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DISTRIBUTED BUSINESS COLLABORATION SYSTEM

THE CHANGE OF MODERN
BUSINESS TRUST
MANAGEMENT SYSTEM

The Implementation of Distributed Business
Collaboration System Business Trust Logic,
Cost Analysis, and Algorithms

The Change of Modern Business Trust Management System - the Implementation of Distributed Business Collaboration System Business Trust Logic, Cost Analysis, and Algorithms

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Introduction: If a person's wisdom reflects their local knowledge, then the greatest wisdom of humanity is to find and discover an order that allows everyone's local knowledge to freely collaborate and expand. A distributed business collaboration system is a computer program that utilizes blockchain technology to allow everyone's local knowledge to freely collaborate and expand.

The following is a structural diagram of the existing commercial trust management system, from left to right, showing the national legal machinery, namely arbitration institutions; The national administrative management agency, now known as the Market Supervision and Administration Bureau, has management targets on the far right, including producers, sellers, and consumers. There are two most important roles in this structure, among which commodity research institutions (or industry associations) serve both administrative departments and production; And another role is the quality inspection agency, mainly serving manufacturers.
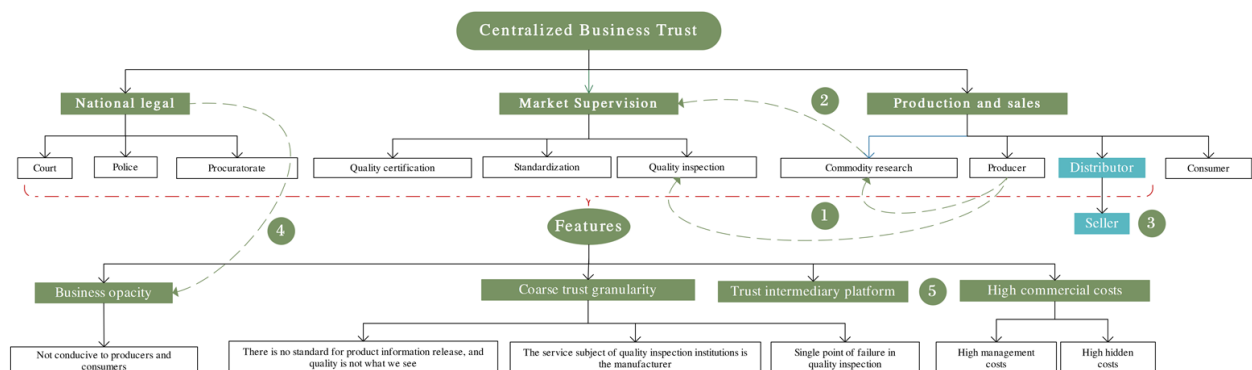

How to measure who is serving? It's very simple, where the income comes from is who we serve. For example, research institutions first receive financial appropriations, followed by support from corporate funds. The above structural diagram indicates that neither commodity research institutions nor quality testing institutions directly serve consumers. The feeling it gives everyone is that they all seem to serve consumers, but they all seem to have nothing to do with them. Because when there is a problem with the quality of the product, everyone seems to be able to find a way without responsibility.

The trust system of this structure has the following characteristics: firstly, the trust granularity is very coarse, which is reflected in four aspects: the first aspect is that there is no standard for product information publication. In addition to a few parameters required by the state, manufacturers can freely publish parameters, or only publish and promote good

parameters, and do not publish or promote bad parameters; Or can we simply say that it meets the standards of XXX, regardless of the situation in which this standard is generally applicable, how it differs from foreign or other standards, or why? The result is that the actual quality of the product is visible but not visible; Secondly, quality inspection agencies serve manufacturers, and in order to obtain as much revenue as possible, they will cater to certain behaviors of manufacturers while avoiding risks. For example, quality inspection agencies can claim responsibility only for products that are submitted for inspection, but in industrial production, the raw materials of each batch of products may be different, and the process may also change. Is it necessary for each batch of products to be submitted for inspection? In addition, there are many other implicit methods to avoid detection risks. The third aspect is that the purpose of the manufacturer to obtain the quality inspection report is only to obtain the product marketing license. It is OK to find a cooperative inspection agency. The problem is that if the work procedure of this inspection agency is wrong, the product quality cannot be guaranteed, and there is a Single point of failure in trust. Fourthly, even though product researchers, testers, and sellers strictly abide by the law, due to the decoupling of the relationships between various collaborating parties, existing technology cannot effectively trace the source, resulting in countless possibilities for product quality control in reality.

