

CRYPTOCURRENCY EXCHANGE LIABLE FOR TECHNICAL GLITCH

The Singapore International Commercial Court (SICC) handed down judgment in its first cryptocurrency litigation on 14 March 2019. The decision gives important guidance on the interpretation of an online platform's terms and conditions, the relationship between a cryptocurrency exchange and its users, and the application of common law doctrines to new technologies.

BACKGROUND

The dispute arose out of transactions which took place in April 2017 when a UK-based electronic market maker, B2C2 Ltd, placed orders on a Singapore cryptocurrency exchange, Quoine, to sell Ethereum in exchange for Bitcoin.

Due to a "technical glitch" on Quoine's platform, Quoine's software program was unable to connect to the database necessary to establish the true market price. As a result, the software program tried to establish the market price by reference to the only data available to it, which was the data arising out of B2C2's seven orders. This data also caused Quoine's platform to reassess the leveraged positions of two margin traders (Margin Traders) incorrectly and to close out their positions to prevent further loss, automatically placing orders to sell their assets to B2C2 at B2C2's offer price. B2C2's seven orders to sell Ethereum for Bitcoin were therefore executed at a rate approximately 250 times the precedent rate traded on the same day. Quoine noticed the error on the following day and unilaterally reversed the trades.

B2C2 commenced legal proceedings, alleging that the defendant had no contractual right unilaterally to cancel the trades once the orders had been effected. There was an application for summary judgment, which the SICC dismissed (see our previous briefing [Singapore Court Dismisses Summary Judgment Application in First Bitcoin Decision \(January 2018\)](#)). In the SICC's recent decision, Quoine was held liable for breach of contract and breach of trust on account of unilaterally reversing B2C2's transactions.

In this briefing we set out some of the issues considered in, and the lessons to be learned from, the Singapore decision.

Key issues

- An express term which provides for irreversibility of orders cannot be displaced by purportedly implied terms.
- Unilateral variation clauses are not unlawful per se; it is however prudent to provide users with notice of any variation pursuant to such a clause.
- An exchange platform holding cryptocurrencies is holding such assets on trust for the account holders.
- Where it is relevant to ascertain the knowledge underlying the mode of operation of a particular machine, the knowledge of the operator or controller of the machine would be considered; in the case of algorithmic trading, it would be the programmer's knowledge that is relevant.

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EXPRESS TERMS ON IRREVERSIBILITY HOLD UP TO SCRUTINY

The terms and conditions between Quoine and the platform users (Agreement) contained a term which stated that "once an order is filled, you are notified via the Platform and ***such an action is irreversible***" (emphasis added).

Quoine sought to rely on implied terms that would allow it to (i) reverse orders at any abnormal rate or price as a result of any technical and/or system failure and/or error affecting the platform; and (ii) reverse any trades resulting from orders placed in breach of its terms and conditions, including those which amounted to market manipulation and/or abuse and, therefore, an "unauthorised use" of the platform.

However, the SICC held that implying such terms would contradict the clear and non-qualified terms of the agreement between the parties that the transaction was irreversible, and therefore implication was not allowed.

The argument that such terms should be implied to give business efficacy to the Agreement was also rejected. The SICC considered that a clause which provides for irreversibility provides certainty and places the risk of entering into any given trade on the parties to that trade. The parties must however ensure that procedures are in place to guard against any risks involved in algorithmic trading.

APPLICATION OF UNILATERAL VARIATION OF CONTRACT PROVISIONS

The Agreement between Quoine and B2C2 contained the following provision (Variation Provision):

*"You agree that the Company reserves the **right to change any of the terms, rights, obligations, privileges... with or without providing notice of such change.** You are responsible for reviewing the information and terms of usage as may be posted from time to time. Continued use of the services of non-termination of your membership after changes are posted or emailed constitutes your acceptance or deemed acceptance of the terms as modified."* (emphasis added)

Quoine argued that the Variation Provision enabled it to rely on a new term permitting the cancellation of transactions, introduced by way of a risk disclosure statement (Statement) that was put up on its website in March 2017 (before the April 2017 trading incident).

This argument gave rise to two preliminary questions that the SICC considered:

1. What is the effect in law of a unilateral variation clause? – To this first question the SICC held that such clause is not unlawful *per se*. However, there must be clear language to reserve this sort of power.
2. When can an alleged term be incorporated into an existing contract in circumstances where that term is contained in a separate document and itself has no independent contractual effect? – The SICC held that such term could be incorporated; it must however be clear that the term in question is intended to have contractual effect and the term itself must have sufficient clarity to be contractually enforceable.

After addressing the above preliminary questions, the SICC found that on a true interpretation of the Variation Provision, the clause did not permit Quoine to change the terms without drawing the change to the attention of its users in some way.

In this connection, Quoine merely uploaded the Statement on its website. There was nothing in the Statement or the Agreement which invited the reader to read the two together. In the circumstances, the SICC considered the Statement itself was insufficient to constitute any form of notice that changes were to be made to the Agreement, and could not serve to amend the Agreement.

The decision also provided some practical guidance on how notices may be provided to website users. Other than notification by email, notification could be provided either by uploading the new agreement containing the modified terms together with a notice on the website or by setting out the changes in full in a notice on the website.

Although the question of whether notification is required will depend on the interpretation of the relevant contractual provision (as in this case), it would always seem prudent for a website operator to provide notifications to its users.

