balehu

Powering Commerce

White Paper v2

Vision

Shifting the spending behaviors of consumers back to their local communities would help create a world that citizens want. In the United States alone, consumers spend $47.5 trillion annually[1]. Yet for every $3 generated in the economy, only $1 is invested in infrastructure.[2] Imagine if the taxes paid on those consumer dollars were effectively put to work in their local communities! If towns and cities retained more of the money that consumers spend every year those dollars would mean: better infrastructure, more jobs, better-funded community programs, and more resources for education. Those dollars are not only good for communities, either: they also benefit Balehu. Our network thrives on transactions, and better local infrastructure translates to more commerce[3]. In 2017, we saw $2.4 trillion leave the U.S. economy simply because of decades of falling investment infrastructure[4].

We believe that SMBs (small and medium-sized businesses) are the key to shifting consumer spending back into their local communities. To achieve this, however, merchants must properly incentivize consumers in their communities. By adding utility to the currency, we can use shared interests to align consumers' purchasing behaviors with SMBs, empower the businesses that should not be failing, provide resources to the community programs that nourish our fellow citizens, and much more. By creating a protocol that aligns economic incentives for all stakeholders without demanding major changes to their current tools or behavior, we can impact the portion of the economy where the greatest benefits can be realized: your local community.

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[1] U.S. Department of Commerce: Bureau of Economic Analysis: National Data: https://www.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=3&isuri=1&1921=survey&1903=58

[2] Business Roundtable: Road to Growth: https://businessroundtable.org/sites/default/files/2015.09.16%20Infrastructure%20Report%20-%20Final.pdf

[3] U.S. Chamber of Commerce: Infrastructure: An Investment Worth Making: https://www.uschamber.com/series/above-the-fold/infrastructure-investment-worth-making

[4] Business Roundtable: Road to Growth: https://businessroundtable.org/sites/default/files/2015.09.16%20Infrastructure%20Report%20-%20Final.pdf

Abstract

Over the last 20 years, big box and online retailers have reshaped the landscape of local commerce, creating unprecedented challenges for small businesses. Despite the abundance of services and technology solutions available to help them find new customers and streamline their operations, 50% of businesses fail in their first five years[5]. Nevertheless, small businesses remain the driving force behind our economy[6], and the health of local communities worldwide depends on them. Small businesses need to cost-effectively attract new customers, drive repeat business, and manage their reputations in their communities. While tools that help address these challenges already exist, most merchants, consumers and skilled professionals are unwilling to invest in learning and adopting new systems, and lack the shared economic incentives to be good actors in their hyper-local economies.

[5] U.S. Department of Labor: Bureau of Labor Statistics: https://www.bls.gov/bdm/us_age_naics_00_table7.txt

[6] U.S. Small Business Administration: Annual Report of the Office of Economic Research: https://www.sba.gov/sites/default/files/OER_Annual_Report_FY2016.pdf

Introduction

Unlike any other platform or protocol before it, Balehu aligns the incentives of consumers, merchants and skilled professionals in hyper-local markets to realize shared benefit. This requires no new behavior on the part of businesses or consumers, no new apps or systems. Rather, our protocol integrates with existing technology and practices and unifies their interests to create a new engine for local commerce.

Merchants (and small businesses in particular) have access to the tools they need today, but lack the time and often the skill set to leverage them for business growth. Cash flow is critical for all businesses, and the implementation of growth strategies is outside the scope of day-to-day operations for them. There exists, however, a group of skilled professionals that can help merchants. The economic incentives of merchants and skilled professionals, combined with technological innovations, have culminated in a shift, resulting in effects like the gig economy and outsourcing. Yet these trends undermine our local communities. By aligning incentives between consumers, merchants and skilled professionals, we can create value for everyone.

Nearly half of all dollars consumers spend with local merchants remain within the local community and economy[7]. By contrast, $99 out of every $100 spent online in the U.S. leave the community[8]. It's no wonder, then, that the infrastructure intended to make small businesses thrive doesn't work[9]. For example, what good is a consumer loyalty rewards program when 55% of the nation's 27 million small businesses do not accept credit cards[10]? That amounts to more than $100 billion in lost sales for small businesses[11]. What merchants need is not a better understanding of the needs and wants of their local consumers, but cash flow[12].

Clearly, supporting independent local merchants has a huge impact on the local economy:

Local Economic Return of Independence versus Chains[13]

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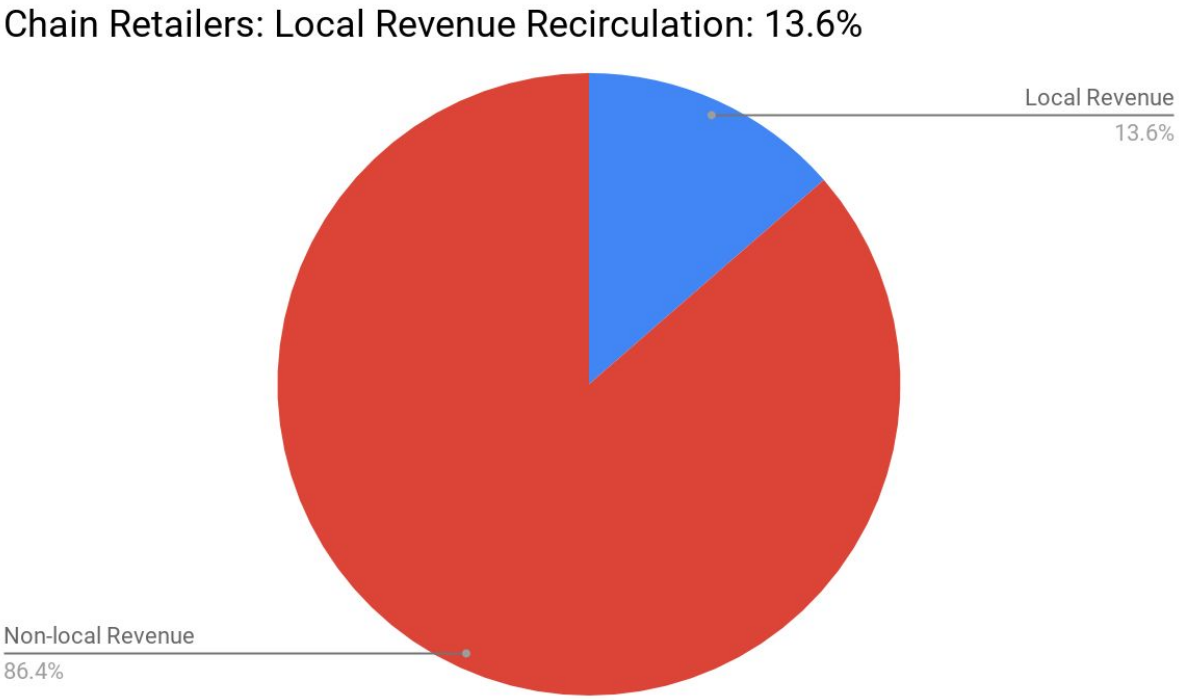
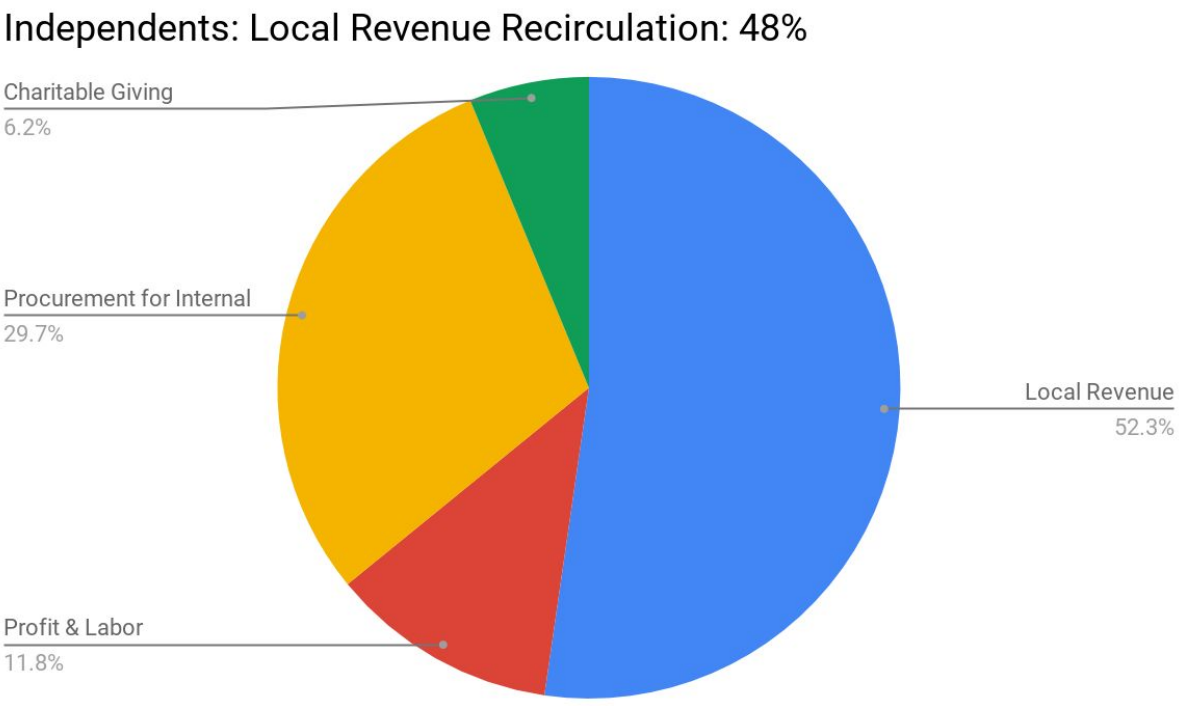
[7] American Independent Business Alliance (AIBA)
[8] American Independent Business Alliance (AIBA)
[9] U.S. Chamber of Commerce: Infrastructure: An Investment Worth Making: https://www.uschamber.com/series/above-the-fold/infrastructure-investment-worth-making
[10] Why Don't More Small Businesses Accept Credit Cards: https://www.forbes.com/sites/tjmccue/2013/08/16/why-dont-more-small-businesses-accept-credit-cards/
[11] GoPayment Survey Estimates $100 Billion in Missed Sales for Small Businesses that Deny Plastic: https://investors.intuit.com/press-releases/press-release-details/2012/GoPayment-Survey-Estimates-100-Billion-in-Missed-Sales-for-Small-Businesses-that-Deny-Plastic/default.aspx
[12] Business failure rates: why do so many small businesses fail?: https://www.simplybusiness.co.uk/knowledge/articles/2015/08/business-fail/
[13] Compiled results from nine studies by Civic Economics 2012 & American Independent Business Alliance

