical means and expertise is not yet common in the existing judicial system, which increases the difficulty and uncertainty of the case and further increases the judicial risk.

At the same time, the rapid development and changes in the field of financial technology also make the judiciary face greater uncertainty when applying the law. The speed of development of fintech far exceeds that of traditional industries, with new technologies and business models constantly emerging, and legal norms are often difficult to keep up with this rapid pace of change. This asymmetry between legal and technological development makes it often necessary for the judiciary to make judgements amidst uncertainty when dealing with fintech cases, which undoubtedly increases judicial risk.

Further, the globalised nature of fintech also brings increased judicial risk. Fintech enterprises are often characterised by transnational operations, and their business involves multiple countries and regions, with laws and regulations varying greatly from country to country and region to region, increasing the difficulty for the judiciary to deal with transnational fintech cases. For example, legal norms on data protection and privacy vary greatly between different countries, which makes it necessary for the judiciary to harmonise the legal norms of different countries when dealing with transnational data transfer and protection cases, increasing the complexity and uncertainty of the cases.

In addition, the regulatory and legal system of fintech is itself in a constant state of development and improvement, which makes it necessary for the judiciary to constantly update and adapt to new legal norms and regulatory requirements when dealing with relevant cases. This constant change in the legal and regulatory system also increases the difficulty and uncertainty of the judicial authorities in handling cases, thus increasing judicial risks.

3.4. Compliance Risks

The development of fintech has lowered the original high threshold of financial activities and attracted a large number of emerging players to the market. Compliance risk, as an important issue that cannot be ignored in the process of fintech development, involves both fintech business entities and fintech consumer entities. Its complexity and multi-level nature determine that compliance risk is not only the focus of attention in legislation, law enforcement and justice, but also relates to the overall health and sustainable development of the fintech sector.

Firstly, fintech business subjects are often in an advantageous position due to their strength in data and capital and other forces. These operating entities include, but are not limited to, internet financial platforms, big data analysis companies, blockchain technology application enterprises,

etc. Due to their possession of a large amount of user data and capital, these subjects have a significant advantage in market competition. However, the rapid development and innovation of fintech has made legislation and law enforcement unable to keep up with the pace of change, resulting in lags and deficiencies in the corresponding legal and regulatory frameworks. Due to the low cost of compliance, these business entities may be induced to engage in unlawful behaviours in order to seek greater economic benefits. For example, some Internet financial platforms may obtain user data through improper means or conduct unauthorised financial business, causing chaos in the market order and damage to consumer rights and interests.

Secondly, fintech consumer subjects are often in a relatively weak position. In the face of strong business entities, the legitimate rights and interests of fintech consumers are difficult to be effectively protected. This vulnerable position is not only reflected in the asymmetry of information, but also in the lack of legal protection and insufficient enforcement. Due to the complexity and technicality of fintech products and services, it is often difficult for consumers to fully understand their risks and rights, increasing their compliance costs and risks. For example, some fintech products may imply high risks, and ordinary consumers fail to fully understand their risks at the time of purchase, making it difficult for them to defend their rights when problems arise. For example, some fintech services may violate consumers' right to privacy or data protection in the course of their operations, but the process of defending their rights is often difficult because consumers have difficulties in acquiring sufficient evidence and legal knowledge.

Further analysed, the compliance risk is also closely related to the regulatory environment of fintech. Currently, the regulatory framework for fintech has not yet formed a unified standard globally, and there are significant differences in legislation and regulation among countries. Such differences not only increase the compliance difficulty of multinational fintech enterprises, but also increase the compliance risk. For example, in terms of data protection, there are significant differences between the EU's General Data Protection Regulation (GDPR) and the U.S. Consumer Privacy Act (CCPA), which require multinational enterprises to follow different legal norms when operating in different markets, increasing compliance costs and risks. In addition, weak regulation or even regulatory loopholes in some countries and regions have allowed unscrupulous elements to take advantage of the situation and carry out illegal and criminal activities through fintech means, further exacerbating compliance risks.

