FinTech, Innovation and Intellectual Property Rights: A wake up call for financial institutions and tech companies

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Introduction

Financial Technology (also called "FinTech") is a rapidly growing sector that makes use of technology for enhancing financial services. The evolution of technology, particularly in the field of big data and quantum computing, artificial intelligence, blockchain and network/mobile connectivity, is unleashing a new stream of innovations in this sector, thereby leading to the creation of new services and products, which disrupt traditional financial industry models.

FinTech innovators are leveraging the use of FinTech to: (i) address the complexity of the traditional financial regulatory environment, (ii) provide greater speed, accuracy and efficiency in analysing data and making real-time financial risk decisions, and (iii) enhance financial security to keep up with a market that is rapidly evolving in terms of customers' financial needs and expectations. Financial institutions, as well as technology giants and start-ups, are competing or collaborating with one another in this emerging sector. Whilst commercial banks have taken a lead in devising technology in order to provide advanced service offerings, the application of innovative technological solutions also extends to brokerage firms, hedge funds, investment banks, investment companies, mortgage companies, insurance companies and telecommunications operators. To that effect, the Kingdom of Saudi Arabia made headlines in June 2021 by approving the issuance of a digital banking license for the Saudi Telecommunications Company's FinTech subsidiary (STC Pay) in collaboration with Western Union.

Financial institutions are looking to innovate internally and are counting on the slow changes in the financial regulatory environment to maintain their dominant positions, whereas technology giants and start-ups are looking to make a breakthrough in the financial sector by leveraging their expertise in technology to complement and disrupt the provision of services offered by financial institutions.

Both innovation and intellectual property play an important role in the competitive landscape of the financial sector, and a strong understanding and adoption of these assets will provide those bearing them with a competitive advantage. The adoption of innovations reduces market entry barriers by incumbents such as tech giants and start-ups and increases their bargaining power as new suppliers of substitute financial services, whereby secured intellectual property rights ("**IPR**") serve to strengthen the position and bargaining power by way of securing the inventive features in their products and providing them with a legal monopoly to exploit these. Therefore, both financial institutions and tech companies alike have a strong commercial interest to enhance their innovation capabilities and strengthen their intellectual property portfolios. Financial institutions and tech companies in the FinTech space may compete at times, and form alliances at other times. This article will address some important aspects of IPRs pertaining to FinTech related innovations, namely the protection of IPRs, the ownership of IPRs, as well as some legal considerations in relation to R&D collaborations, commercial transactions and intellectual property disputes pertaining to these.

IP Protection and Ownership

FinTech innovations can be complex in nature, as a single solution may be comprised of various interrelated hardware and software components with complex mathematical algorithms, some of which may run at a backend server and certain others at the user device. Various IPRs may co-exist in the same solution, depending on the nature of the technology and innovation involved, including:

a) Software code:

A software refers to a set of computer instructions written by one or more computer developers/programmers telling a computing unit how to act upon a set of input data.

The source code may be subject to trade secret protection provided it meets certain legal requirements, namely the preservation of its confidentiality by undertaking all necessary measures to do so. Among the measures to preserve confidentiality include restricting access to the code by the public and executing confidentiality agreements with all parties that may have access to the code, such as employees, developers, and other external parties. Trade secret protection arises automatically without the need for registration. It is to be noted that failing to take appropriate measures to preserve the confidentiality of the source code by the owner may lead to the loss of this valuable legal right. Disclosing, acquiring or using a source code protected by a trade secret unlawfully without the trade secret owner's authorization may constitute a trade secret violation leading to both civil and criminal liabilities. Trade secret protection and available legal remedies in case of a breach are discussed in more detail in the following section, pertaining to the protection of the Algorithm.

In addition to trade secrets, the source code is also subject to copyright protection. Copyright is an IP legal right which protects the code against copying or reproduction of the code (or a part thereof) by a non-authorized party. Unlike trade secrets, copyright protection does not require confidentiality as a requirement for this right to subsist, and therefore the scope of copyright protection further extends to publicly accessible source codes that have been reverse-engineered or have not been veiled from the public. Copyright protection arises automatically without the need for registration, provided the code is developed independently without being reproduced from third parties or open sources.

The legal rules pertaining to copyright ownership varies on the work context and the applicable copyright law depending on the country. In the UAE, according to the recently issued copyright law, and unless agreed otherwise between the parties, if the author of the code creates the code for the benefit of another person, the copyright belongs to the person in whose favour it was made. In the context of employment, if the employee or worker, during his work, creates a code related to the activities or works of the employer and is instructed directly or indirectly by him or uses to reach the creation of this code through the experiences, information, tools, machines, or materials of the employer placed at his disposal, the author's economic rights shall be for the employer taking into account the intellectual effort of the worker. Where the employee or worker creates a code that is not related to the business of the employer and does not use the employer's experiences, information, tools, or raw materials, the author's economic rights in relation to the code shall be for the employee or worker.

