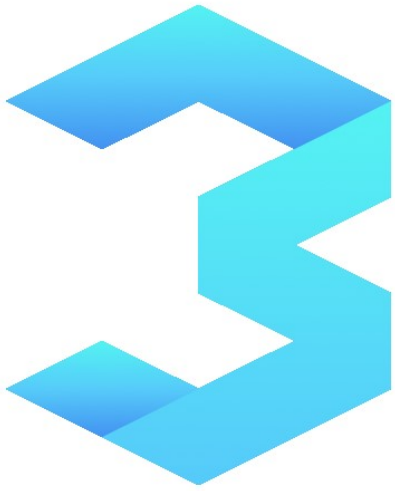


Rate3

Payment without Borders

Whitepaper V1.7

February 2018

EXECUTIVE SUMMARY

This white paper explores global cross-border payment challenges, a proposed technology solution with transformative potential, and the business and technical perspectives of the proposed solution. Highlights are as follow:

Global cross-borders e-commerce has tremendous potential. In 2015 alone, total Gross Merchandise Value (GMV) for cross-border e-commerce stands at USD 300 billion, with a growth rate of about 25% per annum. This is expected to continue annually till 2020. By 2020, the global market for cross-border e-commerce will account for about USD 900 billion, a 22% share of the entire global e-commerce market.

However, three significant problems continue to plague the ecosystem.

The existing financial infrastructure is a closed system, where transaction costs are high, and money moves slowly across countries, mostly due to political and geographic boundaries set in place by human factors. Many are left unserved and unbanked, especially in emerging markets.

High processing fees and processing time - Cross-border interchange and transaction fees are higher than domestic fees, often resulting in an additional 3-5% on top of the total purchase amount. This is due to the increased number of intermediaries involved: payment gateways, correspondent banks, currency exchanges, financial messaging networks who take a cut of the transactions. The additional risk and compliance costs, technology infrastructure costs also contribute to higher processing fees and time for both the consumer and merchant.

Trust and reputation problem - Building trust is difficult, and trust is centrally governed by big marketplaces now. There is an inability to transfer trust from one centralized service to another, and thus a need to establish relationship with each merchant separately. Moreover, a merchant or consumer's history is not properly recorded, so there is no ability to punish fraudulent buyers or merchants. Likewise, settling claims or chargeback disputes is usually highly contentious without trustworthy records.

Lack of access to credit - Globally, over 2 billion people have no access to banking services, especially credit. In Southeast Asia itself, only 27% of the 600 million residents have a bank account — leaving essentially 438 million people unbanked. Without a proper bank account, it is almost impossible to borrow, save or invest money through traditional financial institutions like national banks. As a result, most of the unbanked

turn to alternative financial institutions like pawnshops or loan sharks, where annual interest rates can be as unreasonable as 100% per year.

Rate3 is a universal blockchain-based token within a wider ecosystem connecting shoppers, merchants and other intermediaries.

Single Token Payment Solution: Cross-border payments within the ecosystem can be completed with only one step and a one-time fee, making them up to five times cheaper and a thousand times faster, compared to current payment processes. For consumers, they can convert fiat currency to Rate3 tokens easily and use the tokens to pay for cross-border purchases in a transparent fashion. For merchants, a simple integration with the Rate3 payment gateway allows them to accept Rate3 tokens and convert them to local fiat currencies of their choice easily.

Transaction and Credit Scoring System: The blockchain will record information captured in all transactions including but not limited to: time required to make the transaction, wallet addresses, warranty conditions, delivery time, reviews, etc. Apart from helping both consumers and merchants solve claims or fraud, the smart contract will automatically change the trust level for each of the parties involved.

Additionally, by tapping on the consumers' transaction history and other identity data, Rate can issue a credible credit score to these consumers and offer them affordable credit through partnerships with other lending institutions.

Incentive System for All Participants: The value of any ecosystem lies in the two-sided network effects. With more consumers in the ecosystem, merchants are more attracted to join the Rate3 network. Likewise, with more merchants, there are better incentives for consumers to join. With Rate3 tokens, cash-back incentives can be easily programmed through smart contracts to retain consumers. For merchants, they can create incentives for consumers easily too. Moreover, this can all be applied and facilitated instantaneously through the Rate3 network.

Rate3 is the most suitable to do this, given our existing products, users and networks.

Founded in 2016, Rate is a fintech startup focused on cross-border e-commerce transactions. Our flagship product is RateX, a browser extension which enables easy payments with exchange rates more favorable than those offered by PayPal, credit card companies or banks. RateX aims to eliminate hidden transaction fees and unfavorable exchange rates incurred by consumers when they purchase overseas products.

Additionally, RateX aggregates coupon codes from various merchants and allows users to apply all coupon codes in a single click during checkout.

Apart from RateX, Rate has a newer product: RateS, a mobile app with the features of the RateX extension but also an additional element of deal discovery.

The founding team of Rate comprises of Mr. Goh Jian Kai (Jake), the Chief Executive Officer (CEO), Mr. Davis Gay and Mr. Lim Jing Rong, the Chief Technology Officers (CTO). Including the three founders, Rate currently has eighteen employees and this number will increase as the firm continues to grow after successfully closing its pre-series A round of financing.

Rate currently has partnerships with globally recognized e-commerce platforms such as Amazon, Taobao, and Hotels.com. Our key philosophy is to empower consumers with the best and cheapest shopping experience, so both products are entirely free for consumers. Instead, Rate earns affiliate fees from merchants by helping them increase affiliate sales.

Given Rate's existing operational experience in the intersection between payment and cross-borders e-commerce, the Rate3 token is the most suitable one to power the future of the global e-commerce ecosystem.

Staying true to our original vision, Rate3's business model will not charge any transaction fees from merchant and consumers.

Our three primary revenue streams are: digital prepaid card fees, affiliate marketing fees and credit loan interest. More details will be elaborated in the subsequent sections.

Token sale details are as follow:

Token and token ecosystem: The exchange ratio is 1 ETH : 8,000 RTE. There is a soft cap of 20,000 ETH and hard cap of 50,000 ETH.

INTRODUCTION

A financial infrastructure that can support the Internet economy as it continues to grow is necessary. We observed a strong organic growth and unparalleled innovation from the Internet back in 1990s. However, established financial institutions hampered innovation and growth in exchange for ensuring integrity of financial transactions. There is a demand for new and innovative players, a void to be filled by blockchain technology. We need a new fair and just financial system.

The challenge for such a network is ensuring how participants' transactions are recorded correctly. With a low barrier to entry, users would not trust providers to police themselves. With worldwide reach, providers would not trust a single entity to operate the network. This paints the need for a compelling alternative: a decentralized system in which participants ensure integrity by agreeing on the validity of one another's transactions. Such agreement hinges on an agreed mechanism for worldwide consensus.

From the perspective of global e-commerce, we are experiencing an unprecedented boom. In 2015 alone, total Gross Merchandise Value (GMV) for cross-border e-commerce stands at USD 300 billion, with a growth rate of about 25% per annum. This is expected to continue annually until 2020. By 2020, the global market for cross-border e-commerce will account for about USD 900 billion GMV, a 22% share of the global e-commerce market.

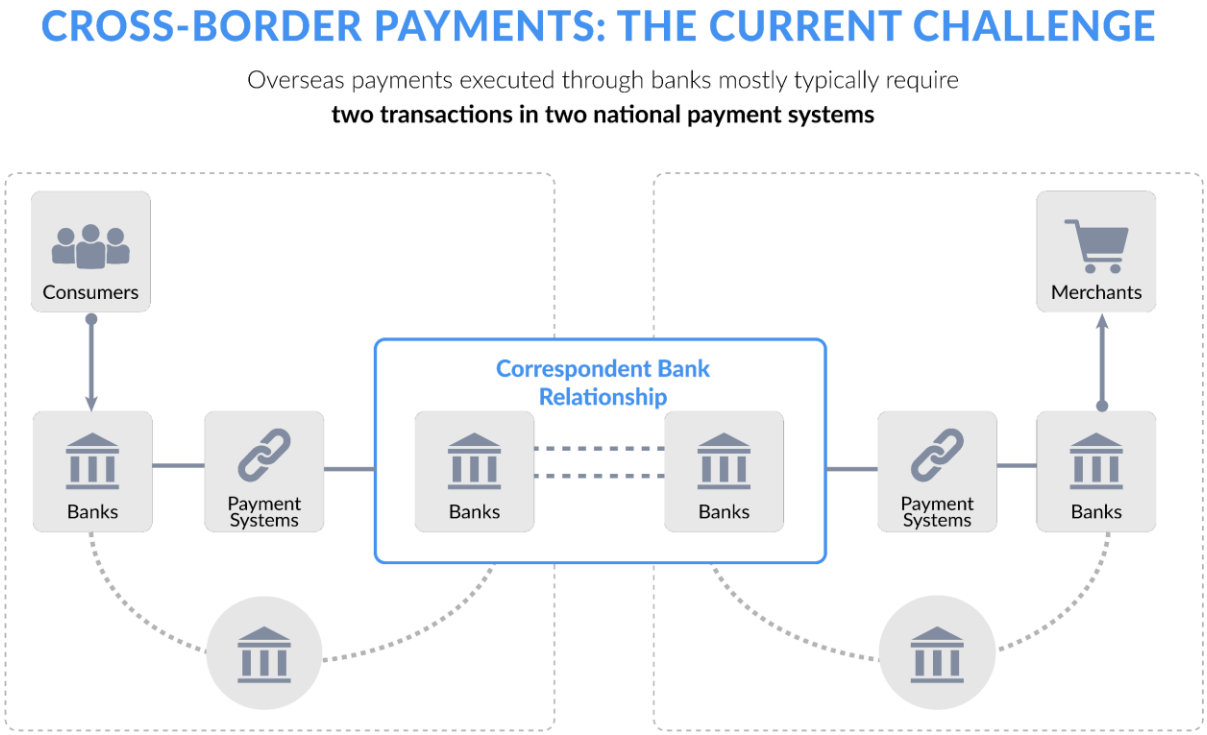
However, within the entire ecosystem, both consumers and merchants face three primary problems:

1.1 High processing fees and slow processing time for cross-borders e-commerce
1.2 Trust and reputation issues
1.3 Poor access to credit in developing nations

1.1 High processing fees and time for cross-border ecommerce

A standard domestic transaction includes five players: the consumer, the consumer's issuing bank, the processing network, the merchant's acquiring bank and the merchant.