This coarse-grained trust model strongly requires the intervention of legal institutions, but with the massive daily commodity transactions, the cost of legal intervention is too high. Therefore, a well-known term has emerged: trust intermediary platforms. At present, all commercial trading platforms or physical shopping centers, supermarkets, and so on are centralized commercial platforms or entities that attract consumers through massive capital investment. Any manufacturer or merchant entering this platform or venue must pay expensive entry fees, and the product can only enter the view of consumers.

Therefore, the management costs of this trust model and intangible costs such as commercial fraud are enormous. Due to the actual unseen quality of goods, consumers need to pay a lot of intelligence fees, advertising fees, channel fees, and brand building fees; Manufacturers often pay these fees, but there may not be actual returns, and the risk of investing in product sales funds is enormous. So, the result of this business model is that intermediaries have huge profits, and the interests of producers and end consumers are harmed.
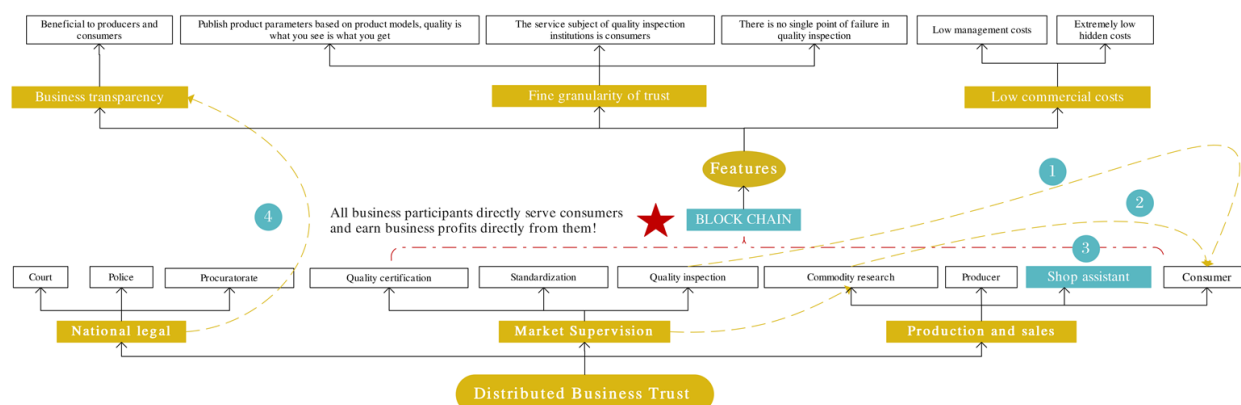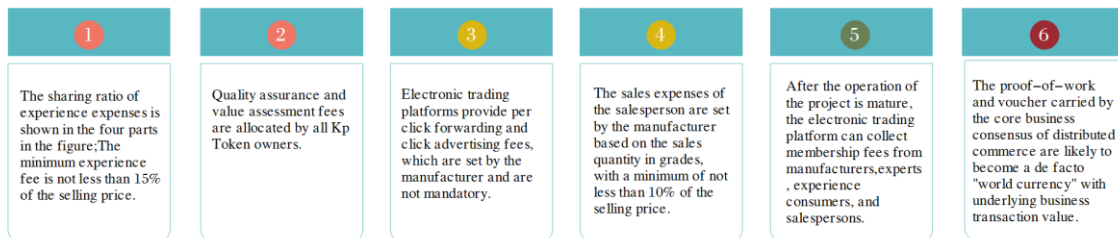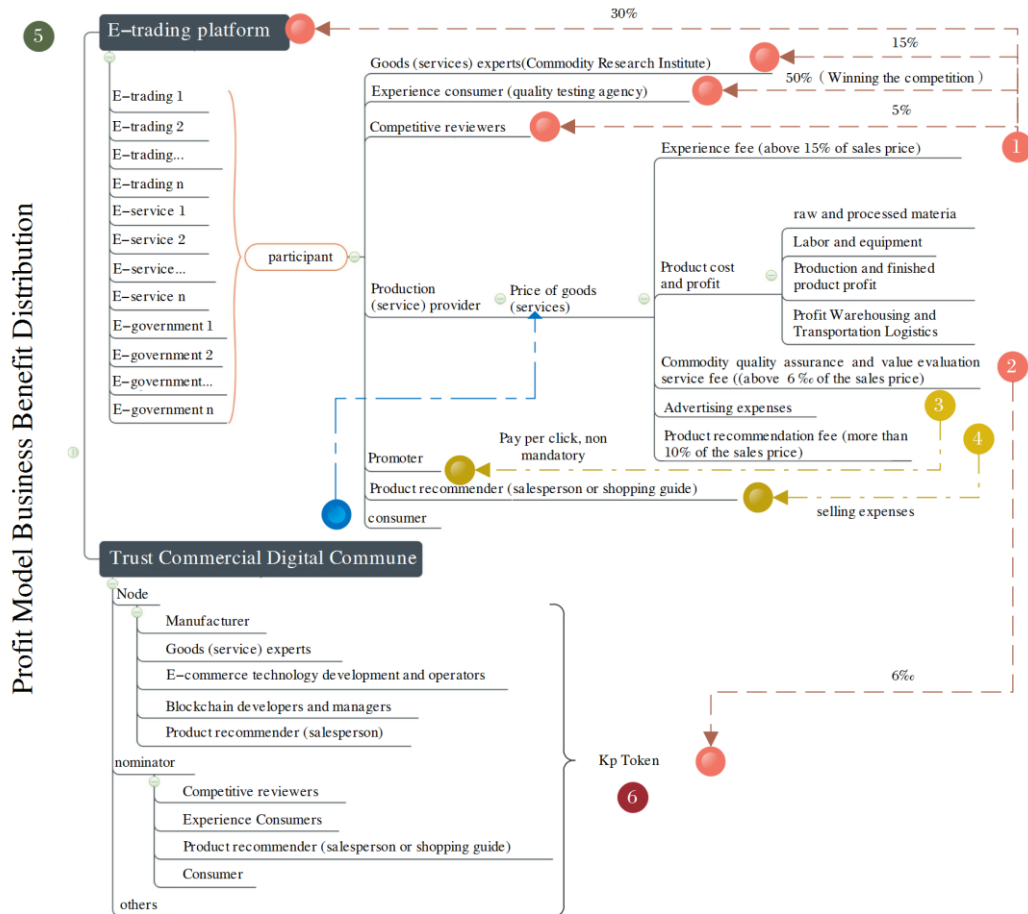