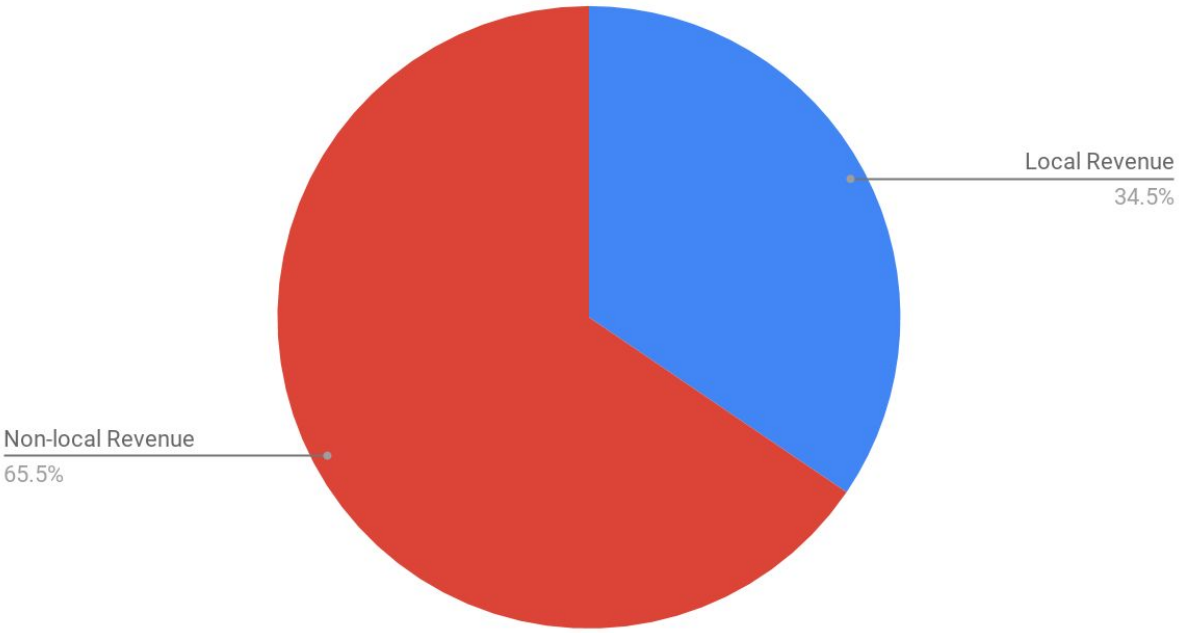




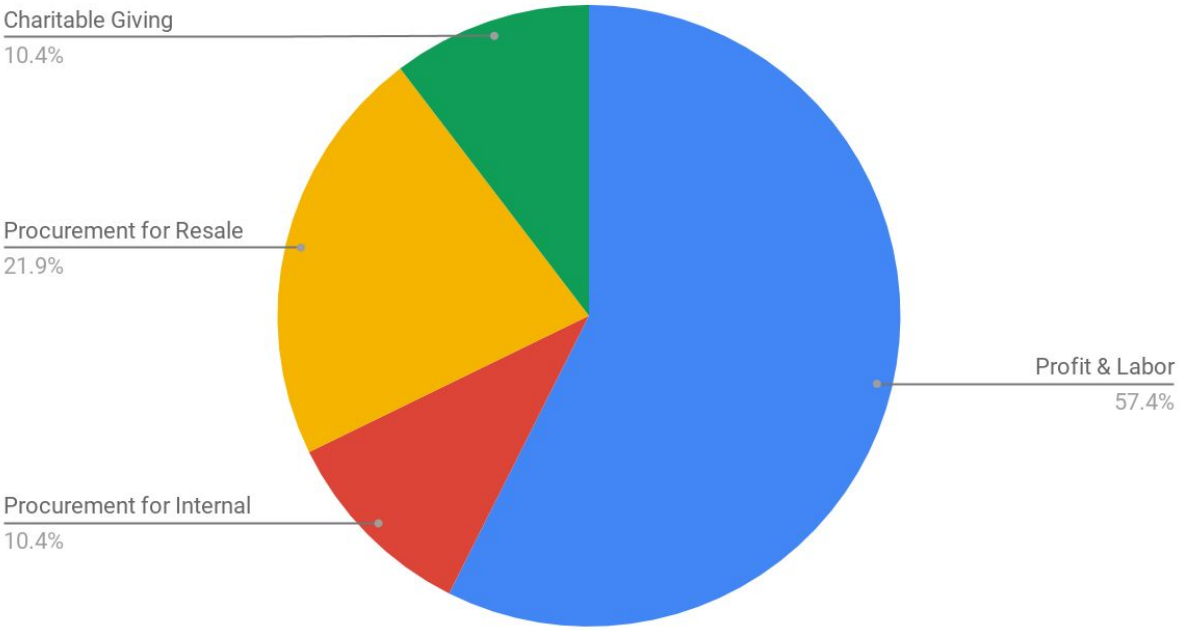
Local Benefit of Independent versus Chain Restaurants[14]

[14] Compiled results from nine studies by Civic Economics 2012 & American Independent Business Alliance

Chain Restaurants: Local Revenue Recirculation: 34.5%



Independents: Local Revenue Recirculation: 64.5%



For those businesses that can benefit from a website and / or e-commerce[15], our protocol provides a means for merchants to transact with (hire) skilled professionals with digital marketing and other relevant skills. But for most merchants, the solution to challenges of cash flow, customer acquisition, repeat transactions, etc. isn't e-commerce[16]. In either case, the answer to the cash flow challenge lies in improving the consumer's experience—in other words, removing the friction in the marketing funnel (including the transaction itself) and generating post-transaction referrals (word of mouth).

Protocol

Most protocols rely primarily on decentralization to provide benefits like transparency and availability to their networks, but they miss opportunities for shared transactions based on locale and social graph. The ultimate goal is to originate new scalable infrastructure, using mobile devices as the hardware wallet and method of transaction validation within the local social graph of token holders. This approach is not without trade-offs, but with the proper incentives, it does provide a natural means to scale based on usage. Furthermore, this model is aligned with the hyper-local vision of the protocol.

Nevertheless, our stakeholders require a practical approach in the interim. For this reason, we will initially launch the protocol using existing infrastructure, including an ERC20 token on the Ethereum blockchain. The following components of the protocol play a role in leveraging proof of stake consensus, once generally available:

1. Reputation as a proxy for stake
2. Social graph based validation sets

Aligning incentives among actors in the network requires trust. To that end, all actors can build a reputation in our network. Initially, our token will play a role in contributing stake during the cold start period of the network. Payouts on stakes would return to Balehu. In the future, network members will stake themselves using fiat currency until their reputation score reaches a level where transaction fees are low enough, or their social graph of validators is large enough (or both).