However, cross-border payments include many other players. Cross-border payments are thus especially challenging, given more intermediaries and risks involved. On a high-level, the process is as such:



(*Source: Glennbrook)*

Given the higher number of intermediaries involved in cross-border payments, the interchange and transaction fees are higher as every intermediary wants to take a cut out of the payments to process the transactions.

Higher processing fees for consumers:

Two common scenarios are outlined below:

Scenario #1: A consumer pays for an overseas purchase in a foreign currency.

The bank that issued your card will first take the foreign currency and convert it to your domestic currency. There are fees charged for this conversion. Then they add a **3-5% additional transaction fee on top of the converted amount** and charge the whole amount as the fee.

For example, if you are a Singaporean cardholder and you purchase an item in the USA for USD100, the card issuer will first take the USD100 and convert it into SGD, showing the exchange rate on your statement. The exchange rate you pay will be higher than the

mid-market rate on the day of the transaction. Card issuers typically charge between **3 - 5%** of the value of the transaction in currency conversion fees.

Scenario #2: A consumer pays for an overseas purchase in a local currency.

If the consumer purchases from a foreign merchant using SGD (in other words the currency exchange has already been completed), the card issuer may charge an additional **3 - 5 %** as a second line item on your credit card statement as a foreign transaction service fee. These are already built into the transaction.

High processing fees for merchants:

Merchants also pay a processing fee for receiving payments from consumers. Transactional fees stand somewhere between 2 - 5% per transaction plus a fixed fee of between USD 0.1 and USD 0.7.

For example: every time someone makes a transaction for USD 10, the merchant on average pays USD 0.8 for banks, credit card associations, payment gateways and processors.

On top of transactional fees, some merchants might have to pay for incidental fees that include Address Verification Service (AVS), Voice Authorization Fees (VAF), Batch Fees, and Non-Sufficient Fund Fees (NFS) for cross-border purchases.

An existing example would be that of PayPal: PayPal charges the merchant a transaction fee of 4.4% + a currency - dependent fixed fee for any cross-border transaction, instead of the usual 2.9% for domestic transactions.

High processing time for merchants:

Reconciliation between the consumer's issuing bank, payment networks and merchants' acquiring bank can often take up to 3 days. For payments of higher amounts, it can take up to a week or even more. For small merchants who require the cash flow in their business, this presents a tremendous challenge in business operations.

These higher fees and processing time are the byproducts of the friction that exist between our economic borders today.

1.2 Trust and reputation problems

A key source of friction in cross-border e-commerce today is the lack of reliable metrics pertaining to the trustworthiness of buyers and sellers. This undermines confidence and reduces the likelihood of potential transactions being seen through to completion, particularly in complex cross-border scenarios.

While the current reputation systems within online marketplaces address this problem in part, such systems tend to generate reputation scores based on user ratings alone, which can be subjected to abuse by parties with vested interests. Moreover, they are typically not-transferable to other marketplaces or contexts. There is no reliable trust mechanism for consumers to trust merchants, given how the current system can be and has already been often subject to fraudulent merchants. This is especially prevalent and risky in cross-border e-commerce, since global merchants might reside outside the legal reach and jurisdiction of marketplaces or consumers.

There is no ability to punish fraudulent consumers and reflect that in their history. Most fraud happens due to stolen cards or stolen credit card information. In 2015, consumer card fraud reached US$21.84 billion – a figure expected to rise to US$31.67 billion by 2020. According to Advanced Payment Report 2016, 92% of online merchants mention how fraud will remain a prime concern for online payments. Large e-commerce and m-commerce merchants lose 1.4% and 1.7% of revenues respectively to fraud according to a 2015 True Cost of Fraud Study.

1.3 Poor access to credit in Southeast-Asia

Financial inclusion is a right and the financial disenfranchisement of large numbers of the world’s poorest people is a grave issue. Lack of access to basic financial services has created major barriers for people to overcome poverty by making it almost impossible for them to save, borrow or invest money properly.

We need a worldwide financial network open to anyone, so that new organizations can join and extend financial access to these unserved communities. More importantly, financial services today have erected high barriers to entry and are highly exclusive. This exclusivity conflicts with the goal of organic growth — growth demands the entrance of new participants who very often possess only modest financial and computing resources.

The situation is more somber than we can imagine. Globally, over 2 billion people have no access to banking services, especially credit. In Southeast Asia itself, only 27% of the 600 million residents have a bank account - leaving 438 million people unbanked. Without a proper bank account, it is almost impossible to save, borrow or invest money through traditional financial institutions. As a result, most of the unbanked turn to alternative financial institutions like pawnshops or loan sharks, where interest rates can be as unreasonable as 100% per annum.

SOLUTION

Rate3's solution: a payment token that aims to empower e-commerce participants via transaction scoring and build a decentralized trust and reputable network within the ecosystem

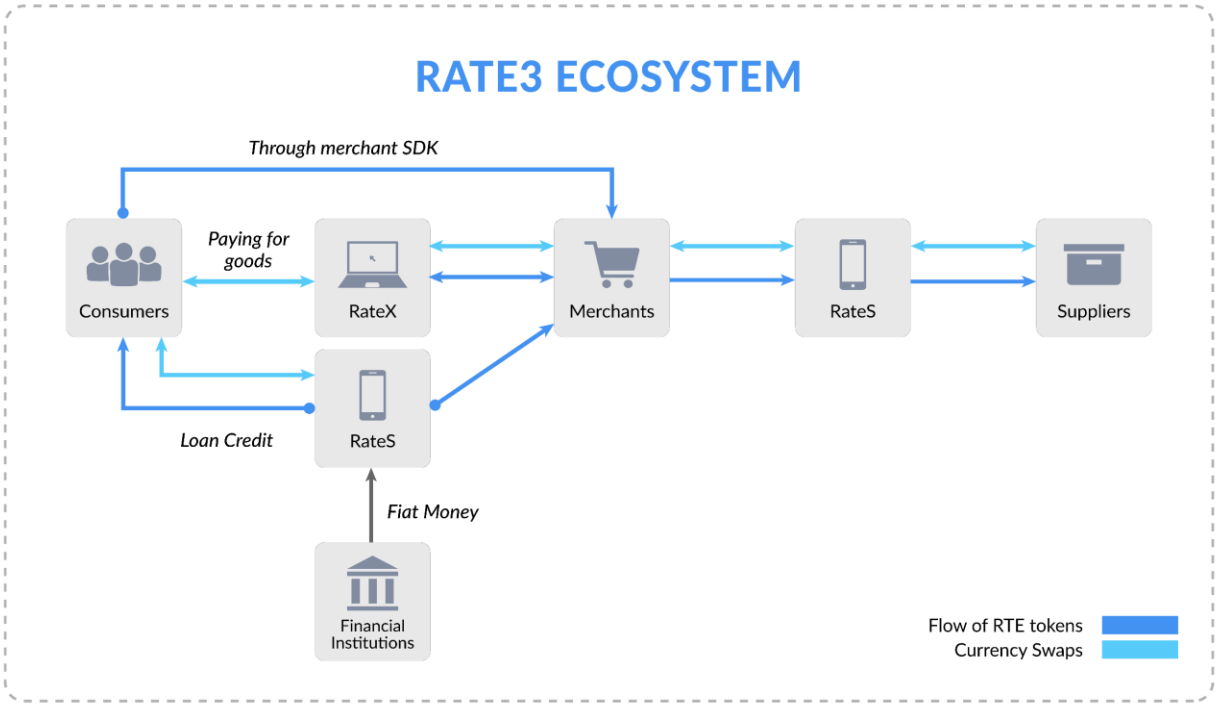
Rate3 aims to empower a flat global economy for global cross-borders commerce to thrive and include all participants. Several conditions are thus required:

- Transparent and simple payment process for all parties
- A system in which trust is decentralized amongst all parties
- Fast processing time for merchants to receive payments
- Easy access to credit for consumers

We will do this through creating an ecosystem with three key features:

- Single token payment solution
- Transaction and credit scoring system
- Incentive and reward system for all participants

2. 1 Ecosystem and Key Participants



Rate3

The Rate3 ecosystem facilitates cross-borders e-commerce through establishment of a single unified token.