4. Response to Legal Risks of Fintech

4.1. Improve Top-level Design and Establish a Sound Legal and Regulatory System

Firstly, based on the national policy orientation, based on the actual needs of financial development, improve the regulatory policy of fintech to achieve a balance between innovation and risk. It is necessary to clarify the positioning of fintech, recognise the financial attributes of fintech—the fundamental goal is to achieve financial inclusion and serve the real economy, and accelerate the pace of innovation in the field of fintech. It is necessary to establish the concept of fintech regulation, clarify the principles of supervision and the division of responsibilities among the functional

departments of financial supervision, strengthen the construction of the system, improve the cooperation and coordination mechanism among various departments, and continuously deepen the institutional mechanism and service innovation of the banking system. To build a multi-level financial guarantee system with the government as the main body, covering the combination of policy financial institutions and the government, the central and local governments, and guarantees and insurance.

Second, establish a sound regulatory legal system and norms to form an institutional guarantee mechanism for fintech. In recent years, China has introduced a series of Internet-related rules and regulations to effectively regulate the operation of fintech and provide protection for the stable development of fintech, but it still lacks a sound legal and regulatory system. Implementing rules on consumer rights protection, fintech certification, market access and exit should be formulated, a mechanism for data and information interconnection should be established, and innovative development of Internet financial credit assessment technology and assessment models should be developed. Financial data standards should be formulated as soon as possible, the system of credit bureaus should be improved, the development of fintech should be promoted to step into the track of the rule of law, and a legal system of government supervision, market guidance, and joint participation of technology enterprises and financial institutions should be gradually established. Ensure a high degree of transparency for industry participants and consumers, raise the cost of violating the law in fintech, and minimise financial risks.

Third, improve the financial regulatory system, incorporate fintech into the macro-prudential regulatory framework, establish a fintech risk assessment system, grasp the dynamics of fintech in a timely manner, and realise risk early warning, so as to achieve early discovery, early treatment and early resolution.

4.2. Transform the Regulatory Approach to Achieve Coordination and Harmonisation of Regulatory Policies

Although there are differences between China's financial market policies and institutional mechanisms and those of developed countries in the West, it is possible to draw on the basis of the effective mechanism of the 'regulatory sandbox' of developed countries such as the United Kingdom (Bromberg, Lev, Andrew Godwin, and Ian Ramsay, 2017), improve the top-level design of regulation, integrate the pilot system of financial reforms, and adopt the principle of penetration to strengthen the regulation of fintech and walk out of a fine-tuned, specialised and differentiated road to the development of fintech. Fintech development road. At the regulatory level, first, regulators should apply regulatory technology to the whole process of fintech compliance (Adeoye, Omotoya Bukola, et al, 2024), achieve real-time monitoring of financial institutions by collecting risk data, analysing and predicting the type of data model, monitoring payment transactions, identifying customers, etc., and use the research results of pattern recognition and intelligence to help fintech enterprises formulate plans and steps for industry regulation, so as to ensure the compliance of fintech development, to Improve the efficiency of financial regulation, balance innovation and legal compliance regulation, eliminate information asymmetry between regulators and the regulated, repair the vulnerability of the

network, and effectively supervise and prevent systemic risks, etc.

Secondly, strengthen the maintenance of the adaptability of the conditions related to financial regulatory technology to ensure the basic conditions of regulatory work and the functioning of artificial intelligence. Establish a sound and complete financial information statistics and monitoring system and regulatory information system, improve the quality of data collection and management, realise interconnection with financial institutions' systems and efficient information sharing, set regulatory thresholds and avoid risk expansion.

In addition, explore the establishment of a national professional management and service organisation for science and technology innovative SMEs, lower the market access threshold for innovative and entrepreneurial enterprises, accelerate the innovation of the GEM market system, and increase support for innovative and growth-oriented enterprises. Cultivate the competitiveness of SMEs in customer management, financial settlement and financing, so as to fundamentally improve the problems of financing difficulties and expensive financing for private enterprises and small and micro enterprises. At the same time, support for small and medium-sized banks to develop fintech should be increased, the scope of responsibilities for fintech risk supervision should be clarified, and licence management should be stepped up. Allow some banks with a high level of technology to pilot first, encourage relevant banks to accelerate the pace of innovation in terms of systems, organisations and processes, and moderately relax the regulatory tolerance to achieve a balance between risk prevention and innovation and development. Reduce information asymmetry behaviour in market transactions, increase transparency and achieve coordination and harmonisation of regulatory policies.