It remains best practice to put in place suitable IP agreements with all parties, internal and external, involved in the software project, which clearly address IP aspects including confidentiality and copyright ownership. It is important that such agreements are executed as soon as practical, preferably as part of the on-boarding process or during the assignment of the new software project to the software developer. Such IP agreements may prove very helpful for avoiding any disagreements in relation to IP ownership and facilitating attribution of the IPRs to the relevant party if an IP ownership dispute does arise.

In the event of a copyright infringement dispute, the registration of copyright at the relevant governmental

authority may be required depending on the applicable procedural rules of each country in order to enforce the copyright before the courts. The requirement of registering copyright varies from one country to another. Some countries may require a full copy of the software to be submitted to the copyright office. Some other countries may allow omitting from the submitted code the parts which constitute trade secrets. In case of copyright registration, it is important to consult with an IP lawyer specialised in IT innovations as this delicate process should be conducted strategically and meticulously in order to achieve the purpose without compromising the validity of certain IP rights, such as trade secrets or patent rights.

Copyright protection is an important part of a Fintech solution, and accordingly, it is important that the contractual component associated with the development of the software is handled appropriately in order to ensure a clear title chain in respect of the copyright ownership associated to the software code.

b) Algorithm:

An algorithm refers to a specific part of a software that contains a procedure or set of rules for solving a specific problem. It is common that an algorithm in FinTech solutions contain mathematical formulas and even artificial intelligence (AI) in some occasions, as part of the “secret sauce” underlying the solution. An algorithm may be subject to trade secret protection, providing the owner entitlement to the possibility of seeking legal remedies available under the law (depending on the jurisdiction) against the disclosure and certain unfair commercial practices by employees and third parties. Under the UAE law, trade secret protection is available and may give rise to civil and criminal actions against illicit disclosure, acquisition or use of confidential information. In order to qualify as a trade secret, the information must be commercially valuable and be subject to reasonable measures taken by the rightful holder of the information to ensure its secrecy, including the execution of confidentiality agreements for business partners and employees. Trade secret protection extends indefinitely as long as the information remains undisclosed and continues to retain commercial value for the entity.

In the UAE, a lawful trade secret holder has the legal obligation to take all the required measures to preserve its confidentiality, and in case of leakage of information, he will not be exempt from liability unless he proves that he has exerted reasonable and adequate efforts to preserve such information.

Other unfair commercial practices pertaining to trade secrets in the UAE include bribery and incitement of employees to disclose confidential information; acquisition of confidential information using fraudulent or illicit means; disclosure of information contained in a contract subject to confidentiality; and/or the use of confidential information by a third party, knowing that the information is confidential and has been acquired by one of the aforementioned unfair commercial practices. Such illicit actions are reprehended under the law and expose the infringer to severe liabilities including monetary damages, heavy fines and imprisonment.

On the other end of the spectrum, trade secret protection has its limitations, where the importance of complementing this important IP right by other available forms of intellectual property discussed in this article. Trade secret protection may be difficult to prove and enforce in certain cases, namely when the confidential information which has been obtained illicitly are encoded/encrypted in another computer software. For example, if an employee departs the company and makes use of the confidential information in another software or gives away the information to a third party, it may be difficult to prove or gather evidence on the same. Enforcement may also be difficult against a third party acting in good faith who obtained the information from the unauthorized discloser without knowledge about the breach or negligence from his part. In addition, the information loses its protection if the information falls in the public domain by any means; whether via reverse engineering or through independent discovery or development by a third party. Trade secret protection may form some complexity to joint collaborations with other entities and integration of the protected information within other Fintech innovations, as the exchange of such information may be critical or risky to the legal right owner. In case of licensing or R&D collaboration with other entities, it is essential to clearly label this information as being confidential and inscribe suitable confidentiality provisions in place.

The specific expression of the algorithm in human or computer language may also be subject to copyright protection, which protects the algorithm against copying or reproduction. Despite the existence of copyright, trade secret protection remains a very valuable right for the protection of an algorithm, as its protection would extend to beyond the specific language expression of the algorithm. For example, if the mathematical formulas forming the essence of the algorithm are subject to theft and reformulated into another software without reproducing the human or computer language of the algorithm itself, the owner may still be able to restrict this illicit action under the applicable trade secret law.

c) Innovation Core

Perhaps the most valuable protection of an innovation is the protection of any existing invention underlying the financial technology. An invention reflects the technical solution, which addresses the existing technical problem or challenge. Extrapolating an invention is a technical and legal exercise, typically led by a high tech patent attorney alongside inventors. An inventor is a person who has contributed, at least in part, to the conception of the innovative concept (not necessarily a software developer who would only execute the implementation of the innovative concept).