Rate3' s role includes:

- Rate3' s token creation and the token launch to fund development & expansion
- Establishment of a decentralized, fair and secure model for order execution
- Development of smart contracts to run the order payment & fulfillment process
- Creation of an effective incentive model for all to join the Rate ecosystem
- Development of an active marketing campaign to ignite initial traction
- Elaboration of the ecosystem's regulatory aspects

Consumers

Consumers are individual shoppers who want to purchase cross-borders products from merchants. Orders can be placed on web browsers via the RateX chrome extension or RateS mobile app, through fiat currencies or Rate3 tokens.

Consumers' role includes:

- Exchange fiat currency for Rate3 tokens through RateX extension or RateS app
- Search products listed by merchants, make orders and pay for them
- Review merchants after every transaction
- Participate in feedback requests from merchants
- Receive promotion, loyalty and feedback incentives from merchants or Rate3

Merchants

Merchants are the parties to receive Rate3 tokens from consumers and complete the fulfilment of goods.

Merchants' role includes:

- Purchasing raw supplies from suppliers with Rate3 tokens or fiat currencies
- Receiving Rate3 tokens or fiat currencies from consumers
- Design promotion, loyalty, and feedback schemes for consumers
- Review consumers after every transaction

Other intermediaries

Intermediaries include both suppliers and other financial institutions. Suppliers provide raw materials or work-in-progress goods for merchants. Other financial institutions provide affordable credit to consumers.

2.2 Single token payments solution

Within the entire ecosystem lies a **primary universal medium of exchange**: the Rate3 token (RTE).

2.2.1 How it works

The amount needed to pay is converted to the selected Stellar-based token from traditional currency in real-time. Money arrives in the merchant's smart contract wallet almost instantaneously. The amount of Stellar-based currency received is exchanged to a merchant's preferred fiat currency according to the merchant's preference of crypto exchange API. Through Stellar's network of anchors, the RTE received can be easily converted to the merchant's preferred fiat or crypto-currency through pathfinding algorithms and network. At the same time, merchants will have the option to choose the frequency at which crypto tokens are converted to fiat, the local currency to exchange to, time of sending money to their bank account, and many other options.

2.2.2 Key benefits

The transaction goes from customer to merchant directly, foregoing all the intermediaries in the process and saving merchants a significant amount of time and money.

There is no longer any need for the merchant to close or settle anything. The settlement and closing happens concurrently during the transaction. There is only 1 step instead of the original 8 payment transactions. The merchant also need not wait up to 14 days to receive the funds.

Ultimately, it will be up to five times cheaper and up to a thousand times faster for merchants to accept payments with Rate3 with no chargeback or hidden fees, and a seamless user interface with smart contract-enabled wallet security.

2.3 Transaction and credit scoring system

We track every transaction and refund, while keeping an entirely decentralized, trustworthy ledger which cannot be tampered with. With this record, there is a universal trust and reputation system.

2.3.1 How it works:

Every time a transaction is made, the Stellar blockchain will record and save the time of the transaction, both receiving and sending addresses, warranty conditions, delivery time, and all other information that is typically needed to ensure the trust. All sensitive information will be hashed and only made available to authorized users in a through a user-friendly platform. Based on the information, clients and merchants will be able to objectively and transparently file or solve claims, rate each other, among others.

For first time participants, default trust rates will be created for both merchant and client within the Rate ecosystem. A trust rating will be assigned to a specific wallet address. Every time a transaction or action is made, the smart contract will automatically change the trust level for each of the parties involved as necessary.

The merchant trust rating

Once the merchant starts accepting $RTE tokens, a default trust rating will be created. Smart contracts will automatically change the trust rating according to the behavior of the merchant. Some factors affecting trust rating for merchants include:

- Does the merchant react to claims from clients?
- How much does the merchant react?
- Do clients rate the merchant for delivering products as promised: on time, as advertised and in good quality?
- Does the merchant have good reviews from clients?

Different weights will be assigned to different actions. The trust rating will be visible to everyone in the most common and typical places, such as the merchant's website or mobile app. The only way the merchant can increase the trust rating is by providing products or services as advertised and in good condition.

Consumer's trust rating

The main reason to create a trust rating for the consumer is to decrease the likelihood of fraudulent buyers and offer loyalty features for trustful buyers. Once a consumer buys something from a merchant using Rate3 for the first time, the default trust rating for that client will be automatically created and linked to the wallet address of that client. The client trust rating will be updated automatically by the smart contract based on his or her behavior. Different weights will be assigned to different actions.

Some factors affecting trust rating for consumers include:

- What is the consumer's purchase history? (behavior, frequency, etc.)
- What is the consumer's claim history?
- How many claims has the consumer made?
- Are those claims being resolved with merchants?
- Have there been any past incidence of fraud?

It is important that merchants have information about the consumer. The most important thing for a merchant is to avoid a habitually fraudulent consumer. In the case of fraudulent transactions, the merchant will be able to decrease the client's trust rating significantly. Other merchants will then be able to decide whether they want to sell products to a client with a low trust rating.

Claims, reviews and conflict management

Every purchase will be saved on the blockchain together with the time of the transaction, both receiving and sending addresses, warranty conditions, estimated delivery date, the product that was bought and all other information that is typically needed to ensure trust. The following information will be available to both parties:

- The merchant will have all the information about every transaction with the above-mentioned details in his profile in the Rate3 system.
- The client will be able to see all his purchases together with the above-mentioned details only in his profile within the RateS mobile app.

Based on that information, parties will have an opportunity to file/resolve claims, review, and rate each other in a transparent way. Smart contracts will automatically decrease or increase the trust rating. Management of conflict resolution through smart contracts will help each party resolve issues faster, easier, and cheaper and merchants will not incur chargeback fees.

Stage 2: Cross-Border Credit Scoring System

Through the transaction scoring system, we will collect a trove of valuable financial transactional data about any consumer.

We aim to improve the current credit ecosystem by creating a globally portable and inclusive credit profile, reducing the need for opaque credit scoring and unnecessary documentation.

This means both traditional fiat and digital asset lenders can extend credit to the 3 billion people who are under-banked and underserved.

Our credit score is derived from four distinct aspects:

1. Identity attesters (δ_1)
2. Historical transactional and credit information (δ_2)
3. Ancillary information (δ_3)
4. Peer scoring (δ_4)

Each of the dimension is weighted in the following formula:

$$g(x) = \beta_1 \delta_1 + \beta_2 \delta_2 + \beta_3 \delta_3 + ...$$

The weightage will change for different participants. For instance, for a participant who has little past transactions with Rate3, it might be more heavily weighted towards peer scoring (δ_4). This way, the participant is not unfairly penalized.

1. Identity attesters (δ_1):

In line with compliance and KYC/AML needs, we conduct KYC through various identity attesters:

Electronic ID Verification: Verification of an identity data by cross-checking supplied information with a multitude of public records, private records and governments from around the world.

Documentary Verification: Verification of an identity document like a passport or a driver's license and whether the image of the person on the document matches the user submitting the scan of the document.

Social Verification: Verification of the identity information of users via social networks like Facebook and analyzing their friend graph to help reduce fraud.

Sanction Screening: Ensuring that a consumer is not on one of the many global sanction programs operated by various governments around the world.

Politically Exposed Persons: Ensuring that a consumer is not considered to be a politically exposed person (someone with a prominent political function who is at high risk of potential bribery or corruption involvement).

2. Historical transactional and credit information (δ_2):

The initial Rate credit score computes a simple score based on:

- Transaction history with Rate
- Past and current debt obligations
- Length of late payment
- Total amount paid vs total amount owed
- Number of past loans
- Longest repayment history on file
- Average payment total per month
- Total amount repaid across all reported information and attesters

To make a prediction from these indicators, we will calculate a multivariate logistic regression. The indicators above would be represented as a vector x = (x_1, x_2, x_3, x_4, x_n). Each indicator will also have a corresponding weight such that our logic is:

$$g(x) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_n x_n$$

and our regression is expressed by

$$R(c) = \frac{e^{g(c)}}{1 + e^{g(c)}}$$

where β_0 is an offset, β_i is the weight for the x_i indicator, and c is a consumer on the network. In the initial stage, each indicator is bucketed into a discrete category. For example, "*total amount paid across all reported information and attesters*" will initially be included by taking round(log(total)) to reduce the variable down to a bucketing by order of magnitude.

The transformation of continuous indicators into discrete values requires adding dummy variables for each indicator. For example, if x_n has *m* discrete outcomes then the actual calculation of $\beta_n\ x_n$ would be

$$\sum_{i=0}^{m-1} (\beta_n, d_n)$$

where each d_n is a dummy variable for x_n and β_n is the corresponding weight. The final calculated score will be scaled up so that it is between 0 and 100.

3. Ancillary information:

We will also introduce a wider pool of data sets that include, but not limited to:

- Prepaid mobile top ups
- Historical remittance transactions
- Convenience stores' payment data
- Mobile phone usage

4. Peer scoring:

Once we have sufficient scale, we will rely on peer-to-peer identity attestations to further enhance credit worthiness. During this stage of account maturity, a consumer's Rate credit score will be a weighted average of the Rate credit score of each peer the user has staked, capped at a maximum of 50. The equation is as follow:

$$Min\ (50, \sum_{i=0}^{p} \frac{R_{pi}}{p})$$

Using the Stellar network and having information decentralized to authorized participants, the Rate credit score can be updated real-time.

