



# Trust the food chain, trust the blockchain

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*Using blockchain as a thread, IBM Food Trust tries to stitch the wounds in the global, decentralised food supply chain. The creation of trust through traceability should induce the healing. A text about trust as a commodity.*

Today's food systems are increasingly complex and globalised. This complexity leads to a number of concerns - about food safety along the chain or environmental health during the production processes. The consumers and their



food are in a trust crisis. Blockchain is supposed to help build back this trust by maximising traceability, transparency and certainty. The tech company IBM recognised the need for trust in food, and the trust-building superpower of blockchain by launching IBM Food Trust in 2016. Food Trust is a software service to collect and link data from various participants on a food chain. By investigating how trust emerges in the discourse of IBM, I am interested in how trust is commercialised as a product of IBM's software.

## The trust crisis

IBM Food Trust portrays consumer mistrust in food as one of the major problems in the food industry today (Figure 1) - and presents itself as a solution. Next to consumer mistrust, another layer of mistrust occurs between different entities such as producers and traders within the supply chain. The mistrust is based on concerns about food safety, but also doubts about the truthfulness of sustainability and provenance claims of products. Food scandals and mislabelling aggravate the apprehension - in [one promotional video](#), it is mentioned how 20% of seafood sold worldwide is mislabelled - and a lack of transparency in the whole system is seen as the root problem. Mistrust also arises because consumers lack information. Consumers might, for instance, seek sustainable products, but not know enough about how foods are produced to judge their sustainability. Alf-Gøran Knutsen, a customer of IBM Food Trust mentions that "[some of the challenges we have in the industry in Norway is all of those old myths on the way we produce the salmon. Kavory Arctic is one of the most sustainable farms in the world for Atlantic salmon](#)".

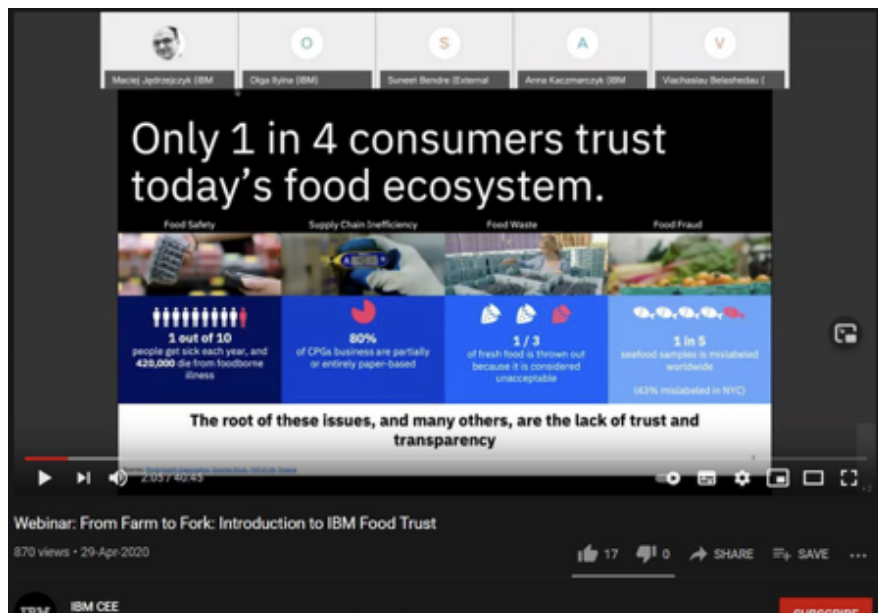


Figure 1. Webinar slide by IBM introducing the importance of Food Trust.

The growing consumer demand for safety, sustainability and provenance, as well as authenticity, sets high standards foods need to fulfil for consumers to feel comfortable with them, or trusting them, and thus purchasing them. As Scott Hutchens from the company Raw Seafood states: ["I think one of the biggest hesitations with a lot of consumers in buying seafood is a lack of trust"](#). Consumer trust is the foundation of commercial success in the food industry. Cherie France, a blueberry farmer states: ["The consumer expects to be able to trust their food. It's what we build our company on. It's how we thrive in the industry"](#). Consumers do not just include end-consumers but also retailers and packers: ["Rolar de Cuyo's objective in using blockchain technology is to ensure olive oil packers worldwide trust us and choose us"](#).