HOLDING CRYPTOCURRENCY ON TRUST

To determine B2C2's breach of trust claim, it was necessary for the SICC to consider whether Quoine was holding assets belonging to the platform users on trust for them.

In respect of the "three certainties" required for the creation of a trust, it was held that:

1. the requirement for certainty of subject matter was established as cryptocurrencies do have the fundamental characteristics of an intangible property in that they are an identifiable thing of value;
2. the requirement for certainty of beneficiary was also met as beneficiaries are identifiable from the individual accounts; and
3. as for the certainty of intention to create a trust, while there was an absence of express wording in the Agreement to create a trust, nonetheless such intention existed as Quoine stored its users' cryptocurrencies in a single cryptocurrency wallet segregated from its own trading assets.

In this case, B2C2's breach of trust claim did not appear to add anything substantive to its contractual claim. However, the SICC's finding that a trust relationship existed could have significant ramifications on the operation of a cryptocurrency exchange. Fiduciary duties are owed by trustees, who are obliged to act in good faith and comply with a duty of loyalty. It would be interesting to see how the imposition of such fiduciary duties may play out (for instance) in the event of a hack on a cryptocurrency exchange.

THE MAN BEHIND THE MACHINE: ESTABLISHING KNOWLEDGE IN ALGORITHMIC TRADING

Quoine contended that the transactions made by B2C2 were void under the doctrine of unilateral mistake at common law. In order to establish this defence, Quoine had to prove that B2C2 (who was seeking to enforce the

contract) must have actual knowledge of the mistake and that there was a sufficiently important or fundamental mistake as to a term of the contract.

Applying the law of unilateral mistake to a case involving algorithmic trading raised novel questions, including the challenge of identifying the relevant person whose knowledge would have to be assessed.

The SICC acknowledged that the law will continue to develop in relation to the ways to ascertain knowledge in cases where computers have replaced human action. This will particularly be the case where the computer in question is creating artificial intelligence and could therefore be said to have a mind of its own.

Where it is relevant to determine what the intention or knowledge was underlying the mode of operation of a particular machine, it would be logical to have regard to the knowledge or intention of the operator or controller of the machine. In the case of robots or trading software in computers this cannot be that of the person who turns on the machine, but the person who was responsible for causing it to work in the way it did. Insofar as algorithmic trading in the present case is concerned, it was observed that such programs are deterministic and have no mind of their own. It would therefore be logical to look into the state of mind of the programmer of B2C2's trading software (who was also one of the founders of B2C2). The mistake would have to be in existence at the date of the orders in question but may have been formed earlier.

The SICC found that it could be said that the Margin Traders entered into the contracts with B2C2 for buying and selling Bitcoin and Ethereum under the mistaken belief that they were transacting at prices that accurately represented or did not deviate significantly from the true market price, and such belief was fundamental to the trading contracts between the Margin Traders and B2C2. However, B2C2's programmer did not have knowledge of such mistaken belief. The defence of unilateral mistake at common law therefore failed.

Quoine also raise the defence of unilateral mistake in equity, which required proof of constructive knowledge and an element of impropriety. Similarly, the knowledge of B2C2's programmer was assessed. To establish constructive knowledge, Quoine had to show that B2C2's programmer was acting irrationally in forming the view that he did and that any reasonable person in his position would have known that no other trader would have contemplated trades being executed at those prices. On the facts of this case, there was no place for a finding of constructive knowledge.

The decision sets an important precedent in identifying whose knowledge should be assessed in cases where computers are used for trading purposes. That is however not the end of the matter. Some thought would have to be given to how one could preserve contemporaneous evidence in respect of a programmer's knowledge where such individual (such as an employee) may not be readily available to recollect such evidence in court at a future date.

CONCLUSION

The relationship between an online platform and the platform users is a complicated one, which can involve intertwined issues of contract and trust law. As this case demonstrates, the courts will increasingly have to consider

how the law should be applied to the latest technological developments and modern commercial realities.

Of particular interest is the question of the ascertainment of knowledge in cases where computers have replaced human actions. In this case, the SICC did not purport to develop the law beyond what was necessitated by the facts at hand, which involved computers as mere machines carrying out trading functions in a pre-ordained manner. However, in a world where artificial intelligence is set to assume increasing importance in all spheres of life, the development of computers which could in fact be said to have a "mind of their own" may present more vexed questions for the courts which will doubtless be addressed in future disputes.

CONTACTS



Nish Shetty
Partner

T +65 6410 2285
M +65 8128 7412
E nish.shetty
@cliffordchance.com



Lena Ng
Partner

T +65 6410 2215
M +65 8126 0729
E lena.ng
@cliffordchance.com



Paul Landless
Partner

T + 65 6410 2235
M + 65 9126 8871
E paul.landless
@cliffordchance.com



Luke Grubb
Partner

T + 65 6506 2780
M + 65 8233 2954
E luke.grubb
@cliffordchance.com



Ling Ho
Partner

T + 852 2826 3479
M + 852 9022 3678
E ling.ho
@cliffordchance.com



Lijun Chui
Counsel

T + 65 6506 2752
M + 65 9128 4122
E lijun.chui
@cliffordchance.com



Helen Wang
Senior Associate

T + 852 2826 3524
M + 852 6293 5998
E helen.wang
@cliffordchance.com

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Clifford Chance Pte Ltd, 12 Marina Boulevard,
25th Floor Tower 3,

Marina Bay Financial Centre, Singapore
018982

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