Reputation will be driven by transaction history and reviews that live in the blockchain. Network members may optionally share their reputation score and other data about their profile with whomever they choose. Access to a reputation score may or may not be required in order to

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[15] Jacksonville Business Journal: Small business lack confidence in their online presence, Web.com report shows: https://www.bizjournals.com/jacksonville/news/2017/02/09/small-business-lack-confidence-in-their-online.html

[16] CNBC: You'll be shocked to learn how many small businesses still don't have a website: https://www.cnbc.com/2017/06/14/tech-help-wanted-about-half-of-small-businesses-dont-have-a-website.html

complete a transaction. In the case where reputation score is not shared, Balehu may not stake the transaction on behalf of the network member. Reputation can be grown over time for any actor in the network. The higher the reputation score, the more Balehu will be willing to stake on a member's behalf.

The transactions themselves can be witnessed by a third party: a network member outside of the social graph of either party in a transaction. Witnessing a transaction is similar to the function of a notary in the U.S.: when a notary witnesses a transaction, he or she is compensated with a transaction fee paid by both parties in using a smart contract. The transaction then serves as an opportunity for two reviews of the witnessing party by the transacting parties. The presence of a witness in a transaction may significantly lower the stake of a transaction. Similarly, a high reputation score on either side of a transaction may also significantly lower the stake of a transaction, even without a witness.

As previously stated, our protocol relies heavily on social graph. Initially, the protocol will be unable to shard itself based on social graph; however, our long-term intent is for transaction validators to exist inside the social graph of a network member. This means that we will be able to:

- Economically incentivize network members to invite and activate new network members from their social graph;
- Shard validation activity by constraining the validation set to the social graph of the "consumer side" (demand side) of a transaction in the best case, or the merchant (supply side) in the worst case;
- Perform validations on mobile devices in near real-time; and
- Benefit from the security features of modern mobile devices to authenticate transactions and increase reputation score in real-time.

These optimizations will enable us to organically grow a validator set to match the transaction volume in a given market. Where edge cases appear (for example, the set size of a given social graph is not large enough to meet the transaction volume), the set of validators will be modified to include merchants involved in the transactions or capacity outside the social graph of the set of pending transactions. In these edge cases, validators are incentivized as if they were a member of the social graph set.

Initially, we will follow the proof of stake model provided in the Ethereum blockchain. However, our goal is to modify that model to better align actor incentives in local economies as discussed above. Other consensus algorithms and infrastructure (e.g. Eos) that support our requirements may emerge by the time we implement this portion of the protocol.

Our protocol includes the following actors and components:

Consumers
Any token holder may play this role. The consumer is the party in a transaction that is trading currency for goods and services - representing the demand side of the market.

Merchants
Merchants are small businesses providing goods and services to consumers, whether digital or traditional, retail or otherwise. Merchants represent the supply side of the market.

Notaries
Notaries are trusted third parties hired by any two parties wishing to certify that a transaction took place. Benefits of requesting a notary to witness a transaction include reduced transaction stake and the prevention of disputes.

Developers
A skilled professional capable of either contributing improvements and new functionality to the protocol itself, or creating their own applications powered by the protocol.

Skilled Professionals
Skilled professionals may be technically considered small businesses; however, in our network, these individuals or small teams provide services to merchants or consumers.

Smart Contracts
For many common use cases like crowdfunding, professional services agreements, etc., we provide starting points that consumers can use with any two network members.

Reviews
A key components of the platform, reviews are associated with both transactions and members. Reviews are used to help determine reputation, which affects stake required for transactions in the network.

Reputation
Each actor in the network develops a reputation. This score forms an index used to determine transaction fees as well as the need for escrow or a notary in a transaction.

Oracles
While not part of the protocol itself, Oracles information and utility services will be made available for Developers to simplify the development of decentralized applications.

Objective

To enable frictionless commerce at a hyper-local level. We believe that blockchain-based protocols already possess the attributes required to make transactions censorship-free, fraud-free, secure, and protected from third party interference even across borders. However, the attributes of blockchain-based protocols alone don’t address the practical matters that align actors in a network and drive outcomes for our communities at scale. As such, a new protocol is required to address the challenges we have identified.

Value Proposition

Balehu offers a protocol designed to impact the communities in which we live. It carries its own intrinsic value, and merits support across generations. In other words, if our protocol improves the lives of network members in a sustainable way, there would be no need for that protocol to be retired or replaced. In fact, similar to Maslow's hierarchy of needs, higher order opportunities for improving the human condition in communities would become the focus.

Why Blockchain?

We feel strongly that no mechanism that facilitates the alignment of economic incentives in local economies currently exists. In the case of commerce, we know that small businesses are the foundation of our economies; yet we have no means to support them because there is no way to align economic incentives among stakeholders that can impact the status quo. As a result, there is no consumer loyalty program, new marketing process or technology, or social awareness campaign that can affect the change we feel is necessary.

The path of least resistance is often the best approach. Blockchain technology allows us to create a network with incentives that require no change in an actor's behavior. Instead, a blockchain and token shift current actor behavior into outcomes that are sustainable and add value to the network's members.

Nevertheless, blockchain in and of itself is not enough, which is why we plan to implement additional functionality which securely and scalably operates on personal mobile devices. The security and computational power of today's mobile devices complement both the needs of our network and the experience of today's consumers[17]. A transparent, decentralized, verifiable transaction history provides security, privacy, and high availability.

The creation of a single token for commerce (BAL) will enable us to economically incentivize actors toward actions that sustain and grow the network. By creating incentives that support small businesses (merchants), we can positively impact our communities in numerous ways, all of which grow the network and add value for its members.

All Balehu token holders must have a unique wallet that is created during onboarding. Only the token holder has access to their wallet, and therefore no one other party may perform financial transactions on their behalf. A Balehu token holder may wish to keep their tokens in their Balehu Wallet, or store them off-network and manage their public and private keys. Transactions made by token holders are encrypted and recorded in the blockchain. User wallets are also encrypted, and their association with user profiles is minimized for privacy. Only the developers of the

[17] The 4 Best Phones for Privacy & Security:
https://smartphones.gadgethacks.com/how-to/4-best-phones-for-privacy-security-0176106/

Balehu can identify wallets connected to the network in cases of troubleshooting. All personal user data, including passwords, emails, and wallet IDs, is encrypted. This protects token holders from security issues. Balehu respects privacy, and does not sell any information to third parties (including advertising companies). In an effort to protect user accounts, Balehu strongly encourages the use of two-factor authentication for account access.

Use Cases

Currency for Daily Use
Token holders may redeem tokens for goods and services at participating Balehu merchants, as well as exchange them with other members. Additionally, token holders will be able to trade them externally on cryptocurrency exchanges.

Reduced Transaction Fees
With the flexibility to pay for a purchase in part or whole with Balehu tokens, merchants enjoy a reduction in credit card processing fees. Merchants are encouraged to recommend the use of Balehu tokens as the exclusive method of payment.

Transition from Cash-only
Nearly 55% of the 27 million small business owners in the U.S. do not accept credit cards as a form of payment[18]. For merchants that do not accept digital currencies as a form of payment, Balehu provides a significant growth opportunity.

Peer-to-Peer Transactions
Like agreements and invoices today, smart contracts can be based on provided templates to facilitate peer-to-peer transactions. Similar to the role of escrow, the funds for an agreement are held in the smart contract until the agreement culminates (i.e., a statement of work is completed). Neither party has to fear either the delivery of the work, nor the receipt of funds after work is complete. The party delivering the work would then pay the transaction fee for the smart contract (essentially an escrow transaction fee).

Fundraising
Smart contracts may be used to raise funds from “a crowd” of consumers. Unlike traditional financing, the terms of the fundraising can be based on templates that are provided via the Marketplace app, without an intermediary. Each participating token holder would be charged a transaction fee to contribute to fundraising, and the recipient of the proceeds would be charged a transaction fee based on the terms of the smart contract. Example fundraising scenarios include:

- Small business loans

[18] McCue, T. (August 16, 2013). Forbes.com - Why Don’t More Small merchant Accept Credit Cards: https://www.forbes.com/sites/tjmccue/2013/08/16/why-dont-more-small-merchants-accept-credit-cards/

- Charities and nonprofits
- Community projects

Consumer Loyalty & Rewards

Balehu tokens encourage impulse purchases, which account for 30-70% of sales[19]. With 2017 consumer spending in the U.S. at over $47.5 trillion, and using the conservative figure of 30%, approximately $14.2 trillion was spent on impulse purchases in 2017[20]. 90% of consumers will purchase an item they did not initially plan to purchase. In the case of Balehu merchants, a a customer who has Balehu tokens has a 40-70% chance of using their available tokens to make a purchase[21].