4.3. Enhancing Judicial Capacity and Improving the Judicial Remedy System

The development of financial technology has brought unprecedented challenges to the judicial organ, and also put forward higher requirements for the improvement of judicial capacity. In order to effectively deal with various disputes in the field of fintech, the judiciary not only needs to cooperate with the legislative and law enforcement authorities, but also needs to effectively enhance its own judicial quality.

First, the complexity and specialisation of fintech cases determine the need to establish a specialised judicial trial department. Traditional judicial bodies often face many difficulties in handling fintech cases due to a lack of professional knowledge and experience. The establishment of specialised judicial departments can centralise the handling of fintech-related cases and ensure the professionalism and accuracy of trials. These specialised departments can be staffed with judges and technical experts with fintech-related knowledge and experience to ensure professionalism and fairness in the trial of cases.

Second, in order to better cope with the increasing number of fintech cases, the establishment of more specialised financial courts could be considered. The financial court can serve as an independent judicial body specialised in hearing cases related to fintech. This will not only improve the efficiency and quality of case handling, but also provide strong support for legal norms and judicial practice in the field of fintech by accumulating trial experience and cases. In

addition, the promotion and establishment of financial courts can also improve the transparency and fairness of fintech cases and enhance public trust and confidence in the judiciary.

Third, the key to enhancing judicial capacity lies in cultivating and establishing a team of highly qualified judicial personnel. The handling of fintech cases requires a high level of professionalism and comprehensive ability on the part of judicial personnel. Therefore, the judiciary should strengthen the training and education of judicial personnel to enhance their knowledge and professional capacity in the field of fintech. Conducting professional training and education. Judicial organs should regularly organise professional training and education related to financial science and technology, and invite experts and scholars in the field to give lectures, so as to help judicial officers understand and master the latest knowledge and technology of financial science and technology. The content of the training may include the basic concepts and principles of fintech, the latest developments and trends, and fintech-related laws, regulations and policies. In addition, academic seminars and exchanges can be organised to promote experience exchange and knowledge sharing among judicial officers, and to improve their overall quality and trial ability. Establishment of expert pools and think tanks. In order to obtain professional support when trying fintech cases, the judiciary can establish expert pools and think tanks in the field of fintech. The expert bank can be composed of experts, scholars, technicians, etc. in the field of fintech to provide technical advice and support to the judiciary. The think tank can provide policy recommendations and legal opinions by researching and analysing the development trend and legal issues of fintech, providing theoretical support and reference for judicial practice. Introducing scientific and technological means and tools. The handling of fintech cases often requires the use of a large number of technological means and tools. Judicial organs can enhance the efficiency and accuracy of case processing by introducing advanced technological means and tools. For example, data in fintech cases can be analysed and processed through the establishment of a big data analysis platform to discover potential problems and risks; the authenticity and non-tamperability of evidence can be ensured through the introduction of blockchain technology; and the intelligent level of trials can be improved by applying artificial intelligence technology to assist judicial officers in case analysis and adjudication.

Fourth, improving the judicial remedy system. In addition to upgrading judicial capacity, improving the judicial relief system is also an important measure to deal with financial technology cases. The improvement of the judicial relief system can provide the parties with a more convenient and efficient way of relief and safeguard their legitimate rights and interests. Establishing a diversified dispute resolution mechanism. The complexity and diversity of financial technology cases determine the need to establish a diversified dispute resolution mechanism. In addition to the traditional judicial litigation route, more choices and convenience can be provided to the parties by establishing alternative dispute resolution mechanisms such as arbitration and mediation. For example, a fintech arbitration centre can be set up to specifically handle fintech-related arbitration cases; the cost and time of litigation can be reduced by introducing a third-party mediation institution to help parties resolve disputes through mediation. Enhance judicial openness and transparency. Judicial openness and transparency is an