Ultimately, we make it easy for lenders to transition to the blockchain by offering a new, compliant way for them to access new credit markets.

2.4 Incentive system for all participants

We can provide incentives accordingly for all participants in the network. Likewise, merchants can use it to incentivize consumers easily.

For Rate3:

INSTANT CASHBACK

Through partnerships with various merchants, Rate can offer instant cashback schemes for consumers who shop with Rate3 tokens. Traditional cashback schemes with fiat currencies are often slow in passing the cashback payments back to consumers and consumers often need to keep a close eye on their “cookies” in their browser. On the other hand, merchants can directly incentivize their loyal customers with RTE tokens which they can spend on other e-commerce products or exchange to other fiat currencies.

REFERRAL

Rate will create the RTE Reserve Fund as part of the token generation event with the primary goal to use these tokens as referral bonuses to new customers and popularize the Rate ecosystem.

For merchants:

LOYALTY

Loyalty reward mechanisms is one of the best ways for merchants to reward long-term customers and retain them as paying consumers. Payments are processed by smart contracts, making it possible to provide objective proof that a consumer is eligible for a reward. Merchants can directly set the rules such as reward type, expiration date, product lists that the reward can be spent on, amount, etc. Loyalty reward instruments will be coded in a smart contract, which accepts reward funds from the manufacturer and distributes them to those who provide proofs of eligibility linked to consumer wallets.

PROMOTION

Automated promotion reward mechanisms will be built to incentivize consumers to make a first order. The promotion reward mechanism will be coded into the smart contracts, where merchants can set the rules (expiration date, list of products, customer parameters, etc.) and deposit tokens that can only be used to buy pre-defined products during a limited period of time.

CROSS-MARKETING

Cross-marketing mechanisms will be used by merchants to promote products to new audiences and generate more sales. Merchants can find partners, other merchants that have created custom apps and sell complementary products, and cross-promote each other. Cross-marketing reward instruments will be coded into smart contracts, where the product details and reward rules are specified. The cross-marketing mechanism intends to incentivize merchants to share app traffic with other merchants and help consumers discover more products.

FEEDBACK

Merchant, seeking to receive direct customer feedback on their products will be able to incentivize consumers with RTE tokens to motivate them to participate. The feedback reward mechanism allows merchants to set a specific set of parameters and create a focus group of consumers from whom a manufacturer wants to receive feedback. The consumer data will not be shared with merchants and will initially be centrally processed on the RTE platform, but later decentralized as consumers will provide privacy-preserving proofs of eligibility which enable them to submit a feedback without being identified.

PRODUCT ARCHITECTURE AND DEVELOPMENT

3.1 Platform

The concept of Rate3 is clear and simple; we require an equally clear, simple and yet sophisticated platform to manage our tokens. The key considerations in choosing a blockchain platform are reputation, security, speed, transactional costs and whether it aligns with the planned business solution.

Rate3 will be leveraging the Stellar platform for the issuance of $RTE tokens. Stellar is a highly sophisticated and secure platform for payments. It is trusted by major banks and reputable companies such as IBM, Deloitte and Stripe.

Development and management of proprietary blockchain solutions carry certain security risks that the Stellar platform inherently protects against.

The Rate3 concept development, ecosystem and solution is also matured, and developing on Stellar will enable us to better focus resources on building consumer-facing applications, marketing, business development, and expanding acceptance across our target FX corridors.

3.2 Security

Expressibility

Rate3 will be built on the Stellar blockchain. While Stellar is less expressive than Ethereum, the simplicity of its transaction model creates fewer pitfalls and hence can improve the security of applications that do not require the full generality of Turing-complete smart contracts. Simply put, Stellar's model of atomic multi-operation transactions leads to more auditable code, limits uncertainty, and decreases the risk of harm from bad actors who may exploit program vulnerabilities. Moreover, Stellar optionally allowing s issuers to reserve the ability to freeze tokens in the event there is misuse. Hence, recovery from compromise need not rely on the willingness of validators or miners to execute an irregular state change to bail them out. Ethereum's turing-complete programming capabilities produces less auditable code and greater risk of exploitable vulnerabilities.

Validation Selection

An additional security feature is that organizations have the option to choose which nodes can validate their transactions. This is particularly helpful if there are malicious validators on the network or if the organization's tokens represent some real-world asset that cannot be double-redeemed. For example, suppose some token represents a pound of gold. If the token were issued on Ethereum or Bitcoin, any fork could sow

confusion and risk double-redemption. However, on Stellar, organizations can pre-select which validators have the “legitimate” version of their token.

SCP (Stellar Consensus Protocol)

MECHANISM	DECENTRALIZED CONTROL	LOW LATENCY	FLEXIBLE TRUST	ASYMPTOTIC SECURITY
Proof of work	✓			
Proof of stake	✓	maybe		maybe
Byzantine agreement		✓	✓	✓
Tendermint	✓	✓		✓
Stellar Consensus Protocol	✓	✓	✓	✓

(*Source: Stellar Consensus Protocol Code)*

Inspired by Bitcoin, SCP (Stellar Consensus Protocol) is the first provably safe construction for FBA (Federated Byzantine agreement). It also adds the ability to tolerate non-rational actors in an environment with low computing power. SCP provides a way to reach consensus without relying on a closed system to accurately record financial transactions. SCP is the first provably safe consensus mechanism that simultaneously enjoys four key properties: decentralized control, low latency, flexible trust, and asymptotic security, unlike most existing approaches to consensus. As an FBA protocol, SCP guarantees safety in the face of non-rational behavior and requires only modest computing resources, lowering the barrier to entry.

Live data is stored in standard SQL databases and served to clients from external web servers reading those databases. Long-term cryptographic data is written to commodity public storage service as flat files in standard XDR (External Data Representation) binary form and can be freely downloaded or mirrored. Transactions are now collections of simple operations that can be composed in a variety of ways supporting multi-signatures and other innovative arrangements.

SCP guarantees that so long as nodes maintain simple rules when choosing whom to trust, the system will protect them from Byzantine failures to the greatest extent mathematically possible.

To maximize the resilience of the SCP network, new nodes should establish connections that maximize the interconnectivity of the network. With a high level of interconnectivity, an attacker would have to compromise an unrealistic number of nodes to break the quorum intersection property underlying SCP's safety guarantee.

Prof. David Mazières describes the technical process of consensus in his white paper.

To conclude, by building Rate3 on top of SCP, it guarantees that the safety of more established nodes is unaffected by the choices made by unestablished nodes, and the system will be very well protected from Byzantine failures.

3.3 Speed

Stellar is designed from scratch to be a global distributed payments system that supports large scale transactions. This is made possible by narrowed scope of smart contracts meant for payment transaction and SCP.

It takes a median of 5 seconds to process on Stellar compared to approximately 15 minutes on Ethereum.

On normal hardware (basically a machine with a SSD drive only), Stellar could support up to 4000 transactions per second (t/s). This transaction speed can be increased with more nodes or better hardware.

Barclays Africa's chief executive for corporate and investment banking, Stephen van Coller said that they can do ~10,000 transactions in a test with Deloitte.

For comparison, Bitcoin does 3 – 7 transactions per second. Etherum does 15 transactions per second, Visa does average 1,736 transactions per second at current volumes and 24,000 transactions per second at actual capacity.

3.4 Fees

No Gas

By building Rate3 on top of the Stellar Exchange, there would be no gas fee for computations. This is unlike other platforms, such as Ethereum. The cost of transactions on Ethereum depends on complexity of computation, speed of transaction, and fiat value of ether. The median cost for a transfer is $0.094USD (at time of writing). In comparison, Stellar handles ~600,000 transactions for $0.01USD fee.

Fixed Cost

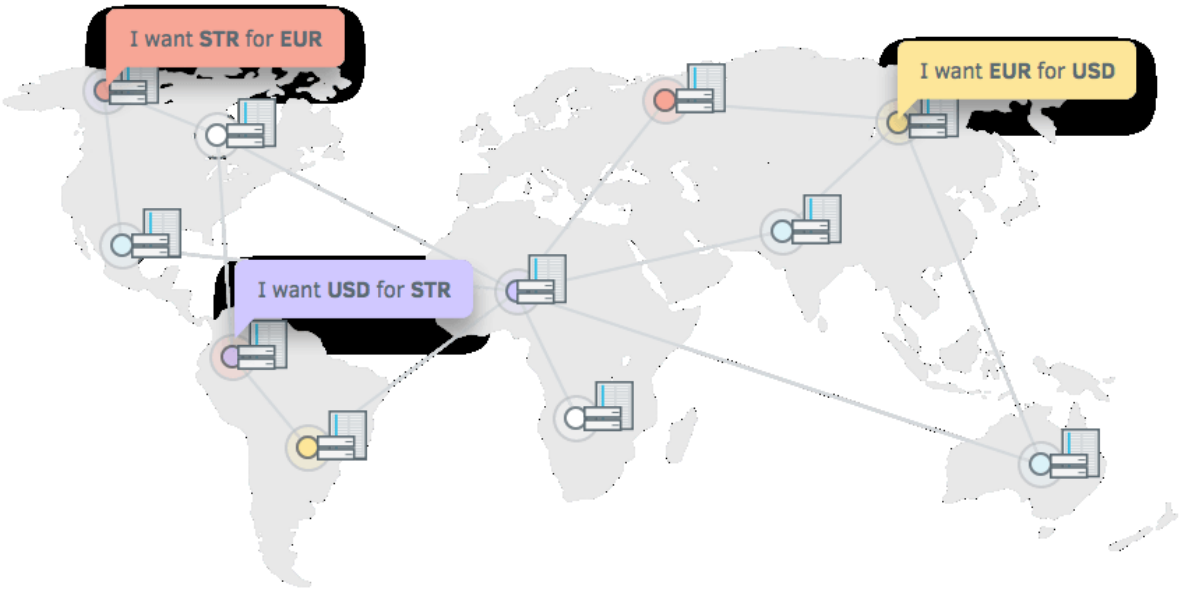
As ether (ETH) obtains higher valuations, computation and transactions are becoming increasingly expensive. Even at the current order of magnitude of price ($200-$300), gas prices are costly. Stellar does not require any “gas” to execute programs. Transaction fees are negligible on Stellar (.00001 XLM ~= $0.0000002), mainly to discourage users with malicious intent from flooding the network with transactions. There is also a 10 XLM/offer deposit, which is refunded when the offer is filled or canceled.