Research conducted over a three-year period shows that 80% of millennials participate in loyalty reward programs. Among millennials, 45% will utilize coupons and loyalty points when available, which represents a meaningful growth opportunity for Balehu merchants. Furthermore, nearly 52% of millennials prefer to use their mobile devices to take advantage of loyalty rewards applications[22]. Millennials represent the largest generation in U.S. history at 92 million, and they are in their peak purchasing years. Balehu is uniquely positioned to provide the purchase experiences millennials expect. The total estimated spend by U.S. merchants on customer loyalty rewards as of 2015 stands at $16.1 billion[23], but those programs have failed to deliver for small businesses. In fact, the average consumer today joins up to 30 loyalty programs on average, yet 76% of them do not use their incentives[24]. That represents billions of dollars that merchants invest without a return. To make matters worse, there's no easy way for consumers to keep track of the benefits that they're missing.

Classifieds

Classified listings suffer from a lack of trust due to their lack of a reputation system, as well as friction in the transaction process. The Balehu Marketplace app and token ameliorate these challenges. Our aim is not to replace existing marketplaces like Craigslist; rather, the goal is to take advantage of multi-tenancy in this industry. In other words, merchants and consumers frequently use multiple marketplaces for transacting. Rather than becoming host to the these transactions, our focus is on simplifying them, thereby making local commerce easier for small businesses and consumers. This approach of adding value to the transaction itself in exchange for a transaction fee is consistent with our business model. Balehu's smart contracts can also

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[19] Gaille, B. (May 22, 2017). 19 Dramatic Impulse Buying Statistics: https://brandongaille.com/18-dramatic-impulse-buying-statistics/

[20] United States Consumer Spending 1950-2018: https://tradingeconomics.com/united-states/consumer-spending

[21] Customer Loyalty: The Ultimate Guide by Sophia Bernazzani

[22] Carter, B. (June 19, 2017). Millennial Loyalty Statistics: The Ultimate Collection: http://blog.accessdevelopment.com/millennials-loyalty-statistics

[23] Intellective Group, St. Louis, Missouri (July 2016). Incentive Marketplace Estimate Research Study: http://www.incentivefederation.org/wp-content/uploads/2016/07/Incentive-Marketplace-Estimate-Research-Study-2015-16-White-Paper.pdf

[24] Code Broker, The Nielsen Company

create more trust in the transaction, providing escrow functionality or even adding a notary to the transaction. This approach creates a process for preventing disputes, rather than building a team to manage and resolve them.

Entertainment
From purchasing tickets at a box office, to entering a venue, to visiting onsite merchandise or food and beverage vendors, public events like concerts and sporting events have many queues. By simplifying the transaction process at these touchpoints, we can improve the consumer's entertainment experience. The entertainment space is vast, so we will continue to research the best points of entry. Given the capabilities of Growth, this area is likely to be one of the largest revenue centers.

Marketing
Consumers in the Balehu network can be surveyed to provide information merchants can use in targeting and personalization for activities like advertising campaigns. Consumer reviews, demographic information, purchase history, etc. can be purchased directly by the merchant, rather than a third party. Consumers are more likely to trust local brands with personal information that improves their experiences.

Functionality

Applications powered by the protocol have a decentralized foundation and enjoy the benefits that foundation brings. As an operating system for local commerce, we allow third parties to create innovations beyond our core suite of functionality.

Wallet

Today, most smartphones are equipped with personalized security, cryptographic technologies, [25][26] and enough processing power to rival laptop computers. Now is the time to leverage the accessibility and capability of these devices as the foundation for a shift in commerce. Balehu will be available on smartphones and will take advantage of features like Face ID (available on Apple's iOS) to help secure a network member's wallet. Along with the hardware that our target consumers already have in their wallets will be methods of backup, e.g. offline codes that can be documented on paper or the like, so that their data and token can be recovered or migrated to a new device.

By default, personal information is not available to other network members. All technology on the platform functions with complete anonymity of the network members. Network members may choose to share information in their profile in order to improve the experience and the

[25] About Cryptographic Services: https://developer.apple.com/library/content/documentation/Security/Conceptual/cryptoservices/Introduction/Introduction.html
[26] Encryption: https://source.android.com/security/encryption/

protocol. Balehu cannot sell any information to third parties because there is no individually identifiable information.

Because applications are dependent on a unique device and its native functionality (e.g. Face ID) for security purposes, the existence of fake users on the network is very unlikely. In order to take action in the network, a bad actor must not only pass a secure setup and onboarding process, but also steal the identity of an actual person. While this scenario is not impossible, it is far less likely than identity theft scenarios common today. Every wallet requires the setup of a paper recovery system, such that in the event of the loss of a device, a new device can be set up, new recovery codes created, identity verified, and wallet restored.

The Marketplace app will provide point-of-sale and peer-to-peer transaction functionality using QR codes and a seamless integration with the Wallet. In the future, a debit card will complement the protocol, providing an alternative to a mobile device at point of sale.

Other key app features and functionality include:

Currency Balance
The wallet will initially focus on two currencies: Balehu Coin and the local fiat currency. Once the Balehu Exchange is generally available, the balance of either currency can also be managed directly in the wallet once the Balehu Exchange is generally available.

Additionally, the wallet will show the estimated amount of currency that has been redirected back into the local community by the token holder and their social graph.

Exchange Rates
Even if the buying power of the token should suffer from enjoys low volatility, network members' ability to see the average exchange rate in real-time will help them understand the value of the token vs. their local fiat currency.

Transaction History
All attributes of a transaction are available to the user for review, including amount, transaction status, merchant, data / time stamp, etc.

Receipts
Receipts are one of the ways that high quality goods and services can be reviewed and shared with others inside a token holder's social graph. Receipts contain an itemized list of purchased items, as well as personalized offers from merchants.

Sharing of offers or experiences with a consumer's social graph increases reputation

score when token holders in their social graphs make subsequent purchases.

Reputation
Token holders can leave reviews for merchant goods and services, or review any other in-network transaction. Any posted reviews can also be viewed along with their reputation score.

Reputation can also be improved by increasing spending with local merchants, developers, or skilled professionals.

Taxes
The network's exchange rate at the time of transaction, as well as the public key of the actors in a transaction, are logged for the benefit of the transaction. The token holder can submit any tax documents to the relevant authorities with ease so as to remain compliant with local or national regulations.

The remittance of applicable local taxes also contributes to reputation score.

Multi-factor Security
Most mobile devices include proprietary security features. The wallet will support these, along with device-agnostic security methods, to ensure that the actual owner of the device is in possession of the currency and personal data.

Marketplace

The marketplace app is designed to be the destination for merchants and consumers to perform the use cases the protocol supports. Merchants will integrate their existing business systems with Balehu in order to benefit from the marketing and sales functionality that Marketplace provides. Consumers, meanwhile, will enjoy personalized incentives and experiences from local merchants. The Marketplace app seamlessly integrates into the token holder's Wallet.

Discover
Consumers can use a map and current location, or perform a criteria-based search to identify new merchants, special offers, etc. Consumers can also follow friends in their social graph, merchants, industries, or even neighborhoods to further personalize their experience. Based on behavior and any data a consumer is willing to share, the app will make recommendations about offers and experiences they may enjoy. Additionally, offers or experiences that other token holders

Account Management
Consumers can manage which personal data from their profile is shared with merchants during point of sale or in order to take advantage of promotional offers.

Example(s):

1. A merchant may incentivize past customers to share their purchase history in order for the merchant to make special offers to drive repeat

(in or outside of their social graph) chose to share may be reviewed.

To further personalize a member's experience and grow economic incentives, the Marketplace will suggest fellow consumers you may know who are not yet activated.

Example:
Marie, a consumer, makes several purchases in her neighborhood. The following week, Marketplace sends a push notification suggesting various relevant experiences another consumer, Karen, has enjoyed. Marketplace then personalizes an offer for Marie. After Marie purchases the recommended offer, her social graph is notified about her review of the experience.

Group Shopping
The combination of delivery from local merchants and the ability to order using a group of friends is a novel experience not otherwise available to consumers.

Example:
Joe's Grill, a merchant, can offer a special discount to token holders within a square kilometer of their restaurant if and only if more than twenty consumers claim the offer and patronize the restaurant by a certain time of day. This group purchase would fill the Joe's restaurant, with each token holder placing their respective order and receiving the promised discount.

purchases.