On the contrary, let's take a look at the business trust management system of distributed business collaboration systems.

The structure and role of the existing trust system are completely the same, except for the addition of a blockchain technology layer (see figure above ★), which manages commodity research institutions, quality inspection institutions, and commodity producers, sellers, and consumers. As a result, two changes occurred:

The first change is that the product research department has been renamed as a product expert, providing consumers with a product quality model based on product standards (a digital twin technology of product dynamic modeling and

product quality). Producers publish product information based on this, and the profit of the product expert is a portion of the commercial profit for each product sold.

The second change is the transformation of quality testing institutions into experiential consumers, who conduct quality testing by purchasing actual products and issuing testing reports to consumers. The driving force is that experience consumers who win the competition can receive a share of the total network experience fee (very high, as shown in the profit model and business benefit distribution in the figure below).

1	**2**	**3**	**4**	**5**	**6**
The sharing ratio of experience expenses is shown in the four parts in the figure;The minimum experience fee is not less than 15% of the selling price.	Quality assurance and value assessment fees are allocated by all Kp Token owners.	Electronic trading platforms provide per click forwarding and click advertising fees, which are set by the manufacturer and are not mandatory.	The sales expenses of the salesperson are set by the manufacturer based on the sales quantity in grades, with a minimum of not less than 10% of the selling price.	After the operation of the project is mature, the electronic trading platform can collect membership fees from manufacturers,experts, experience consumers, and salespersons.	The proof-of-work and voucher carried by the core business consensus of distributed commerce are likely to become a de facto "world currency" with underlying business transaction value.

The two changes mentioned above result in a completely different trust model from existing businesses.