In Stellar, the fee for a transaction is calculated by the number of operations the transaction contains multiplied by the base fee, which is 100 *stroops* (0.00001 XLM). For example, a transaction that allows trust on an account’s *trustline* (operation 1) and sends a payment to that account (operation 2) would have a fee of 2 × base fee = 200 *stroops*.

The base fee can change but should not do so more than once every several years.

3.5 Ease of Exchange

Cross-asset Payments & Currency Preference



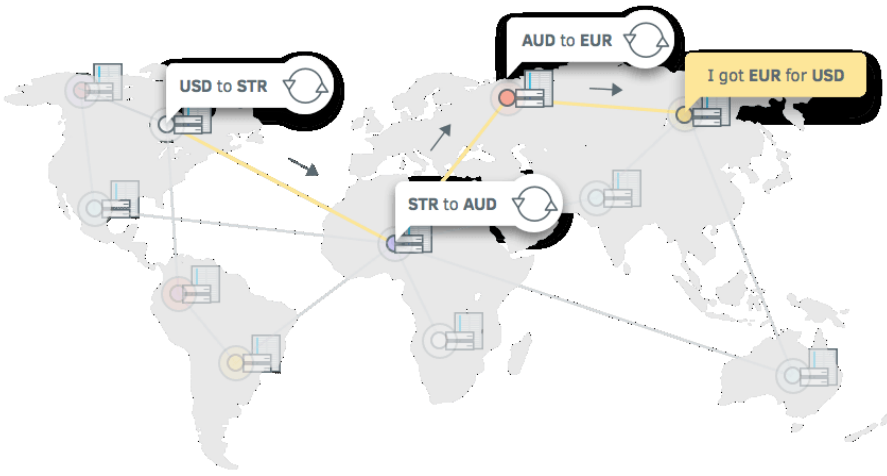
In addition to supporting the issuing and movement of assets, the Rate3 network is also able to participate in Stellar’s decentralized distributed exchange for any type of asset

that people have added to the network. Its ledger stores both balances held by user accounts and offers that user accounts make to buy or sell assets. Offers on the exchange would behave similar to limit orders in traditional markets.

An account can make offers to buy or sell assets easily on the exchange. To make an offer, the account must hold the asset it wants to sell. Similarly, the account must trust the issuer of the asset it's trying to buy. When an account makes an offer, the offer is checked against the existing order book (described in greater detail in the next paragraph) for that asset pair. If the offer crosses an existing offer, it is filled at the price of the existing offer. Let's say that you make an offer to buy 10 RTE for 2 ETH. If a prior offer exists to sell 10 RTE for 2 ETH, your original offer will be accepted as a transaction — you'll be 2 ETH poorer but 10 RTE richer. However, if your offer is not complemented by an existing offer in the network, your offer is saved in the orderbook until it is either taken by another offer, taken by a payment, canceled by the account that created the offer, or invalidated because the account making the offer no longer has the asset for sale.

An orderbook is a record of outstanding orders on the Rate & Stellar network. This record sits between any two assets–in this case, let's say the assets are rubber and cotton. The orderbook records every account wanting to buy rubber for cotton on one side and every account wanting to sell rubber for cotton on the other side. Some assets will have a very thin or nonexistent orderbook between them. That's to be expected, and is fine as discussed in greater detail below, as paths of orders can facilitate exchange between two thinly traded assets.

Cross-asset Payments & Currency Preference



Suppose you are holding USD and want to buy something from a store that only accepts EUR. You can create a payment in the Rate3 network that will automatically

convert your USD into EUR. It goes through the USD/EUR orderbook and converts your USD at the best available rate.

It is also possible to create more complicated paths of asset conversion. Imagine that the USD/EUR orderbook has a very large spread or is non-existent. In this case, you might get a better rate overall if you first trade your USD for STR, sell your STR for AUD, and lastly sell that AUD for EUR. Therefore, a potential path would be 3 hops: USD -> STR -> AUD -> EUR. This path would take you through the USD/STR orderbook, the STR/AUD orderbook and finally the AUD/EUR orderbook.

These paths of asset conversion can contain up to 6 hops, but the whole payment is atomic – it will either succeed or fail. The payment sender will never be left holding an unwanted asset (say wheat, in the given example above). This process of finding the best path of a payment is called *pathfinding*. Pathfinding involves looking at the current order-books and finding which series of conversions gives you the best rate and the least spread. Traditional methods of transferring capital incur relatively high transactional costs (often up to 12% along with flat fees regardless of transaction size) due to banks and other financial intermediaries having to address counterparty risk and settlement or clearing costs.

Because cross-asset payments are so simple with Rate3, users can keep their money in whatever asset they prefer to hold. Hence, the Rate3 Network creates a very flexible and open system. Imagine a world where, anytime you travel, you never have to exchange currency except only at the point of sale. A world where you can choose to keep all your assets in, for example, Microsoft stock, and cashing out only small amounts as you need to pay for things. The Rate3 Network's cross-asset payments would be able to make this world a reality.

3.6 Public Ledger and Compliance

Rate3 transactions in the Stellar network are public and immutable. This means that transaction and account details can be looked up any time and no single entity will be able to modify the transaction records. This allows the proposed transaction scoring feature to be trustable and secure as the network acts as the single source of truth for transaction details.

Stellar also provides tools to implement KYC/AML identity verifications. Rate3 will be implementing these protocols to operate in the network. Thus, these tools can be extended to businesses in Rate3 network if necessary.

3.7 Protocol Comparison

Comparison between Stellar and Ethereum

	Stellar	Ethereum
Median Confirmation Time	5 seconds	3.5 minutes
Price	Negligible transaction fee (0.00001 XLM). 10 XLM/offer deposit (refunded when offer is filled or canceled.) No gas fee for computations.	Depends on complexity of computation, speed of transaction and fiat value of Ether (median cost for a transfer is $0.094)
Features	Library of base abstractions that can generate sophisticated behavior.	Can be used to encapsulate many types and forms of information.
Security	Decentralized network: Anyone can run a Stellar Core node and validate transactions. Can choose your validators for increased security. Atomic transactions comprise of simple, declarative operations lead to more auditable code and fewer security pitfalls.	Decentralized network: anyone can run a node and validate transactions. No built-in feature for choosing approved validators. Turing-complete programming capabilities produces less auditable code and greater risk of exploitable vulnerabilities.

(As of July 24, 2017.)

Comparison between Main Blockchains

	Stellar	Bitcoin	Ethereum
Transaction Confirmation Time	3 to 5 seconds	Up to 1 hour	Up to 15 minutes
Average Transaction Fees	$0.01 will pay for 300,000 transactions	$5.45 per transaction	$0.30 per transaction
Transactions Per Second	3,000+ transactions per second	3 transactions per second	7 transactions per second
Consensus Mechanism	Stellar Consensus Protocol (SCP)	Proof of Work	Proof of Work *(for now)*

(As of July 24, 2017.)

Other Tokens or Crypto-Currencies

Cryptocurrencies and blockchain will continue to disrupt transactional models and eventually become mainstream; however, we believe there is a potentially significant risk in placing the economy of Rate3 and betting its future on another token/coin.

Rate3 network is envisioned to support shoppers, merchants and other intermediaries across the globe to exchange money for commerce goods or related services easily with the lowest fee possible. Having a separate Rate3 token helps the network to work towards this goal more effectively as the token and network can grow at its own pace. Being isolated from volatile cryptocurrency market allow the network to focus on improving its utility, liquidity and efficiency.

3.8 Development Roadmap

Q2 2017

Development of Rate3 begins

Assembling of core team

Q1 2018

Rate3 Concept Development

Whitepaper released

ERC20 Token Generation Event

Q2 2018

Development of Rate3 network on Stellar platform.

Development of desktop/mobile multi-cryptocurrency wallet.

Development to support RTE payment on existing products.

Alpha testing of Rate3 network on Stellar platform.

Q3 2018

Beta testing of Rate3 network with consumer apps.

Development for Merchant Platform and SDK.

Q4 2018

Launch to Singapore and SEA (consumers).

Token Swap

Refinement of Merchant SDK.

2019 Milestones

Launch to Singapore and SEA (merchants).

Expansion of network in SEA.