2. A merchant may incentivize consumers to share their reviews, so that merchants can better understand personal preferences and tailor offers for the consumers.

Inventory Management
Merchants can enable e-commerce functionality in the Marketplace app using supported integrations with inventory management systems. Additionally, inventory can be created using the app in order to benefit from the other Marketplace functionality.

Example(s):
1. Marketplace recommends a liquidation sale based on the age and amount of a good currently on hand. A template campaign is also included in the recommendation. The merchant (or a skilled professional engaged to manage the campaign) may then customize and launch that campaign.

2. A local farmer prepares promotions for the week by taking videos of her fresh produce using the Marketplace

app. In a few minutes, the inventory can be added via the app, and the Merchant is ready to use Growth to promote the video and offer to new and repeat customers.

Customer Service
Merchants can engage customer questions and, optionally, enable an artificial intelligence-powered customer service bot to provide recommendation and transaction support if the merchant has the relevant integrations. Consumers can interact with bots using Facebook Messenger, SMS, and other apps they already use.

Example:
Late one night, Ryan, a consumer, wants to know whether his local convenience store has cereal in stock. He opens Marketplace, selects the nearest convenience store, and is able to initiate an on-demand chat with a customer service bot, which has access to inventory. He then purchases the cereal in advance. Later, bot confirms that the cereal is in stock, and when Ryan is walking by the store, a push notification reminds him to pick up his order.

Reporting
Merchants will be able to review, analyze, and export a sales history to generate insights about consumer purchase behavior for their business.

Example:
Anna, a merchant, has been experimenting with some Growth campaigns for her restaurant. The advertising report helps her understand (anonymously) where her customers live and what their demographics are. Based on this information, the report suggests tactics for incentivizing customers to return, surveying past customers for more personal information to improve her offers, and attracting new customers.

Reviews
Only a token holder can review another actor in the network. While reviews themselves cannot be sponsored, validators are compensated for validating (signing) reviews. As in any network, all token holders have a reputation. Those with poor reputations may incentivize others to transact with them and deliver value in order to improve their reputation. As with networks like LinkedIn, those who unfairly review others can be conspicuously observed because reviews given and received, along with number of

Promotions
Consumers can discover special offers using the promotions feature. Merchants may take advantage of email, push notifications, or text messages in order to reach a consumer on their preferred medium. Various programs and offers are available for merchants to choose from using the Growth app.

Example:
A merchant may choose to implement a referral program. Consumers can share an offer with their social graph and earn a

transactions witnessed, are available in profiles. Reviews may also be signed by third parties. In this way, reputation behaves similar to stake, representing an actor's future behavior. Networks like Yelp and TripAdvisor struggle to generate consumer reviews; Balehu, on the other hand, is able to incentivize them.

Example:
A consumer visits a local restaurant and enjoys a meal with family. Once the consumer leaves the restaurant and isn't driving, Marketplace sends a push notification asking the consumer for the review. The restaurant has a special offers for reviewers, so the consumer is excited to have a discount off a future meal. The consumer submits a review, and a family member notarizes that review. The merchant has incentivized both of these actions, and the participants have staked their reputations on these actions.

Point of Sale & Wallet Integration
The hardware wallet is seamlessly integrated into Marketplace, enabling consumers to transact using their currencies at point of sale or via e-commerce, if supported.

Example:
Marketplace can be used on a mobile device at point of sale to capture transactions and either educate the consumer on the product being purchased, or incentivize them to make a repeat purchase with a personalized offer that's transmitted to the consumer's app. Once a transaction is complete, Marketplace may also incentivize a consumer review and update the inventory on hand to support supply chain management and ensure consumer experience.

transaction (referral) fee when their friends purchase.

Developer
Third party apps created by developers may be made available for use either inside the marketplace app. or as a standalone native app on Android or iOS operating systems.

Example:
A developer creates an app for consumers that identifies reviews on the Balehu network that enhance discovery for other consumers. Balehu would leverage the usage and reviews data of that app to determine which were featured in the Marketplace app as useful experiences for token holders.

Cart Abandonment
For supported merchant services platforms, Growth can create personalized offers for items that were browsed, but not purchased.

Example:
A consumer visits a merchant website or their Marketplace store. Items that were saved for later or added to cart can become the subject of a personalized promotion. In the near future, the consumer receives a personalized offer in the Marketplace app which drives the consumer to transact at point of sale or have the item delivered to their home.

Subscriptions
To generate predictable cash flow and convenience for the consumer, merchants can offer to subscribe consumers to goods and services (powered by smart contracts). Consumers can manage their subscriptions in the marketplace app. Consumers may choose to collect their goods, have them delivered using Gig, have the merchant ship them.

Example:
A consumer can subscribe to eggs from a local farmers market, and a Gig professional can deliver them on a weekly basis (with preferences managed by the consumer in the marketplace app). In a single transaction, the consumer can pay both the farmer and the delivery person, or the farmer can hire the delivery person and directly offer a subscription to consumers.

Offline-to-Online Buying
To grow cash flow and offer convenience to consumers, merchants can offer to ship previously purchased items to consumers.

Example:
Similar to subscriptions, a consumer can take one step short of this commitment and simply add convenience to shopping for items they already enjoy. Using Marketplace, past purchases spanning multiple merchants are available for purchase and scheduled delivery.

Upsell / Cross-sell
Special offers can be made in real-time or in the future to consumers based on recent purchase history. Merchants can create bundles that enable personalized recommendations of related goods and services consumers should buy based on past purchases.

Example:
Andy, a consumer, buys toothpaste every three weeks for a nearby convenience store powered by Balehu. After six months, Marketplace suggests 20% off of a selection of toothbrushes and an alternative organic toothpaste that is slightly more expensive than the brand Andy normally buys.

Notary
For a fee (shared by both parties in a transaction), notaries can be requested to

Taxes
Following local regulations, merchants can collect sales tax and other taxes

witness a transaction. Notaries can be any network member outside of the immediate social graph of any two transacting parties.

Example:
A merchant hires a professional developer to build an e-commerce website her retail store. The developer would create a smart contract for an agreed-upon statement of work. Upon delivery of the website, the notary would confirm completion of deliverables and sign the smart contract, releasing tokens held in escrow.

automatically using Marketplace. Taxes can be collected in either fiat currency or tokens, which can be converted for free for this purpose. Merchants can specify the business rules in their markets.

Example(s):

1. An office manager joins Balehu following an invitation from friends. She frequently makes personal and business purchases using the promotions available to the network, including deliveries. At the end of the month, Marketplace sends her a push notification asking her to confirm the categorization of her purchases (business or personal), so that she can ensure that her annual tax documents accurately reflect business and personal expenses.

2. In a hypothetical market, a consumer makes a food purchase at a local store. Later, the consumer decides to have the same meal delivered one Saturday for lunch. In the first transaction, a sales tax is collected based on the subtotal of the transaction. However, in the second transaction, no sales tax is legally required because the transaction occurred via the internet.

Growth

Merchants spend the majority of their day serving consumers or preparing to serve consumers. Any free time they have available is never enough to focus on growth activities for their small businesses. Typically, the skill sets and experience needed to perform those activities at scale is not the passion of the owner / operator.

Equally important, consumers are always ahead of merchants in adopting new ways of interacting with their world, which includes shopping experiences. The Growth app exists to

bridge the gap between the strengths of the merchant and the desired experiences of the consumer. Skilled professionals and developers add additional value to this opportunity as well.

The Growth app focuses on several aspects of revenue generation:

Marketing

- Brand Awareness
- Customer Acquisition
- Consumer Education
- Customer Loyalty (Repeat Purchases)
- Social Media
    - Word of Mouth Referral

Sales

- Salesperson Enablement (Pre-Sales)
- Inventory Management

Growth contains several key capabilities. Either the merchant or a skilled professional can action these capabilities as needed to drive outcomes.

Campaigns
Campaigns are targeted marketing activities that can be manually or automatically performed on behalf of a merchant to drive growth. Campaigns can be performed on the web using email, SMS, push notifications, social media, and display advertising.

Merchants can use Templates to determine which outcome they desire from a campaign. Campaign targeting can be performed with numerous consumer behavior criteria including, but not limited to:

- Location (current, past, predicted, proximity to a point of interest)
- Reputation
- Purchase History
- Preferences
- Social Graph
- Demographics

Using campaigns, merchants can incentivize consumers to transact using a variety of tactics. For example:

- Sending tokens (similar to gift cards) to prospective consumers, which can only be collected at point of sale or with other restrictions (e.g. reputation score);

- Offering discounts for a limited time;
- Personalizing pricing for consumers based on specific criteria like purchase history;
- Using web advertising to drive brand awareness within a specific demographic or other target criteria;
- Geo-fencing offers to create scarcity;
- Limiting the number of token holders that can claim an offer;
- Referring a token holder's social graph network;
- Dynamically lowering pricing when groups of consumers purchase within a given time window;
- Surveying token holders for (anonymized) demographic information (used to improve relevance offers).