Firstly, the granularity of trust is very fine. Because manufacturers can freely publish parameters based on the product model, the so-called freedom refers to the fact that manufacturers can only publish 2 parameters or 30 parameters. However, the fewer parameters, the less experience value, and the less likely the experience consumer is to win, so there is no experience consumer participating in the experience. Through such market means, manufacturers are driven to

release more and more product parameters, and finally achieve WYSIWYG of quality. Secondly, quality testing institutions serve consumers, and the more reasonable the testing process, the more delicate the experience, and the higher the experience value. Thirdly, unlike existing trust systems where only one quality inspection report is required for each product, the more consumers each product experiences in a distributed business environment, the higher the visible authenticity and trust. Therefore, there will be no Single point of failure of trust; On the contrary, the trust level of products without experiencing consumers is very low, even if you have a statutory quality inspection report. In a distributed business environment, a statutory quality inspection report is only a basic condition for product trust. Fourthly, both commodity research institutions and testing institutions directly obtain commercial benefits from consumers and serve them.
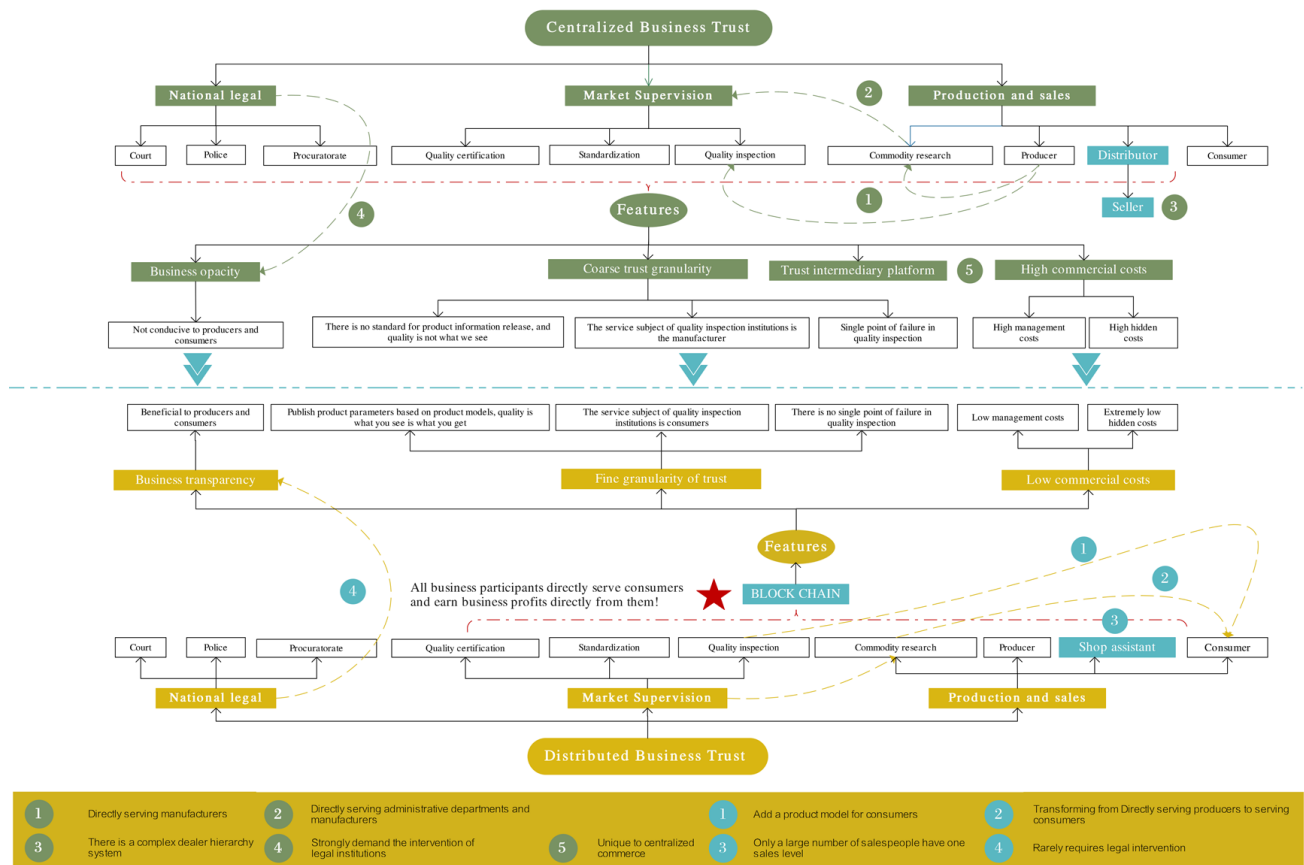
This fine granularity of trust determines that commodity trust in a distributed business environment does not have irreparable hard wounds and fatal defects in existing business trust models. Business is relatively transparent and trustworthy, with low frequency of legal intervention, and low intangible costs such as social management costs and commercial fraud. Therefore, the cost of trust can be de facto minimized.