Geographical expansion and growing the ecosystem.

Q1 2018 Conceptualization

- Rate3 network concept development
- Final Whitepaper released to public
- ERC-20 Token Generation Event for network supporters

Q2 2018 Development of Rate3 Network

- Development of Rate3 network smart contracts on Stellar Testnet for Payments, Rewards and Credit Score
- Alpha testing of Rate3 network on Stellar Livenet to improve company's existing internal operations

Q3 2018 Development of Network Apps and Interfaces

- Development of desktop/mobile multi-cryptocurrency wallet. Facilitate onboarding to Rate3 network for consumers. Cross blockchain support to get more users and awareness.
- Development to support RTE payment on existing products. RateX and RateS will accept RTE alongside with local fiat
- Development for Merchant Platform and SDK help merchants to accept RTE payments

Q4 2018 Empowering shoppers

- Beta testing of Rate3 network with consumer apps
- Launch to Singapore and SEA shoppers with purchase rewards
- Token swap from RTE (ERC-20) to RTE (Stellar) for early token sale

Q1 2019 Empowering Merchants

- Launch to Singapore and SEA (merchants)
- Expansion of network in SEA

Q2 2019 and beyond

- Geographical expansion and growing the ecosystem

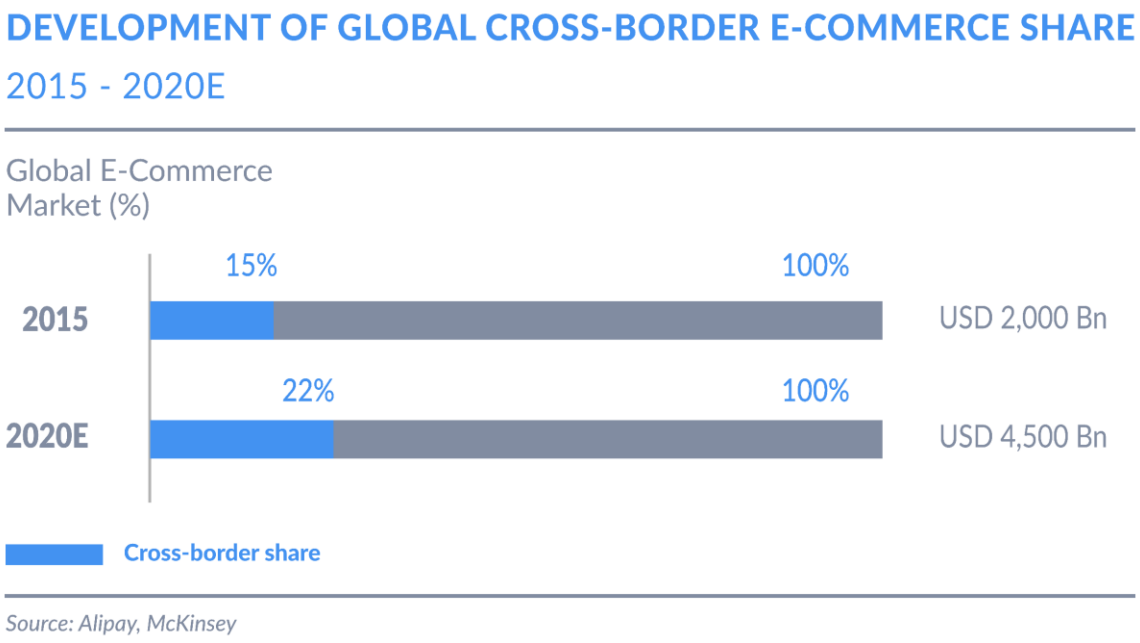
MARKET OPPORTUNITY AND BUSINESS MODEL

4.1 Market Opportunity

Our key mission is to reduce the barriers to entry for cross-border e-commerce and encourage global participation through lowering friction, decentralizing trust and bettering access to credit.

There is a tremendous opportunity - especially in Southeast Asia - to utilize blockchain to facilitate participation and inclusion in global commerce.

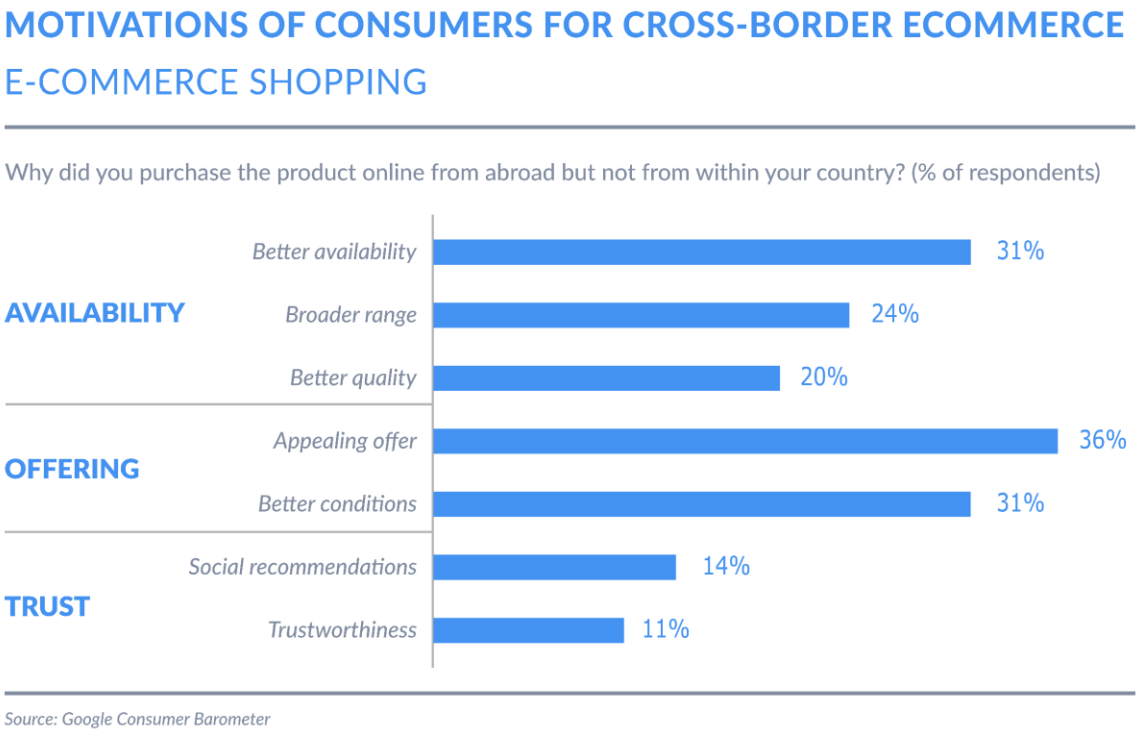
The global cross-border e-commerce market in 2015 accounted for USD 300 billion GMV, about 15% of e-commerce overall. This rapid growth, however, has just begun and will continue: the cross-border market is expected to grow by about 25% annually until 2020 – nearly twice the rate of domestic e-commerce and a growth rate that most traditional retail markets would dream of achieving. In 2020, it is expected to account for about USD 900 billion GMV, translating into a roughly 22% share of the global e-commerce market. This growth momentum yields unrivaled opportunity for both merchants and manufacturers:



(*Source: Alipay, McKinsey)*

Southeast Asia is the fastest growing internet market in the world (2015 - 2020), with various favorable conditions: thriving young population (70% of people under 40), surging middle class (forecasted GDP growth of 5.3% for next 10 years), lack of traditional retail store access and increasing mobile usage (poised to reach 480 million internet users by 2020, with roughly 90% mobile smartphone users):

Cross-border e-commerce sentiments are rising as well: a conscious purchase decision influenced by three major factors:



(*Source: Google Consumer Barometer)*

4.2 Business Model

Shoppers and merchants will always be able to use Rate3 payment token for free. Our revenue will come from three primary channels:

4.2.1 Digital Prepaid Card Fees:

Currently, third parties like Tango and Blackhawk Network are taking a 5 - 20% cut for helping e-commerce merchants digitize their prepaid cards. Examples include Amazon Gift Cards, Alipay Prepaid Card. For e-commerce players that use Rate3 Network, we will tokenize the individual prepaid card model at a significantly cheaper pricing model.

4.2.2 Affiliate Marketing:

E-commerce merchants spend up to 25% of cart sale on affiliate marketing. Third party players that does cashback to acquire consumers on behalf of these E-commerce merchants take a huge cut of each transaction. With the Rate3 Network, we will tokenize this process easily without any intermediaries. This benefit both merchants and consumers.

For e-commerce marketplaces and merchants, they will pay a significantly lesser fee for affiliate marketing. For consumers, they will receive instant cashback instead of a delay of 15 - 40 days from the traditional cashback method.

4.2.3 Loan Interest:

Traditional banks and capital providers can extend credit to consumers through the Rate3 network. **We earn a flat rate of 0.3% APR per successful loan issued.**

Through logging their transactional data, e-commerce participants can fulfill a higher order of trust between them. We will garner support from existing financial institutions by providing them an accurate credit score on the consumers, suppliers and merchants in the Rate3 ecosystem. This helps to generate a network effect to accelerate adoption amongst all participants globally.

With the above 3 alternative revenue streams, the Rate3 network will always be free to use for all merchants and consumers. This helps to accelerate adoption of the network from both merchants and consumers, while keeping our costs low.