Trust - through confidence and traceability - is portrayed as the final value created by Food Trust (Figure 2). Food Trust consciously mobilises its customers through the notion of trust. Trust, as an emotion, becomes the commodity. However, this rhetoric is misleading. The final value created by Food Trust for the companies in the supply chain is not trust itself. Rather, trust is valuable insofar as it creates profit for Food Trust users. More on that later.

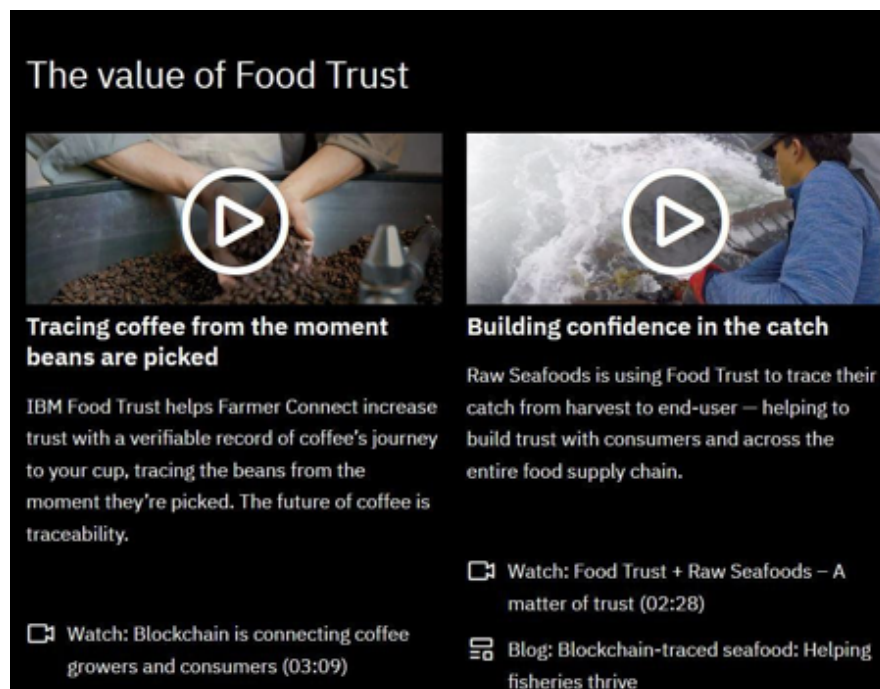


Figure 2. [IBM Food Trust website excerpt](#), advocating the value of Food Trust through videos.

## IBM's manual for building trust in food

In Food Trust, trust is conceptualised as being created through increased knowledge, transparency and traceability in the food chain. Consumers demand knowledge about their food because it gives them assurance; [“Consumers, they want to know more where their food comes from, they want to know everything about it. It gives them a sense of confidence and trust”](#) (Paul Lightdoos, President and Founder BrightFarms). Transparency is believed to create trust by lowering the likelihood of food scandals [\(IBM UK & Ireland 2019\)](#). Visibility and traceability overcome the obscurity in the food system; [“With blockchain our consumers can see that we are sustainable”](#) (Ana María Donneys, Owner of El Porvenir Coffee Farm). It is a visibility that can be trusted because of the technology used. Bob Wolpert from Golden State Foods explains that [“now you have higher visibility to your supply chain and digital records confirming that that should be trusted”](#). The blockchain technology creates a backed-up trust, a



‘meaningful’ trust: [“People want to know, quite rightly, where ingredients they give to their baby have come from. We wanted a product in which trust meant something.”](#) (Chris Tyas, Nestlé).