Campaign content can include live streams of information about available products and services. Our goal is for merchants to be able to use their mobile devices to build relationships with local consumers to drive new and repeat business.

Templates
Growth templates are similar to recipes that can be followed by merchants themselves, skilled professionals from the Gig network, or Balehu's Merchant Success team. Balehu will originate new templates over time, following its go to market strategy, which calls for a focus on individual industries and markets in a stepwise fashion.

Insights
Business reporting and analysis are exactly what merchants need to understand the drivers of growth. The Balehu Merchant Success team and / or skilled professionals from the Gig network will work with merchants interested in converting insights into action. The reports available will vary by industry, and include marketing, sales, supply chain, and employee performance. Integrations with popular software tools mean that we do not need to recreate adopted solutions; instead, we intend to leverage data provided by those solutions to make action possible.

Gigs

A network of skilled professionals, ranging from delivery to scientific research, will be available through Gigs, our classifieds app. Our focus is not on reinventing the popular classifieds sites that currently exist; however, because we know the needs of small businesses, we can partner and integrate with existing classified solutions to increase our reach and satisfy the demands of the network. Professionals in the network can participate in the actioning of templates that support growth initiatives for small businesses. The Gigs network can be used by any member of the network.

The data obtained from usage of the classifieds and transactions that we facilitate will be used to improve the templates available for Merchants.

Academy

Education is a key component of success. The academy contains resources for merchants, developers, and consumers to add value to their operations, offerings, and experiences, respectively. Portions of this content are accessible exclusively by network members, and may be edited via moderated wiki workflow. The reputation score of contributors will impact whether or not edits are accepted. An email newsletter for each of the audiences will be available on a per market basis (as appropriate).

Exchange

A decentralized exchange is one of the key apps available to our network. Although the initial iteration of the exchange may be based on existing infrastructure like 0x or DEX, our ambition is to create our own exchange, with functionality optimized for local commerce. This may require forking existing projects, rather than originating entirely new research implementations.

With the exchange, network members may trade fiat for tokens and vice versa, at point of sale or otherwise.

Usage of the exchange requires token holders to comply with local tax laws. Relevant documentation will be provided on demand.

Third Party Apps

Developers who release new applications powered by the protocol may earn tokens in exchange for the value they've added to a network member's experience. Because of our simple interaction model and single token, developers are able to build new innovations on the protocol without introducing a new virtual currency to end users in order to create network effects or gamify their revenue model. Developers that share the goal of democratizing value for network members can utilize the same transaction model that the "core" protocol applications do as "first class citizens." This value proposition is unique to our network. Typically, developers have to create their own interaction models, revenue models, and currencies in order to succeed.

Token (BAL)

BAL is a new cryptographic token initially being issued on the Ethereum blockchain following the ERC20 token standard. The Ethereum blockchain is currently the industry standard for issuing custom digital assets and smart contracts. The ERC20 token interface allows for the deployment of a standard token that is compatible with the existing infrastructure of the Ethereum ecosystem, which includes development tools, wallets, and exchanges.

Blockchain alone has many benefits; however, our network includes a token because we believe that a protocol with a decentralized currency component enables us to align incentives around shared benefits for local communities. This alignment is the remedy for the challenges of small businesses and the poor experiences consumers have in local marketplaces today. Our network's growth is not determined by the volume of transactions or transaction velocity. Instead, it's determined by the number of merchants that have joined the network. The inflationary model of our network would otherwise be highly susceptible to volatility if, for instance, speculators liquidate large amounts of tokens, or the metric that determines network health were in any way tied transaction-based metrics. To avoid this, we focus our accountability on the number of merchants who have joined the network, slowly inflating the currency as more merchants benefit from functionality of the protocol.

Given our thesis, the number of activated merchants metric is the best index for network growth. Transaction volume will vary based on industry, market, season, strategy of the merchants, and behavior of consumers in a market. As a result of this complexity, we focus instead on growing the number of active merchants in a market using the Balehu protocol. We are comfortable with this assumption because merchants that add value will remain in business over time (generating transactions all the while). Transaction volume varies for numerous reasons, and is not a healthy metric for the network. If Balehu saturates a market, region, or country, the appreciation of the token will plateau during those periods. As we enter new markets, there will be a positive shift in token value. In this way, the merchants activated metric behaves like an index independent of practical matters like seasonality, which would otherwise negatively impact consumer buying power in certain locations and at certain times of year.

Directly tying the token value to goods and services means that consumers always understand the practical utility of the token for daily use (and therefore do not perceive it as primarily a store of value). Similar to fiat currency, spam is unlikely because no token holder would intentionally waste their currency due to its value. Furthermore, the use of a single token for the entire network, rather than dynamically creating tokens on a per-merchant or per-initiative basis, simplifies the interaction model for all use cases. For example, loyalty and rewards systems today lack portability, practical utility, transparency, and merchant control. Using a single token for other use cases including cash, discounts, gift, travel and entertainment, etc. means that consumers do not have to worry about exchange rates, which is currently a problem across consumer loyalty rewards networks today. Merchants, rather than third parties, can determine the price of goods and services, along with economic incentives available in promotions. Merchants can also drive demand by creating scarcity through promotional offers with a currency that is easy for consumers to use.

Because voting utility of the token is tied to transaction volume, investors cannot manipulate the protocol's roadmap, nor can they manipulate the value of the token without becoming consumers (transacting). As a result, investors are left with the same incentive as any other token holder to activate more merchants and drive more consumers to transact with them. This novel approach aligns all actors in the network. Furthermore, a key result of this model is that

large shifts in token custody (i.e. mass liquidation of the token) cannot affect the index metric (merchants activated). As such, investors would have little to no practical impact on the purchasing power of other token holders if they were to liquidate tokens.

Tokens may change custody in the following scenarios:

- Consumers purchase tokens with fiat currency
- Consumers gift tokens to one another
- Skilled professionals render services
- Notaries witness transactions
- Validating transactions or reviews
- Posting new reviews
- Transactions including smart contracts and escrow
- App usage (Balehu or Third Party)
- Marketing campaigns
- Inviting members of one's social graph to the network

Utility

Voting
The role of voting in the protocol is used to prioritize functionality improvements to the platform. The weight of a token holder's votes is determined by the number of transactions made in a period of time. The roadmap will be available, and authenticated token holders may use their votes to demonstrate their support of or contribute new ideas to the roadmap. The weight of votes cast for tasks in the roadmap may vary by period of time, allowing for the period of time to be adjusted to offset the effect of early adopters on voting at any given time. Tasks will be organized by application and actor. We assume that most token holders play multiple roles in the network; as such, their allotted votes may be used in each area of the roadmap. Time windows for casting votes will be communicated to all token holders, and the results will be public. This approach to voting ensures that cryptocurrency speculators, who may own many tokens, cannot influence the roadmap of the protocol, nor the value of the token at liquidation events.

Go to Market Strategy

Balehu will become the means of local commerce. Historically, companies that have succeeded in building network effects in a two-sided marketplace become category leaders in their niche. Balehu has the seminal ingredients to do the same by using economic incentives in a novel way. The protocol, the business model, and the economic incentives of the token create viral effects that drive acquisition of all actors into the network, creating a virtuous cycle. Through this cycle, consumers have their needs met, and insights from consumer behavior enables the protocol to sustain those effects.

By targeting specific industries in key markets, we can begin to grow the value of the network in a manner consistent with Metcalfe's law[27]. Within communities of consumers in each market, we benefit from Reed's law[28] by economically incentivizing consumers to activate one another across their immediate social graphs. In essence, our protocol and token drive viral behavior and localized network effects at scale.

While it's true that some incumbent merchant solutions benefit from a physical network effect (e.g. Point of Sale platforms), our use of mobile devices for processing transactions means that we need not replace current solutions, as compatible mobile devices[29] have saturated target markets already. Moreover, our approach to penetrating the market doesn't require merchants to change their operational software stack. Instead, our product strategy calls for integrating with the tools currently in place in order to drive growth functions (sales and marketing) in the protocol. In the future, we may identify opportunities to introduce more functionality into the protocol and compete with the existing solutions in the market, provided those initiatives would create more value for network actors and more transaction fee revenue for Balehu.