important way to enhance judicial credibility. The judiciary can enhance the public's trust and confidence in the judiciary by establishing an open and transparent judicial information disclosure system to disclose to the public in a timely manner the status of hearings and judgements in fintech cases. In addition, the trial process and results of fintech cases can be made public through the establishment of a judicial disclosure platform to promote public supervision and participation in judicial work. Enhancing the Convenience of Judicial Remedies. In order to enhance the convenience of judicial remedies, the judicial authorities can simplify litigation links, shorten litigation cycles and reduce litigation costs by optimising litigation procedures and processes. For example, it can provide one-stop case acceptance and consulting services by setting up a special window for accepting fintech cases; it can improve the efficiency and convenience of case processing by applying information technology to realise online acceptance and hearing of cases. Provide legal assistance and support. Many parties in fintech cases, especially ordinary consumers, often have difficulty in obtaining effective legal remedies due to a lack of legal knowledge and financial capacity. The judiciary can help these vulnerable groups safeguard their legal rights and interests by providing legal aid and support. For example, free legal advice and assistance services can be provided to parties through the establishment of legal aid centres; public interest lawyers and legal volunteers can be brought in to help parties solve legal problems and provide legal support and assistance.

Fifth, strengthen international judicial cooperation. The development of fintech is characterised by globalisation, and the increase in transnational fintech cases requires judicial authorities to strengthen international judicial cooperation. Judicial organs can establish a transnational judicial collaboration mechanism to jointly deal with transnational fintech cases by cooperating with judicial organs in other countries and regions. For example, they can achieve the sharing of case information and cooperation through the signing of judicial assistance agreements; they can establish a transnational judicial cooperation platform to promote exchanges and cooperation among judicial personnel and improve the capacity and efficiency of transnational case handling.

4.4. Publicise the Awareness of Compliance with The Law and Cultivate a Favourable Law-Abiding Environment

In order to ensure the healthy development of the fintech industry, it is crucial to publicise the awareness of legal compliance and cultivate a good law-abiding environment. Relevant state departments should actively carry out fintech-related legal education, enhance the legal awareness of fintech participants through multi-level and multi-channel legal activities, and build a harmonious and orderly fintech ecological environment.

4.4.1. The legal education for the main body of the business

Among the fintech participants, the operating subjects in a relatively strong position, such as fintech companies and internet financial platforms, often hold a large amount of capital and data resources, and their behaviours have an important impact on the whole industry. Therefore, it is particularly important to promote and educate these subjects about the law. Firstly, the relevant state departments should

publicise relevant laws and regulations and moral and ethical codes to fintech business subjects through a variety of ways and means. Legal experts and industry insiders can be invited to give lectures by organising industry conferences, training courses and seminars to help business subjects understand and master fintech-related laws, regulations and policy requirements, and to raise the legal awareness and law-abiding conscientiousness of business subjects. Secondly, the fintech industry community can be encouraged to formulate and publish industry norms and codes of conduct to regulate the behaviour of fintech business entities in specific business activities, regulate the behaviour of fintech enterprises by formulating industry self-regulatory conventions and carrying out industry self-regulatory inspections, etc., and promote the construction of integrity in the industry by setting up industry awards and releasing lists of honest enterprises to commend and incentivise law-abiding and honest fintech enterprises, set up industry models, advocate law-abiding operation and honest service of fintech enterprises, so as to promote industry self-discipline.

4.4.2. Legal awareness and education for consumer subjects

Among the fintech participants, the relatively disadvantaged consumer subjects such as ordinary consumers and small and micro enterprises have relatively weak legal awareness and self-protection ability. In the face of complex and changing fintech products and services, they are often vulnerable to unlawful acts. Therefore, it is of great significance to strengthen legal awareness and education for these consumer subjects. First of all, the relevant state departments should popularise fintech-related legal knowledge to consumer subjects through various channels. The basic knowledge of fintech products and services, as well as relevant legal provisions and policy requirements, can be introduced to consumers through media publicity, online education, community activities and other forms. For example, consumers can be introduced to the risks and rights and interests' protection measures of fintech products through the production of legal awareness films, the release of legal awareness manuals, and the conduct of webcasts, so as to enhance their legal awareness and risk prevention capabilities. Secondly, emphasis should be placed on explaining to consumer subjects the types of illegal behaviours commonly found in the field of fintech and their corresponding consequences, so as to warn fintech participants to stay away from illegal behaviours. For example, the characteristics, hazards and legal consequences of illegal activities such as illegal fund-raising, cyber fraud and data leakage can be explained to consumers by way of case studies to help them identify and guard against potential illegal activities. In addition, consumers can be encouraged to actively report illegal behaviours and safeguard their legitimate rights and interests by setting up reporting hotlines and providing legal advice.