*The blockchain technology creates a backed-up trust, a ‘meaningful’ trust.*

In the manual for trust building by Food Trust, blockchain forms all the sturdy and connective parts. Imagine a self-build shelf from IKEA: Blockchain is both the screws and the poles. The blockchain technology creates the fundamental structure of trust in the supply chain. According to Bob Wolpert [“\[the\] bottom line of technology today in the food space is that \[it\] enables us to have a visibility and trust level that was unaccomplishable previously”](#). Blockchain enables [“trusted exchange”](#) (Natalie Dyenson, Vice President, Food Safety & Quality, Dole Food Company), providing [“instant, trustworthy and secure”](#) information and [“instant access to records that we can have faith in”](#). Blockchains function as a shared digital ledger, in which data is stored in blocks that are thereafter immutable. The IBM Food Trust blockchain is a private permissioned system, meaning that only verified participants can access the chain. The main advantage of the IBM Food Trust blockchain seems to be that the various data – food safety certificates, provenance data, time of harvest, warehouse temperature – of the numerous entities in the supply chain can be gathered in a single, secure, and accessible system.

Data can be put into the system manually or automatically. Salmon farmer Alf-Gøran Knutsen, relying on automated sensor data, stresses that [“it’s not like we can go into the system and just push in the numbers, it’s all data gathered straight from the system. That gives the trust to the consumer”](#). Trust, here, is created by the maximal eradication of the possibility of human error or deliberate manipulation. Trust arises from the trustworthiness not of people, but of the blockchain technology as an apparently nonhuman system. However, a lack of consumer understanding of blockchain poses a limit to blockchain’s trust creation ability. Paul Lightdoos, a salad grower connected to the Food Trust system, hopes



that as consumers understand blockchain more, they also “[get more confidence in the technology](#)”. What is overlooked here is that even if all the blockchain entries and exchanges go fluidly, lowering the possibility of human error in information exchange, it does not eradicate flaws in the physical processes. ‘Flaws’ may arise from human action, but can also be related to systems of nature that cannot be made fit 100% into technical standards and formats. Can we really stop worms from hiding in salads? Should we want that?

*While trust between the different participants in the supply chain is conceptualised as being built through blockchain technology, it also requires trust in the technology and the data itself.*

Blockchain is furthermore related to trust within Food Trust through the process of sharing information and connecting distant entities on the supply chain: “Sharing data does mean more trust” (Suzanna Livingstone, Director of Offerings Food Trust and IBM Blockchain Transparent Supply). While trust between the different participants in the supply chain is conceptualised as being built through blockchain technology, it also requires trust in the technology and the data itself.

A further step in the manual for building trust by Food Trust is connectivity. This is reflected in the following quote: “[The key to the transformative power of IBM Food Trust is in the name: Trust. Meaning that everyone, from grower to wholesaler to retailer is included and connected in a way they’ve never been before](#)”. The complexity and geographical stratification of the global food system contributes to food having become “[more anonymous, more obscure](#)”. Food Trust helps in connecting coffee growers with consumers through information, creating as much as a “[community of food](#)”. One application of Food Trust includes the service for customers to scan QR codes and access information about the foods’ journeys through the supply chain. It creates a closeness not only to the producers but the food itself. Establishing this connection with food, through trust, becomes a moral endeavour: “[For us, Food Trust is a movement. It’s really about helping people – our consumers – understand the food that we eat and have](#)



[a connection back to where our food comes from](#)” (Nigel Gopie, Director, Head of global marketing, IBM Blockchain). Instead of promoting shorter food chains, Food Trust attempts to compress globalised food chains – not in its physical sense, but in the way information moves.

## The trust brand

The moral, virtuous connotation of trust makes Food Trust not just a product but a brand with emotional appeal, although some of the main potential benefits of Food Trust for producers do not have much to do with trust. For instance, the data that can be connected and analysed through the technology enables producers to minimise their inputs and waste, increase the efficiency and thus increase price-competitiveness. These benefits, also listed in Figure 4, are mentioned as widely in the promotional material, if not more, as the functions related to trust.