For consumers, the "daily use" model that local commerce provides is another dimension of beneficial network effect. Rather than blanket a country all at once, we can layer these effects on one another, resulting in strong network growth and defensibility. We manage identity, currency, and experiences for consumers without compromising privacy, custody, or security. This level of personal utility is ideal for consumer retention. By incentivizing consumers to invite their social graph to the network, we increase the cost of leaving because the network is comprised of real relationships. Furthermore, reputation score, personal preferences, subscriptions, and other utility exist exclusively within the network.

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[27] Metcalfe's Law: https://en.wikipedia.org/wiki/Metcalfe%27s_law
[28] Reed's Law: https://en.wikipedia.org/wiki/Reed%27s_law
[29] Statista: Smartphones in the U.S. - Statistics & Facts: https://www.statista.com/topics/2711/us-smartphone-market/

In the 1980s, malls in the U.S. demonstrated that aggregating competition drove growth for merchants[30]. The Balehu protocol and app consumer experiences will drive a similar renaissance in growth for small businesses. In terms of balancing supply and demand curves, we are not concerned about having insufficient merchants or consumers because any actor can activate any other actor in the network, and the Wallet supports fiat and token currencies. For example, a consumer can walk into a store that doesn't yet accept Balehu tokens and make a purchase simply by using our credit card (in the future), or by asking the merchant to open an account and later perform an onboarding process to claim their wallet (and sales revenue) post-transaction. The inverse is also true, and consumer onboarding is equally trivial. Once the mobile app is installed, account verification and wallet creation are performed with an easy wizard.

One of the most novel aspects of the protocol is that the more merchants and consumers that join the network, the better the performance and experience of the network. For example:

- Transactions are validated faster as consumers invite their social graph to the network
- Merchants can better target offers and promotions as more transactions and consumers are added
- Consumer discovery improves with transaction and merchant volume
- Transaction fees decrease as a consumer adds to the network through reviews, notarizing transactions, inviting their social graph, etc.

Over time, consumers will realize a tangible benefit from transacting in their local communities, causing a social network effect. The protocol provides real-time feedback about the impact of a consumer's social graph on their community. Our ambition is that, with the various community-oriented use cases, we can see consumers compete for the magnitude of impact they have on their community.

The protocol and its token provide numerous incentives in the network:

- Merchants desire inexpensive tools that do not require them to replace existing software stack and involve no switching costs
- Consumers desire to activate their social graph because they are economically incentivized to validate peer transactions as a set (group)
- Developers desire access to the growing inventory of merchants and/or consumers
- Skilled professionals desire to add value to growing merchants

The viral aspects of the network include the following scenarios:

- Consumers may activate merchants

[30] International Council of Shopping Centers: 2013 Economic Impact of Shopping Centers: https://www.icsc.org/uploads/default/2013-Economic-Impact.pdf

- Merchants may activate consumers
- Service providers may activate merchants
- Developers may activate consumers
- Developers may activate merchants

Partnerships with the following types of technology providers is among our go-to-market strategies:

1. POS Platforms
2. Merchant Gateways
3. Transaction Processors
4. Inventory Management Systems
5. Loyalty Rewards Providers
6. Messaging
7. Marketing Platforms
8. CRM Providers

Target Demographics

Balehu targets local merchants, consumers, and communities.

- Merchants: The 29.6 million small businesses in U.S.
- Consumers: Those actively using a smartphone. Ideally post-college graduates, ages 21-40, who have an income of over $55,000, primarily within professional, dense, urban settings.
- Communities: Towns and cities worldwide with a population greater than 20,000.

Revenue Model

Balehu generates revenue via transaction fees. Our usage-based model, coupled with the economic incentives of the network, means that a virtuous cycle exists even at the beginning of the network.

- **Marketing Campaigns**
  Merchants are charged transaction fees (% of spend) for impressions, or clicks, or e-commerce conversions in advertising promotions. A high level of utility exists in effective digital marketing activities; however, rather than simply follow the industry standard and charge some percentage of what the ads may cost (outside of our network) in addition to a subscription fee for our technology, we will offer tiered fees for merchants for in-network advertising, as well as tiered fees above the out-of-network fees. Our costs will appear in campaign reports.

- **Payment Processing**
  Traditional credit card transaction fees can be up to 3.75%[31]. Whether e-commerce or point of sale, the Balehu transaction fee will be as low as 0.5%, which is extremely competitive. In peer-to-peer scenarios, fees are also far lower than industry averages. Refunds result in the reversal of transaction fees.

- **API calls**
  Third party developers may create innovations using the protocol and take advantage of APIs, oracles, and other services. Use of these resources carries tiered transaction fees.

- **App Usage**
  Use of merchant-focused functionality in Balehu apps will carry usage-based fees that can either be purchased in bulk as a single transaction, or charged on demand.

- **Smart Contracts**
  Smart contracts are transactions with more complex business logic than a trade of tokens from one party to another. Smart contract transaction fees are higher than e-commerce or point of sale fees. The use of escrow or notaries carry additional transaction fees for smart contracts. Typically, the supplier (merchant) is the party that remits transaction fees.

  Examples:
    - Statement of work for a Gigs agreement

[31] Value Penguin: Credit Card Processing Fees and Costs: https://www.valuepenguin.com/what-credit-card-processing-fees-costs

    - Escrow transaction for a classified ad

- **Brokerage Fees**
  The exchange will process trades in and out of network, bank transfers and other operations related to token custody. Each of these transactions will carry a nominal fee.

The transaction model includes the following scenarios:

- Consumers may be incentivized by Balehu via transaction fees (savings) for activating merchants
- Consumers may be incentivized by Balehu via transaction fees (savings) for activating their local network
- Merchants may reduce transaction fees by incentivizing consumers to use their social graphs to validate transactions
- Consumers (peers) sharing a social graph are incentivized to validate each other's transactions
- Merchants are incentivized to validate orphaned transactions when a consumer's social graph fails include the transaction
- Validating a merchant or gig review carries payout to participants (merchant and original reviewer) paid by merchant
- Token holders can be paid for acting as a notary (witnessing a transaction)

Risks

The risks associated with purchasing tokens in an ICO such as Balehu are both known and speculative in nature. While this list is not intended to be comprehensive, here are some of the common challenges we will face:

Immaturity of the Ethereum Technology
The Ethereum blockchain is at an early stage of development, and it is not fully known whether it will be able to sustain long-term operation of large-scale D-apps such as protocol. As recently as June 2017, the Ethereum blockchain experienced significant delays in processing block transactions due to extremely high volumes associated with similar token sales around that time. It is not certain whether the Ethereum development community will resolve these technical issues in the future.

Unknown Impact of Proposed Changes to Ethereum
The Ethereum Foundation has laid out a roadmap for the improvement and development of Ethereum. While some proposals hold promise for resolving known technical issues, it is uncertain when these improvements will be introduced, or whether they will be successful. In particular, proposals to "shard" the blockchain in order to greatly increase blockchain speeds is, at the time of publication, far from implementation. Impacts of a proposal to change the mining process from the current Proof-of-Work algorithm to a Proof-of-Stake algorithm remain to be seen.

Prohibitively High Gas Prices for Transactions
All transactions over the Ethereum blockchain, including the transfer of BAL, have a real-world cost in ETH ("Gas"). While Gas prices for basic transactions over the Ethereum network are currently nominal, there is no certainty that Gas prices will not increase, thereby making the trading of BAL over the Ethereum network commercially unfeasible. In addition, high volumes could lead to very high Gas prices for processing transactions, making use of the blockchain prohibitively expensive.

Ethereum May Be Superseded
While the Ethereum blockchain technology presents, in our view, the most promising advances in blockchain technology today, there is no guarantee that Ethereum will not be supplanted by competing protocols that improve upon the Ethereum technology. The Ethereum technology is open-source, which means anyone can copy and disseminate the same code with modifications. It is not known whether the Ethereum platform will become the predominant protocol adopted by global industry. If Ethereum is surpassed or superseded, the BAL program could be impacted as usage and adoption declines.

Blockchain Risk

On the Ethereum blockchain, timing of block production is determined by proof of work, so block production can occur at random times. For example, ETH contributed to the Balehu token sale smart contract (the "Smart Sales Contract") in the final seconds of a distribution period may not be included for that period. You acknowledge and understand that the Ethereum blockchain may not include your transaction at the time you expect and you may not receive BAL the same day you send ETH. The Ethereum blockchain is prone to periodic congestion during which transactions can be delayed or lost. You acknowledge and understand that Ethereum block producers may not include your transaction at the desired time, and that your transaction may not be included at all. Individuals may also intentionally spam the Ethereum network in an attempt to gain an advantage in purchasing cryptographic tokens.