MARKETING AND STRATEGY

Our overall adoption strategy can be briefly summarized as such: tap on our existing users and merchants first to refine the existing processes, whilst leveraging on the network effect to expand the participant pool in the ecosystem and a well-designed incentive system for retention.

5.1 Network effect

We will utilize network and ecosystem effect. More merchants and partners onboard our Rate ecosystem will attract more consumers to join the network and likewise vice versa.

Stage 1: Tapping on our existing users and merchant partners

Given our extensive user base and current merchant partners, we will focus on onboarding them onto the network. Early adopters of our token sale will have a favorable exchange ratio to incentivize them.

Stage 2: Educating the users in the wider crypto community

Leveraging on our user base, we continue extensive outreach to the wider crypto community who might not be our users yet. We will utilize both offline and online campaigns to reach out to the wider community.

Stage 3: Broader market adoption

With an adequate number of shoppers and merchants in the network, we are in a better position to onboard intermediaries into the ecosystem. The more participants in the network there are, the more valuable it is.

CROWDSALE DETAILS

6.1 Summary

The ICO crowd sale and token creation process will be issued by Rate Network Pte Ltd. It will be organized around the sale of tokens through the Ethereum blockchain network.

- The accepted currency is ETH
- Soft cap: 20,000 ETH
- Hard cap: 50,000 ETH
- After hard cap, token creation will stop and no further contributions
- Token Sale period duration: 31 days
- Tokens unsold during the crowd sale will be kept as reserve
- Rate3 Token is ERC-20, so participants' wallet must be ERC-20 compatible

6.2 RTC Tokens

Issuer	Rate Network Pte Ltd
Jurisdiction of Issuance	Singapore
RTE created per ether	8,000
Soft Cap	20,000 ETH
Additional time (after soft cap is reached)	To be announced soon.
Hard cap	50,000 ETH
Maximum number of tokens allowed	1,000,000,000
% of tokens for token sale	40%
% of tokens for company	25%
% of tokens for listing & exchanges	20%
% of tokens for reserve	10%
% of tokens for team & advisors	10%
% of tokens for community	5%
Date of ICO start	To be announced soon.
Date of ICO end	To be announced soon.

6.3 Allocation of Funds

Field	Portion of Budget	Activities
Technical Development	30%	R&D and technical development, according to roadmap
Partnerships	25%	Merchant acquisition and engagement; partnerships with financial institutions and payment providers
Marketing	20%	Marketing campaigns to raise awareness, engagement and retention; encourage usage of ecosystem for both users and partners
Listing Fees	10%	Fees paid to various 3rd-party exchanges for listings
Operations	10%	Business operations; incl. but not limited to working with external vendors (smart contract audits, KYC/AML processes.)
Legal & Operations	5%	Legal contracts, compliance costs, legal due diligence

TEAM

7.1 Rate Team

Jake Goh: Co-Founder & CEO
Davis Gay: Co-founder & Co-CTO,
Lim Jing-Rong: Co-founder & Co-CTO
Waihon Chee: Blockchain Lead
Wu Di: Software Engineer
Andre Khong: Software Engineer
Adarrel Ho: Lead Designer
Daniel Olivan: Marketing Manager
Eunice Er: UIUX Designer
Albert Ho: Country Head, Singapore

7.2 Rate Advisory Team

Yinglan Tan: Founder, Managing Partner (Insignia Ventures Partner)

Aaron Tan: Co-Founder & CEO, Carro

Koh Waikit: Managing Partner, Pavilion Capital

Quek Siu Rui: Co-Founder & CEO, Carousell

Danny Toe: Founder & CEO, ICH Group

Shi Yi: Founder & CEO, DotC United Group

Samuel Chan: Vice-President (Asian FX & Interest Rates), ING

Kevin Li: Co-Founder & CEO, PlayDate

Will Ongkowidjaja: Co-Founder & Managing Partner, Alpha JWC Ventures

Khoo Lay Seng: Director, Investments at Khazanah Nasional

Fei Ding'an: Principal at Warburg Pincus

Li Jianwei: Managing Partner, Zhencheng Investment

Koh Boon Hwee: ex-GIC Board of Directors

Chandra Tjan: Co-Founder & Managing Partner, Alpha JWC Ventures

For more detailed descriptions, please refer to **https://rate3.network**.

LEGAL

8.1 General Information

An acquisition of the RTE tokens involves a high degree of risk. Each potential purchaser of the RTE tokens should carefully consider the following information about these risks before he decides to buy the RTE tokens. If any of the following risks actually occurs, the RTE platform and the value of the RTE tokens could be materially adversely affected. Risks and uncertainties described below in this White Paper may not be the only ones token holders face. Additional risks and uncertainties may also materially adversely affect on the RTE platform or the value of the RTE tokens.

8.2 Risks

8.2.1 Token Risks

8.2.1.1 Lack of Development of Market for RTE tokens.

Because there has been no prior public trading market for the RTE tokens, the sale of the RTE tokens described in this White Paper may not result in an active or liquid market for the RTE tokens, and their price may be highly volatile. Although applications have been made to the cryptographic token exchanges for the RTE tokens to be admitted to trading, an active public market may not develop or be sustained after the RTE token sale. If a liquid trading market for the RTE tokens does not develop, the price of the RTE tokens may become more volatile and token holder may be unable to sell or otherwise transact in the RTE tokens at any time.

8.2.1.2 Risks Relating to Highly Speculative Traded Price.

The valuation of digital tokens in a secondary market is usually not transparent, and highly speculative. The RTE tokens do not hold any ownership rights to Company's assets and, therefore, are not backed by any tangible asset. Traded price of the RTE tokens can fluctuate greatly within a short period of time. There is a high risk that a token holder could lose his/her entire contribution amount. In the worst-case scenario, the RTE tokens could be rendered worthless.

8.2.1.3 RTE Tokens May Have No Value.

The RTE tokens may have no value and there is no guarantee or representation of liquidity for the RTE tokens. Company Parties are not and shall not be responsible for or liable for the market value of the RTE tokens, the transferability and/or liquidity of the RTE tokens and/or the availability of any market for the RTE tokens through third parties or otherwise. For the purposes of this Section of the White Paper, the term

"Company Parties" shall include Company and its respective past, present and future employees, officers, directors, contractors, consultants, attorneys, accountants, financial advisors, equity holders, suppliers, vendors, service providers, parent companies, subsidiaries, affiliates, agents, representatives, predecessors, successors and assigns (hereinafter in this Section – "Company Parties").

8.2.1.4 RTE Tokens May Be Non-Refundable.
Except for as provided in a legally binding documentation or prescribed by the applicable legislation, Company Parties are not obliged to provide the RTE token holders with a refund related to the RTE tokens. No promises of future performance or price are or will be made in respect to the RTE tokens, including no promise of inherent value, no promise of continuing payments, and no guarantee that the Tokens will hold any particular value. Therefore, the recovery of spent resources may be impossible or may be subject to foreign laws or regulations, which may not be the same as the private law of the RTE token holder.

8.2.2 BLOCKCHAIN AND SOFTWARE RISKS

8.2.2.12 Blockchain Congestion Risk.
Most blockchains used for cryptocurrencies' transactions (e.g., Ethereum, Stellar) are prone to periodic congestion during which transactions can be delayed or lost. Individuals may also intentionally spam the network in an attempt to gain an advantage in purchasing cryptographic tokens. That may result in a situation where block producers may not include the purchaser’s transaction when the purchaser wants or the purchaser’s transaction may not be included at all.

8.2.2.3 Risk of Software Weaknesses.
The token smart contract concept, the underlying software application and software platform are still in an early development stage and unproven. There are no representations and warranties that the process for creating the RTE tokens will be uninterrupted or error-free. There is an inherent risk that the software could contain weaknesses, vulnerabilities or bugs causing, inter alia, the complete loss of the cryptocurrency and/or the RTE tokens.

8.2.2.4 Risk of New Technology.
The RTE platform, the RTE tokens and all of the matters set forth in this White Paper are new and untested. The RTE platform and the RTE tokens might not be capable of completion, creation, implementation or adoption. It is possible that no blockchain utilizing the RTE platform will be ever launched. Purchaser of the RTE tokens should

not rely on the RTE platform, the token smart contract or the ability to receive the RTE tokens associated with the RTE platform in the future. Even if the RTE platform is completed, implemented and adopted, it might not function as intended, and any RTE tokens may not have functionality that is desirable or valuable. Also, technology is changing rapidly, so the RTE platform and the RTE tokens may become outdated.

8.2.3 SECURITY RISKS

8.2.3.1 Risk of Loss of Private Keys.

The RTE tokens may be held by token holder in his digital wallet or vault, which requires a private key, or a combination of private keys, for access. Accordingly, loss of requisite private keys associated with such token holder's digital wallet or vault storing the RTE tokens will result in loss of such RTE tokens, access to token holder's token balance and/or any initial balances in blockchains created by third parties. Moreover, any third party that gains access to such private keys, including by gaining access to login credentials of a hosted wallet or vault service the token holder uses, may be able to misappropriate the token holder's RTE tokens.