Above, we explained the principle and logical relationship that a distributed business collaboration system can achieve the lowest transaction trust cost in fact. The implementation method is to change the centralized business trust and channel using blockchain technology (WEB3.0) to a decentralized business trust and channel (the above figure is a complete comparison between the existing centralized business trust system and the distributed business trust system). Next, we need to address the issues of intermediary costs and warehousing logistics costs.

The fewer levels of intermediaries, the lower the commercial cost, but there is no business without intermediaries, because the fewer intermediaries, the lower the efficiency of product dissemination, the slower the speed of value realization, the greater the investment of production funds by manufacturers, and the proportion of product capital cost

becomes increasingly efficient; Therefore, there is a balance between the hierarchy of intermediaries and communication efficiency. Our solution is to cultivate a large number of product recommenders with only one layer of product knowledge (i.e. salespeople and guides in physical shopping malls, virtual salespeople in the future, etc.). Their relationships with manufacturers are many to many, which is a decentralized business channel, Its core value is to use one's own product knowledge to select suitable products from a vast amount of product and experience data to sell to consumers. Because these product recommenders do not necessarily have to have capital investment or business premises, the cost can be minimized.

The last one is the storage and logistics costs. All the traded goods in the distributed business collaboration system are directly delivered by the manufacturer to consumers, which is theoretically a one-time logistics cost. After overall planning, the logistics cost can also be very low.

Because of this, the distributed business collaboration system adopts the S2B (Small b) 2C e-commerce model. Of course, the original intention of the project is to develop numerous small B, but it cannot be ruled out that there is a possibility of a large B appearing; Similarly, distributed business collaboration systems do not exclude existing business models. Although everyone feels complex, this is the underlying business logic and program complexity, and consumers' business processes are identical to existing models and comply with existing business regulations. They can coexist with existing business models. If we say that Alibaba has the most complete range of products, JD is the fastest, Pinduoduo is cheap, and the distributed business collaboration system is the most authentic, high-quality and inexpensive, with the lowest price in fact.
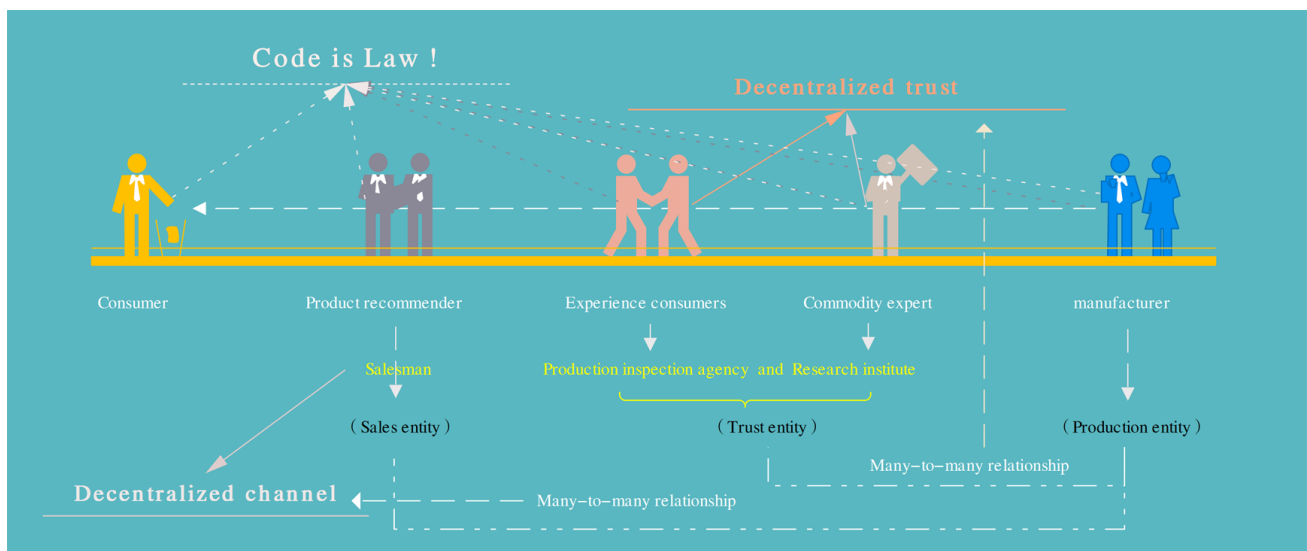
We have demonstrated the business trust logic and business cost analysis of distributed business collaboration systems above, with the aim of proving that the business cost of distributed business collaboration systems is far lower than other business models and is highly likely to become the ultimate form of business development in human economic and social development.