In FinTech innovations, inventions are largely related to computer-implemented processes, which revolve around the technical actions executed by a computer, as well as related systems and devices configured to execute the computer-implemented processes.

While copyright protection will protect the computer code itself from copying or reproduction, it falls short of protecting the innovative technical concept or process associated with the FinTech innovation. This is important where the value of the FinTech innovation revolves around a new innovative technical concept. A patent prohibits a third party from exploiting the patented invention (in the form of a device or a process) even if the software code was developed independently or differently. In order to protect the innovation core of a FinTech solution, one must consider patent protection. A patent normally secures a wide scope of protection, which extends far beyond the literal expression of the computer instructions or software code itself.

For an innovation to be eligible for patent protection, it must be novel, inventive and have practical application(s). The application of these criteria and their threshold varies from one country to another, which makes certain countries friendlier to the patentability of FinTech innovations than others. Not all FinTech innovations may be eligible for patent protection, as this would depend on the nature of the innovation and the specific patentability requirements in the countries where protection is sought. Solutions which relate to the mere automation of existing human activities using generic computer systems without further contribution are unlikely to be eligible for patent protection.

The laws pertaining to the eligibility of software-related innovations and financial-related processes have been constantly changing in the last decade, and there has been a shift towards friendlier regimes favouring the patentability of FinTech innovations (namely in the United States which has been more conservative in the previous years). The United States Patent and Trade Mark Office (USPTO) classifies FinTech patent applications under a number of sub-classes including Core Banking System Processes, Capital Markets & Investing, Cryptocurrency Electronic/Mobile Payments, Financial Security Insurance, Lending/Financing & Crowdfunding Personal Finance Management.

Financial institutions and tech companies alike have been actively seeking patent protection for their innovations. Bank of America, Google, IBM, Intuit, MasterCard, Microsoft, NCR Corporation, PayPal, Toshiba Corporation and Affiliates, and Visa have been among the top patent filers in the United States in recent years. Amazon has also been particularly active in patenting FinTech innovations.

It is important for FinTech innovation owners to keep their innovations confidential until a patent application is prepared and filed at a patent office establishing a priority right for the invention. An invention must not be disclosed to the public by any means such as through publications, public use or

commercialisation of the innovation before the date of applying for a patent. This is an extension of the novelty requirement, which is required for the invention to be eligible for patent protection. The UAE has recently enacted a novelty grace period of 12 months pertaining to any post public disclosure made by the inventors (or persons who obtain the information from the inventors). This is in line countries such as the USA and Canada. This means that any public disclosure of the invention made by the inventors, directly or indirectly through other persons such as the innovation owner, within the 12 months period prior to applying for a UAE patent will not be considered novelty destroying. However, innovators should remain careful as this grace period is not available in most other countries, and therefore, even if they will be able to avail protection in the UAE, the US and CA, they may not be able to do so in other countries. It is therefore highly recommended they keep the invention confidential until they apply for patent registration.

A patent, once granted, guarantees exclusive ownership rights for 20 years from the filing date of the patent application. This enables the owner to exclude others from exploiting the innovation without his authorization, and therefore opening additional channels of commercialising the innovation through patent licensing or other commercialising means, leading to a higher return on investment outcome. In contrast with trade secret protection, patent protection would allow the patent owner to enforce its patent rights against third parties that use, make, offer for sale or sell the innovation despite independent development.

Legal remedies for patent infringement include compensatory damages and depending on the jurisdiction, loss of profits and injunctive reliefs. These last two remedies may however be unavailable or difficult to obtain in some civil law jurisdictions such as the UAE.

The law pertaining to ownership of inventions varies from one country to another. In the UAE, an invention conceived by an employee in the course of its employment is owned by the employer when the invention falls within the employee's "scope of employment". When the invention falls outside the employee's scope of employment and is not related to the employer's business, nor has been conceived using the employer's resources, the invention would belong to the employee. In contrast with these two scenarios, there are situations where an invention which relates to the employer's business has been conceived by an employee using the employer's resources outside his "scope of employment" or normal duties. In this scenario, according to the UAE federal regime, the employee must notify the employer of the invention who will have the right to declare interest in the invention and in such a case, ownership of the invention will be deemed to vest in the employer from the date of its conception. The employee will have the right to fair compensation in exchange which can be agreed on between the employee and the employer. In absence of such an agreement between the parties, the compensation is fixed by the court, which takes in to consideration the economic value of the invention and any benefit derived from the invention by the employer. If the employment takes place in the Dubai International Financial Center ("**DIFC**") free zone, the invention would be owned by the employer from the date of its conception. The employee would still have the right to fair compensation if the employer decides to keep ownership of the invention.

d) Visual Design & Graphical User Interface (GUI)

Industrial designs are another form of IP which may be used to protect visual features of physical articles and products such as payment cards, devices and accessories, as well as graphical user interfaces associated to computer or mobile applications. In order to secure protection, an industrial design must be registered at the relevant patent office of the country where protection is sought, and must meet eligibility requirements, which typically include novelty. The novelty grace period of 12 months discussed above for patents extends to industrial designs as well under the new UAE industrial property law, and industrial design protection extends to 20 years. Once granted, an industrial design can be enforced against infringers and the legal remedies are similar to those under patents. This type of industrial property right may be highly valuable, particularly when the visual features or the shape of the product contributes to providing a competitive edge over competing products.