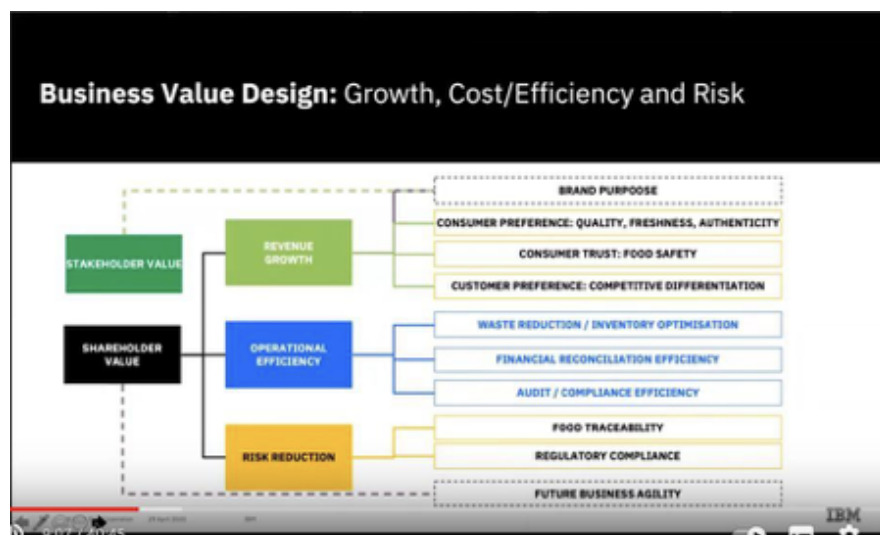


Figure 3. Consumer trust is only one of the factors through which IBM Food Trust creates value ([IBM CEE 2020](#)).

Even if efficiency gains are important for businesses, it is through trust that IBM mobilises because it has a positive, even moralistic, connotation. It is this



emotional value that in turn creates a strong brand and thus also monetary value. The choice of using trust is indicative of the appeal the concept has to the actors that are entangled in the complex modern food supply chain. Trust sells.

## **Transparency beyond trust: corporate, marketized trust**

IBM presents trust itself as the commodity. Are we still talking about trust when traceability and visibility are maximised? Timothy Guinnane ([2005](#)) criticises that it is not really trust, here by the consumer, that renders entities more ready to engage in transactions. Rather, it is the possibility for sanction when misconduct has arisen. The importance of trust for the functioning of commodity markets is therefore inflated in the literature. Indeed, through faster traceability in the supply chain, Food Trust facilitates finding the origin of food safety issues and sanctioning the responsible actors. However, in Food Trust, this possibility for tracing and sanctioning is not conceptualised as replacing trust but creating trust.

For Alberto Jiménez ([2005](#)), the conceptualization of trust, or trustworthiness, as being created through maximum transparency and information is an encroachment of market ideology in a time of economic disintegration. Corporations increasingly operating through outsourcing and subcontracting replace their own responsibility, which had been the basis of a more personal consumer trust, with verification and certification of the sub-parties through transparency. The consumer is made to believe that it is transparency of the supply chain, confused with knowledge and certainty, that makes corporations or products trustworthy. However, for trust to remain meaningful, it requires a “realm of after trust”, it requires the awareness of the obscure and that not everything can be made knowable despite corporate claims.

*Consumers should remain aware that not everything can be visible to them.*

Does Food Trust appropriate, or even overwrite, a more popular version of trust that is founded on social relationships and an awareness of not being able to



know it all, an awareness of people's contingent nature? Blockchain technology reduces uncertainty, without eradicating it. Consumers should remain aware that not everything can be visible to them, especially not in the complex economy of today – this would be quite overwhelming in fact.

Investigating trust as it emerges in the Food Trust promotional material provides hints on how trust is conceptualised in the global corporate food system. It is a trust that is created through the quest for maximised knowledge, traceability, and thus also safety across the food supply chain. Food Trust mobilises consumers around the emotions of trust, turning trust into a commodity. While it aims to create a certainty that may eradicate the need for trust, the complex nature of the global food system does not cease to provide reasons for distrust.

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