Risk of Theft or Misuse of Private Keys

The control of the BAL source code resides with the BAL Foundation, which holds the requisite private keys in cold storage. While all reasonable measures may be implemented to prevent unauthorized use of the private keys, there is no certainty that the private keys will not be subject to theft, fraud or misuse. The unauthorized use of the private keys could result in significant disruption to the BAL, and in a worst-case scenario, cause the BAL to be unusable and therefore worthless.

New Technology

The protocol and all matters set forth in this white paper are new and untested. The protocol may not be capable of completion, implementation, or adoption according to the development roadmap laid out in this white paper. Even if the protocol is completed, implemented, and adopted, it may not function as intended, and any tokens associated with the protocol may not have the desired functionality. In addition, the rapid evolution of , technology means thatBAL and any tokens transferable on the protocol may become outdated.

Unknown Merchant Adoption Rates

The success of the protocol relies, in large part, on mass adoption of the protocol by participating merchants. Developers are in advanced discussions with a number of global merchants for the deployment of the protocol. It is not known whether any other merchants will adopt the protocol. Furthermore, there is no guarantee that merchants in advanced discussions will ultimately deploy the protocol.

Unknown Consumer Adoption Rates

Mass consumer adoption of blockchain technology has not yet occurred. Only a very small percentage of consumers of incentive programs are familiar with blockchain technology, let alone Ethereum. Consumers may opt not to use BAL Tokens, which would impact the attractiveness of the protocol to merchants.

Competition

Utilizing blockchain technology to disrupt the consumer marketing industry has been proposed as one of the earliest use cases for distributed ledger technology. Consequently, as of the

publication of this white paper, there are a number of other consumer marketing companies that compete directly or indirectly with the protocol. It is not known which company will prevail in the competition for consumer and merchant adoption. It is also not known how many other blockchain consumer marketing companies will enter the market prior to or during the token sale.

Business Execution Risks
The implementation of the protocol roadmap and deployment of its related technological components require a high degree of professional business and software engineering experience. While the developers have a proven track record of software engineering and business development, it is not certain whether they can fully deliver on the technical milestones set forth in the roadmap.

Changes to the Protocol
The modules for the protocol are under development, and may undergo significant changes over time. Although Balehu intends for the protocol to have the features and specifications set forth in this white paper, Balehu may make changes to such features and specifications for any number of reasons.

Project Completion
The development of the protocol may be abandoned for a number of reasons, including, but not limited to, lack of interest from the public, lack of funding, lack of commercial success or prospects, or departure of key personnel.

Ability to Transact or Resell
You may be unable to sell or otherwise transact in BAL at any time, or for the price you paid. By using the ERC-20 Balehu token contract (the "Smart Token Contract") or the Smart Sales Contract (collectively, the "Smart Contracts"), or by purchasing BAL, you acknowledge, understand and agree that: (a) BAL may have no value; (b) there is no guarantee or representation of liquidity for BAL; and (c) Balehu and its affiliates are not and shall not be responsible for or liable for the market value of BAL, the transferability and/or liquidity of BAL and/or the availability of any market for BAL, through third parties or otherwise.

Token Security
BAL may be subject to expropriation and/or theft. Hackers or other malicious groups or organizations may attempt to interfere with Smart Contracts or BAL 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 both the Ethereum platform and BAL are based on open source software, there is the risk that Ethereum smart contracts may contain intentional or unintentional bugs or weaknesses which may negatively affect BAL or result in loss of your BAL, loss of your ability to access or control your BAL, or loss of ETH in your account. In the event of such a software bug or weakness, there may be no remedy, and holders of BAL are not guaranteed any remedy, refund or compensation.

Access to Private Keys
BAL purchased by you may be held by you in your digital wallet or vault, which requires a private key, or a combination of private keys, for access. Accordingly, loss of requisite private key(s) associated with your digital wallet or vault storing BAL will result in loss of such BAL, access to your BAL Token balance, and/or any initial balances in blockchains created by third parties. Moreover, any third party that gains access to such private key(s) by obtaining login credentials of a hosted wallet or vault service you use may be able to misappropriate your BAL. Balehu is not responsible for any such losses.

BAL are Non-Transferable Until Completion of the Token Sale
You acknowledge and understand that BAL are not transferable until after the end of the BAL sale process.

Balehu May Modify or Stop the Sale at Any Time
You acknowledge and understand that Balehu may modify the timing, sale price, and number of BAL available for sale at any time during the BAL Distribution Period. You further acknowledge and understand that Balehu reserves the right to terminate the sale process at any time and withdraw any unsold BAL. If the sale process has been stopped prematurely, BAL purchased by you may not be transferable.

Exchange & Counterparty Risks
If you send ETH to the Smart Sales Contract from an exchange or an account that you do not control, pursuant to the Smart Sales Contract, BAL will be allocated to the account that has sent ETH; in this scenario, you may never receive or be able to recover your BAL. By using the Smart Contracts and/or by purchasing BAL, you acknowledge and agree that you send ETH to the BAL Token Contract through an exchange account, and/or hold BAL on a cryptocurrency exchange or with another third party, at your own and sole risk.

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, including, for example, a determination that BAL are regulated financial instruments that require registration, could negatively impact BAL in various ways.Balehu may cease the distribution of BAL, development of the protocol, or operations in a jurisdiction in the event that governmental actions make it unlawful or commercially undesirable to continue.

Currency Regulation Risks
Governments are still grappling with public policy on the regulation of cryptocurrencies as a form of settlement in trade. Governments averse to the proliferation of the use of cryptocurrencies in

local commerce could issue laws and regulations deeming the use of cryptocurrencies a regulated activity. This could result in holders of BAL being unable to use their BAL without further regulatory compliance by Balehu.

Risk of Government Action

As noted above, the industry in which the company operates is new, and may be subject to heightened oversight and scrutiny, including investigation or enforcement actions. There can be no assurance that governmental authorities will not examine the operations of Balehu and/or pursue enforcement actions against Balehu. Such governmental activities may or may not be the result of targeting Balehu in particular. All of this may subject Balehu to judgments, settlements, fines or penalties, or cause company to restructure its operations and activities or cease offering certain products or services, all of which could harm Balehu's reputation or lead to higher operational costs, which may in turn have a material adverse effect on BAL and/or the development of the protocol.

Risks Associated with Licensing of the BAL Exchange

Licensing procedures to register a cryptocurrency exchange are complex and subject to stringent qualification requirements. In the event that such license or registration is required, there is no guarantee that the developers will be able to obtain a license to accept customer deposits for use in a global cryptocurrency exchange. Failure of the sponsors to establish a registered BAL Exchange could result in decreased liquidity of BAL as a form of settlement currency within the protocol.

Risks Associated with the Token Sale

BAL are not investment products. Rather, BAL serve a specific function within the protocol, providing the means to access Merchant Tokens. Without BAL, the general public may not access the BAL Exchange to acquire Merchant Tokens. There is also no expectation of future profit or gain from the acquisition of BAL. BAL do not represent (i) any equity or other ownership interest in Balehu, (ii) any rights to dividends or other distribution rights from Balehu, or (iii) any voting or other governance rights in Balehu. For these and other reasons, we believe the sale of BAL does not constitute a public offering of securities subject to prospectus registration requirements. However, public policy towards token sales is changing, and it is conceivable that regulators may in the future seek to broaden the scope of regulation of token sales. This could make token sales subject to registration requirements in the U.S. and similar jurisdictions. If the BAL token sale becomes subject to registration requirements, this would delay or potentially postpone the proposed BAL token sale indefinitely.

Taxation Risks

The use of Merchant Tokens as a form of settlement currency may or may not be subject to local income tax, capital gain taxes, VAT, or other forms of taxes. This uncertainty in tax legislation may expose merchants and customers alike to unforeseen future tax consequences associated with the use of Merchant Tokens as a settlement currency, and/or the trading of tokens or BAL for capital gains.

Capital Control Risks

Many jurisdictions, such as China, impose strict controls on cross-border flow of capital. Holders of Merchant Tokens and BAL may be subject to these regulations and/or arbitrary enforcement of such regulations at any time. This would make the transfer of BAL out of local jurisdictions to overseas exchanges an unlawful activity, exposing the user of BAL to government fines or other regulatory sanction.

CTF and Anti-Money Laundering Regulations

The U.S. has issued a series of regulations to combat terrorist financing (CTF) and money-laundering activities. Many other countries have enacted similar legislation to control the flow of capital for such illicit activities. The use of cryptocurrencies by bad actors would breach such regulations. Any illicit use of BAL or Merchant Tokens could seriously impact the global reputation of the protocol. In such event, it is conceivable that this could trigger scrutiny by CTF and anti-money laundering regulators, and potentially cause significant disruption to the distribution and circulation of tokens and BAL in the BAL ecosystem.