Below, we will describe the specific algorithm implementation, which includes the following points in order of understanding:

Firstly, the core role of distributed business collaboration system blockchain is to ensure the quality of goods and the authenticity of product transactions, rather than evaluating the value of a product. Therefore, it is incorrect to believe that the value evaluation of goods is made by blockchain. The final product value evaluation of distributed commercial

collaboration systems is achieved jointly by product recommenders and consumers, while ensuring the authenticity of product quality. The consensus competition of blockchain is the cornerstone of commodity value evaluation.

Secondly, with the foundation of the first point, it can be clarified that blockchain rewards and encourages real experiential consumers, which we call experiential computing power. The computational power of this experience is first related to the number of product parameters released by the manufacturer and the evidence provided; Secondly, it is related to the quantity and accuracy of detection parameters; In addition, the game algorithm is added between the three dimensions, which is related to the experience (food tasting and the use of daily necessities) and the degree of delicacy or standard (such as wine tasting standards, national rice tasting standards, etc.). At the same time, these dimensions have been formatted by product models created by product experts, and experiential consumers only need to complete them in the form of a survey questionnaire after purchasing, conducting quality testing, and experiencing the use of the product.

Thirdly, the consensus algorithm for distributed business collaboration systems is a probability algorithm, where the proportion of the experiential computing power of experienced consumers to the overall network experience computing power is the probability of winning the bid. This is similar to the EC consensus algorithm for distributed storage, but the storage computing power on the right side of the equation has been modified to experience computing power (as shown in the figure below); In addition, the algorithm includes an adaptive mechanism for increasing commercial costs, similar to adjusting the difficulty coefficient of the Bitcoin Hashi algorithm, with the aim of increasing the cost for fraudsters. This probability algorithm can be explained from the perspective of distributed business: we only reward experience consumers who have long-term and real experience, rather than opportunistic experience consumers. Even if consumers pay a high price for cheating or speculation, they may not be able to guess the outcome in the end, and the accumulated cost of cheating forces them to give up this ineffective work.

$$\mathcal{H}\big(\langle t||rand(t)\rangle\big)/2^L \le \frac{kp_i^t}{\sum_j kp_j^t}$$

We have said so much above, in fact, in simple terms, the ultimate purpose of blockchain in distributed business collaboration systems is to ensure that various roles in the distributed business environment can obtain their legitimate benefits, or that legitimate benefits should not be maliciously damaged by others or controlled by other human factors; The consensus goal is to ensure that product quality is in line with consumer interests, and ultimately achieve machine trust in commodity transactions through economic game mechanisms.

In summary, if a distributed business collaboration system can be implemented, then this digital sales platform that utilizes modern computer technology and is in line with the essence of business, combined with traditional business culture, and mainly focuses on conveying product value, is highly likely to iterate and surpass the business model dominated by the West in the past century, characterized by "brand, channel, and commercial advertising".

George Akerlov, a famous economist, won the Nobel Memorial Prize in Economic Sciences in economics in 2001 with a paper on the "The Market for Lemons". The The Market for Lemons effect refers to that in the case of asymmetric information, good goods are often eliminated, while inferior goods will gradually occupy the market, thus replacing good goods, leading to the flooding of the market with products of ordinary quality. George Akerloff proposed this issue, but due to the technical conditions at the time, he did not propose a solution until the emergence of blockchain technology, which

made it possible to solve the challenges of this century. Let's wait and see together!