III- R&D Collaborations

R&D collaborations and commercial partnerships in the FinTech industry between financial institutions and tech companies is extremely valuable due to their complementary expertise in the FinTech space. In such collaborations or partnerships, the terms governing collaboration agreements are of paramount importance, particularly when it comes to the ownership, as well as the protection and exploitation of IPRs which are generated as an outcome to such collaborations. Such collaboration agreements should include robust provisions for confidentiality, ownership of IPRs (pre-existing and new), responsibilities and costs pertaining the registration of IPR and to any possible enforcement, and rights and obligations pertaining to exploitation/commercialisation, licensing and sharing of compensations or financial rewards pertaining to the developed FinTech innovations.

IV- Acquisitions

The investment in or acquisition of a FinTech business leads to a number of specific issues, particularly pertaining to those of IPR. It is worth mentioning that IP is among the most valuable asset pertaining to a FinTech business or innovation, whether these are registered (i.e. patents and industrial designs) or unregistered (i.e. trade secrets and copyright). One of the key essentials in such an acquisition (particularly in case of asset-based acquisition) is to conduct an IP due diligence to determine the presence, scope and validity of IPR pertaining to existing technologies, as well as to those under research and development. It is recommended that all R&D projects are reviewed and the related know-how is captured and duly transferred by express provisions in the acquisition agreement. Agreements pertaining to all parties who have contributed to the research and development of the FinTech solution must be carefully reviewed to assess any gaps or risks which may compromise or break the chain of title of ownership, or which may give rise to certain legal claims. This includes agreements with employees, licensors, collaborators, and contractors, external consultants and developers. Additionally, IP rights registered by third parties must be evaluated for any infringement risks. It is also recommended that such IP be assessed in terms of strength to any invalidation claim, and the scope of protection and competitive edge it provides to the business. This directly impacts the value of the IP and associated business. Before entering business arrangements, all necessary IPR should be assessed and acquired.

V- IP Disputes

IP disputes pertaining to FinTech may occur in various contexts, including disputes pertaining to IP ownership, IP infringement and contractual disputes in the frame of the development, licensing and commercialisation of FinTech products. IP disputes arising in FinTech are normally sophisticated in nature as they involve technical aspects pertaining to the technology itself, as well as an amalgam of IPRs associated to these. In order to minimise the risks of IP disputes or a successful outcome in case these arise, it is important that parties involved in the development and commercialisation of FinTech solutions take precautionary measures, first from the IP protection perspective to protect the financial technology, and second from the contractual perspective to provide clarity around IPR ownership and commercialisation rights and obligations with all parties involved including suitable dispute resolution mechanisms in case a dispute arises. Also, it is important to conduct technical and legal due diligences at the outset of any acquisition or other commercial transactions associated to these, to ensure that the commercial expectations of the parties as to the competitive edge and scope pertaining to the financial technology are met from the legal perspective.

VI – Conclusion

Knowing the pace at which the FinTech industry is evolving and the importance of IP rights pertaining to this sector, financial institutions and tech companies should develop a comprehensive understanding of IP rights pertaining to this sector, put in place suitable IP policies within their organizations, ensure proper IP agreements executed with their employees, consultants and commercial partners, and implement suitable mechanisms to ensure comprehensive protection of IP rights pertaining to their innovation projects and tackle any potential areas of IP disputes with a preparation in terms of proper protection of IPRs and solid contractual provisions, which should be strategically and carefully considered by an IP expert in the IT field. In case of IP disputes, these should again be handled in a calculated manner with a proper strategy on the legal grounds to be raised, the technical evidence to be submitted to the Courts and the procedures of submitting these in a way which would not compromise on the validity of any IP rights underlying the financial technology.

Al Tamimi & Company's Innovation & Patents Practice comprises IP lawyers, patent attorneys, engineers and technical experts, as well as business consultants regularly advising clients in wide range of Intellectual Property matters pertaining to R&D and innovations, including securing and enforcing IP legal protection for innovative products and technologies in various industries including Fintech. For further information please contact Ahmad Saleh, Partner and Head of Innovation & Patents.