4.4.3. Enhance Social Supervision and Public Participation

All sectors of society and the public should actively participate in the construction of the rule of law environment for fintech. For example, it is possible to expose and expose illegal behaviours in the field of fintech through media reports and public supervision, so as to enhance social supervision; it is possible to encourage the public to actively participate in the formulation of fintech-related legislation and policies by setting up a platform for public participation, and to put

forward opinions and suggestions to promote the improvement and implementation of laws and regulations.

Fourth, promote the construction of fintech professionals.

Promoting the construction of fintech professionals is an important measure to enhance the overall quality and competitiveness of the fintech industry. Relevant state departments and fintech enterprises should make joint efforts to promote talent education and cultivate and attract more fintech professionals. First of all, fintech education and training should be strengthened, and universities and research institutions should be supported to offer fintech-related professional courses and research projects. For example, talents with professional knowledge and skills in fintech can be cultivated by setting up fintech majors, organising fintech lectures and conducting fintech research; academic research and talent cultivation in the field of fintech can be supported through the establishment of scholarships and research funds. Secondly, fintech enterprises should pay attention to internal talent cultivation and enhance the professionalism and ability of employees through various ways. For example, they can improve the professional knowledge and skills of their employees by setting up internal training systems, holding professional training courses and organising technical exchanges; they can motivate their employees to keep learning and making progress, and improve their professional quality and competitiveness by setting up career development channels and providing promotion opportunities. In addition, attracting high-end and international talents. In order to enhance the international competitiveness of the fintech industry, relevant state departments and fintech enterprises should actively attract high-end talents and international talents. For example, they can attract domestic and foreign fintech experts and scholars by setting up talent introduction programmes and providing generous treatment; they can promote exchanges and cooperation between domestic and foreign fintech talents by holding international conferences and participating in international cooperation, so as to enhance the international level of the industry.

5. Conclusion

As a product of the deep integration of finance and science and technology, Fintech is facing multi-dimensional risk challenges, especially ethical and legal risks, while promoting the improvement of financial service efficiency and quality. Through an in-depth analysis of the historical evolution of fintech, its basic characteristics and the specific manifestations of its ethical and legal risks, we can clearly recognise the importance and urgency of establishing a sound fintech regulatory system.

In terms of ethical risks, the frequent occurrence of data leakage, algorithmic discrimination and other problems have seriously damaged the rights and interests of fintech consumers and restricted the healthy development of the industry. Therefore, it is necessary to start from the formulation of ethical guidelines, strengthening information disclosure, and enhancing consumers' awareness of data ethics, so as to form an ethical risk prevention mechanism

with the participation of the whole society.

As for legal risks, lagging legislation, fragmentation of law enforcement, lack of judicial professionalism, and differences in law-abiding costs all constitute legal obstacles to the development of fintech. To this end, it is necessary to improve the top-level design, establish a sound system of laws and regulations, transform the regulatory approach, achieve coordination and unity of regulatory policies, and enhance judicial capacity and improve the judicial remedy system. At the same time, it is necessary to strengthen the publicity and education of the law, cultivate a good law-abiding environment, and provide a solid guarantee of the rule of law for the healthy development of fintech.

In conclusion, in the face of the risk challenges of fintech data application regulation, it is desirable to build a comprehensive, systematic and effective risk prevention and mitigation mechanism from the ethical and legal dimensions, so as to ensure that fintech moves forward steadily in innovation and regulation, and helps the real economy to develop in a high quality manner.

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