Ecological Map of Distributed Business Collaboration System
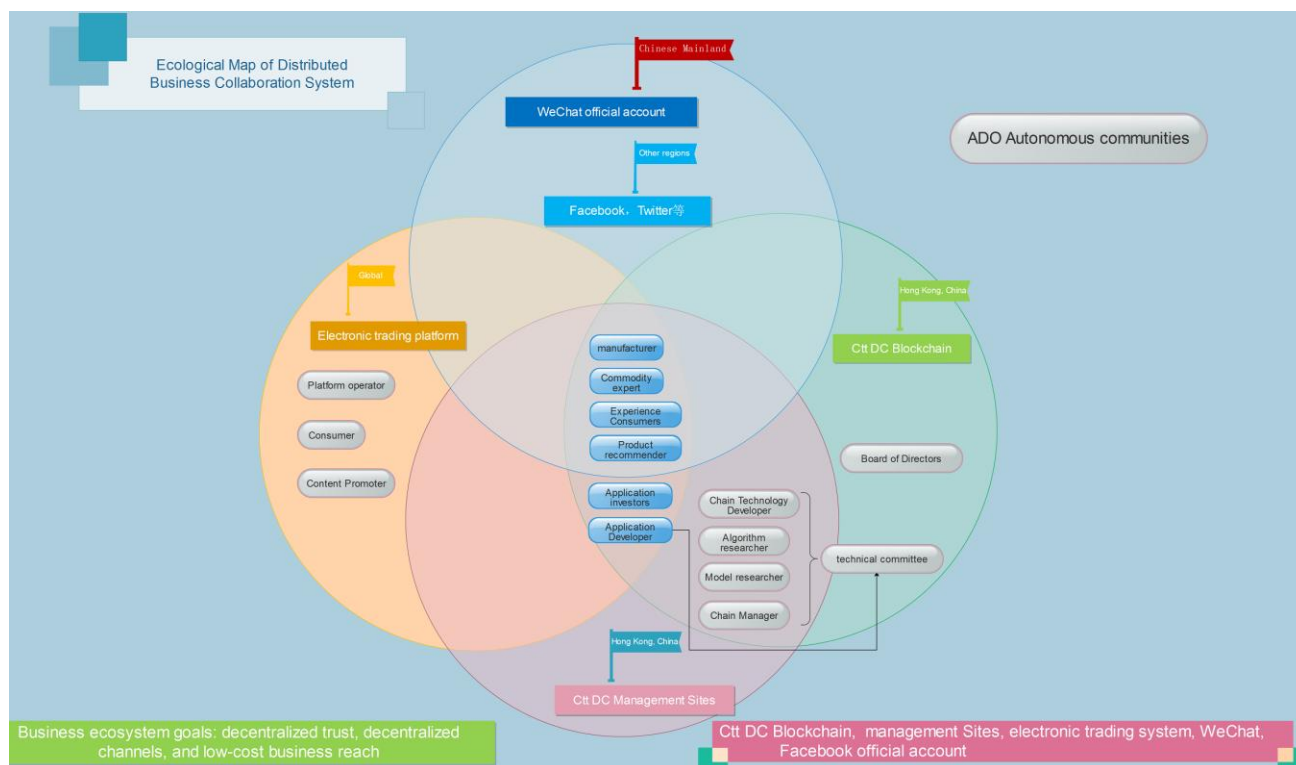
Attachment 1: Why should blockchain technology be used to manage commodity research, quality inspection institutions, and commodity producers and sellers? Firstly, it is due to the confirmation of rights and record of behavioral evidence between various collaborating parties. Secondly, it is necessary to introduce a competitive mechanism to avoid human manipulation caused by a certain actor having too much discourse power. Currently, only blockchain technology has the potential to solve this problem.

Attachment 2: The reason why quality testing institutions are referred to as "experiential consumers" means that any institution or individual with the ability to conduct product quality testing can engage in consumer experience, rather than being limited to nationally licensed quality testing institutions. Similarly, commodity experts also have the same meaning.

Attachment 3: In a distributed business collaboration system, only consumers can purchase real and effective products, and all participants, including e-commerce platforms, product experts, experiential consumers, and product recommenders, have profits (i.e. sales are completed, and all talents are allocated profits). The result of this profit model is that if someone conspires to harm the rights and interests of all participants in the entire network, they will be blacklisted through a nationwide referendum, and all rights and accumulated reputation (value) of the blacklist ID will be reset to zero. That is, through the mechanism of interest game, the entire network participants are allowed to spontaneously supervise collusive behavior.

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