8.2.3.2 Lack of Token Security.

The RTE tokens may be subject to expropriation and or/theft. Hackers or other malicious groups or organizations may attempt to interfere with the token smart contract which creates the RTE tokens or the RTE tokens in a variety of ways, including, but not limited to, malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, because the Ethereum platform rests on open source software, there is the risk that Ethereum smart contracts may contain intentional or unintentional bugs or weaknesses which may negatively affect the RTE tokens or result in the loss of RTE tokens, the loss of ability to access or control the RTE tokens. In the event of such a software bug or weakness, there may be no remedy and holders of the RTE tokens are not guaranteed any remedy, refund or compensation.

8.2.3.3 Attacks on Token Smart Contract.

The blockchain used for the token smart contract which creates the RTE tokens is susceptible to mining attacks, including double-spend attacks, majority mining power attacks, "selfish-mining" attacks, and race condition attacks. Any successful attacks present a risk to the token smart contract, expected proper execution and sequencing of the RTE token transactions, and expected proper execution and sequencing of contract computations.

8.2.3.4. Failure to Map a Public Key to Purchaser's Account.
Failure of a purchaser of the RTE tokens to map a public key to such purchaser's account may result in third parties being unable to recognize purchaser's RTE token balance on the Ethereum blockchain when and if they configure the initial balances of a new blockchain based upon the RTE platform.

8.2.3.5. Risk of Incompatible Wallet Service.
The wallet or wallet service provider used for the acquisition and storage of the RTE tokens, has to be technically compatible with the RTE tokens. The failure to assure this may have the result that purchaser of the RTE tokens will not gain access to his RTE tokens.

8.3 RISKS RELATING TO PLATFORM DEVELOPMENT

8.3.1. Risk Related to Reliance on Third Parties.
Even if completed, the RTE platform will rely, in whole or partly, on third parties to adopt and implement it and to continue to develop, supply, and otherwise support it. There is no assurance or guarantee that those third parties will complete their work, properly carry out their obligations, or otherwise meet anyone's needs, all of might have a material adverse effect on the RTE platform.

8.3.2. Dependence of RTE Platform on Senior Management Team.
Ability of the senior management team which is responsible for maintaining competitive position of the RTE platform is dependent to a large degree on the services of each member of that team. The loss or diminution in the services of members of respective senior management team or an inability to attract, retain and maintain additional senior management personnel could have a material adverse effect on the RTE platform. Competition for personnel with relevant expertise is intense due to the small number of qualified individuals, and this situation seriously affects the ability to retain its existing senior management and attract additional qualified senior management personnel, which could have a significant adverse impact on the RTE platform.

8.3.3. Dependence of RTE Platform on Various Factors.
The development of the RTE Platform may be abandoned for a number of reasons, including lack of interest from the public, lack of funding, lack of commercial success or prospects, or departure of key personnel.

8.3.4. Lack of Interest to the RTE Platform.
Even if the RTE platform is finished and adopted and launched, the ongoing success of the RTE platform relies on the interest and participation of third parties like developers. There can be no assurance or guarantee that there will be sufficient interest or participation in the RTE platform.

8.3.5. Changes to the RTE Platform. The RTE platform is still under development and may undergo significant changes over time. Although the project management team intends for the RTE platform to have the features and specifications set forth in this White Paper, changes to such features and specifications can be made for any number of reasons, any of which may mean that the RTE platform does not meet expectations of holder of the RTE tokens.

8.3.6. Risk Associated with Other Applications.
The RTE platform may give rise to other, alternative projects, promoted by unaffiliated third parties, under which the RTE token will have no intrinsic value.

8.3.7. Risk of an Unfavorable Fluctuation of Cryptocurrency Value.
The proceeds of the sale of the RTE tokens will be denominated in cryptocurrency, and may be converted into other cryptographic and fiat currencies. If the value of cryptocurrencies fluctuates unfavorably during or after the RTE token sale, the project management team may not be able to fund development, or may not be able to develop or maintain the RTE platform in the manner that it intended.

8.4. RISKS ARISING IN COURSE OF COMPANY PARTIES' BUSINESS

8.4.1. Risk of Conflicts of Interest.
Company Parties may be engaged in transactions with related parties, including respective majority shareholder, companies controlled by him or in which he owns an interest, and other affiliates, and may continue to do so in the future. Conflicts of interest may arise between any Company Party's affiliates and respective Company Party, potentially resulting in the conclusion of transactions on terms not determined by market forces.

8.4.2. Risks Related to Invalidation of Company Parties Transactions.
Company Parties have taken a variety of actions relating to their business that, if successfully challenged for not complying with applicable legal requirements, could be invalidated or could result in the imposition of liabilities on respective Company Party. Since applicable legislation may subject to many different interpretations, respective Company Party may not be able to successfully defend any 45 challenges brought

against such transactions, and the invalidation of any such transactions or imposition of any such liability may, individually or in the aggregate, have a material adverse effect on the RTE platform.

8.4.3. Risk Arising from Emerging Markets.
Company Parties or some of them may operate on emerging markets. Emerging markets are subject to greater risks than more developed markets, including significant legal, economic and political risks. Emerging economies are subject to rapid change and that the information set out in this White Paper may become outdated relatively quickly.

8.5. GOVERNMENTAL RISKS

8.5.1 Uncertain Regulatory Framework. The regulatory status of cryptographic tokens, digital assets and blockchain technology is unclear or unsettled in many jurisdictions. It is difficult to predict how or whether governmental authorities will regulate such technologies. It is likewise difficult to predict how or whether any governmental authority may make changes to existing laws, regulations and/or rules that will affect cryptographic tokens, digital assets, blockchain technology and its applications. Such changes could negatively impact the tokens in various ways, including, for example, through a determination that the tokens are regulated financial instruments that require registration. Company may cease the distribution of the RTE tokens, the development of the RTE platform or cease operations in a jurisdiction in the event that governmental actions make it unlawful or commercially undesirable to continue to do so.

8.5.2. Failure to Obtain, Maintain or Renew Licenses and Permits.
Although as of the date of starting of the RTE token sale there are no statutory requirements obliging Company to receive any licenses and permits necessary for carrying out of its activity, there is the risk that such statutory requirements may be adopted in the future and may relate to any of Company Parties. In this case, Company Parties' business will depend on the continuing validity of such licenses and permits and its compliance with their terms. Regulatory authorities will exercise considerable discretion in the timing of license issuance and renewal and the monitoring of licensees' compliance with license terms. Requirements which may be imposed by these authorities and which may require any of Company Party to comply with numerous standards, recruit qualified personnel, maintain necessary technical equipment and quality control systems, monitor our operations, maintain appropriate filings and, upon request, submit appropriate information to the licensing authorities, may be costly and time-consuming and may result in delays in the commencement or continuation of

operation of the RTE platform. Further, private individuals and the public at large possess rights to comment on and otherwise engage in the licensing process, including through intervention in courts and political pressure. Accordingly, the licenses any Company Party may need may not be issued or renewed, or if issued or renewed, may not be issued or renewed in a timely fashion, or may involve requirements which restrict any Company Party's ability to conduct its operations or to do so profitably.

8.5.3. Risk of Government Action.
The industry in which Company Parties operate is new, and may be subject to heightened oversight and scrutiny, including investigations or enforcement actions. There can be no assurance that governmental authorities will not examine the operations of Company Parties and/or pursue enforcement actions against them. All of this may subject Company Parties to judgments, settlements, fines or penalties, or cause Company Parties to restructure their operations and activities or to cease offering certain products or services, all of which could harm Company Parties' reputation or lead to higher operational costs, which may in turn have a material adverse effect on the RTE tokens and/or the development of the RTE platform.

8.5.4. Risk of Burdensomeness of Applicable Laws, Regulations and Standards.
Failure to comply with existing laws and regulations or the findings of government inspections or increased governmental regulation of Company Parties operations, could result in substantial additional compliance costs or various sanctions, which could materially adversely affect Company Parties business and the RTE platform. Company Parties operations and properties are subject to regulation by various government entities and agencies, in connection with ongoing compliance with existing laws, regulations and standards. Regulatory authorities exercise considerable discretion in matters of enforcement and interpretation of applicable laws, regulations and standards. Respective authorities have the right to, and frequently do, 46 conduct periodic inspections of any Company Party's operations and properties throughout the year. Any such future inspections may conclude that any Company Party has violated laws, decrees or regulations, and it may be unable to refute such conclusions or remedy the violations. Any Company Party's failure to comply with existing laws and regulations or the findings of government inspections may result in the imposition of fines or penalties or more severe sanctions or in requirements that respective Company Party cease certain of its business activities, or in criminal and administrative penalties applicable to respective officers. Any such decisions, requirements or sanctions, or any increase in governmental regulation of respective operations, could increase Company Parties' costs and materially adversely affect Company Parties business and the RTE platform.

8.5.5. Unlawful or Arbitrary Government Action.

Governmental authorities may have a high degree of discretion and, at times, act selectively or arbitrarily, without hearing or prior notice, and sometimes in a manner that is contrary a law or influenced by political or commercial considerations. Moreover, the government also has the power in certain circumstances, by regulation or government act, to interfere with the performance of, nullify or terminate contracts. Unlawful, selective or arbitrary governmental actions have reportedly included the denial or withdrawal of licenses, sudden and unexpected tax audits, criminal prosecutions and civil actions. Federal and local government entities have also used common defects in matters surrounding the Token sale as pretexts for court claims and other demands to invalidate or to void any related transaction, often for political purposes. In this environment, Company Parties' competitors may receive preferential treatment from the government, potentially giving them a competitive advantage over Company Parties.