



# SBT FINTECH MONTHLY NEWSLETTER

## Editor's Note

BY DR. ABENA PRIMO

Dear Reader,

Welcome to another semester at Huston-Tillotson University! I hope you have a productive academic year.

In this month's article, returning author, Dr. Bonyuet, discusses the blockchain and the food supply chain. Do you think there are any advantages to using blockchain in the supply chain?

Don't forget to check out the upcoming activities in the School of Business and Technology.

Sincerely,  
Dr. Abena Primo  
School of Business and Technology  
Huston-Tillotson University

**SBT**

### Newsletter Highlights

[IS BLOCKCHAIN GOING TO TELL YOU WHAT TO EAT?](#)

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## Is Blockchain Going to Tell You What to Eat?

BY DERRICK BONYUET, PHD, CFA, CFP, CPA

### INTRODUCTION:

So far, we have explored through our monthly newsletters the concept of blockchain and how this technology may disrupt many industries. The food industry is also going to enjoy the potential benefits blockchain can bring.

### OVERVIEW:

After all, blockchain can allow tracing every point in the food product lifecycle from origin to the final consumer. The ability to enjoy this level of transparency promises to enhance credibility, efficiency and safety to an industry that has often been impacted by dubious players. In fact, food safety is a major concern across consumers from all over the world. According to the World Health Organization (WHO), over 400K people die every year due to food contamination.

Furthermore, children under age five represent the highest risk group as 125K children die every year from food poisoning (Blockchain food traceability can revolutionize the industry).

In a nutshell, let's remember blockchain

is just a digital ledger that keeps records of ownership. In other words, blockchain allows us to keep track of who owned (and owns) what, when, and the condition of the thing when it was created, bought and sold. Information is stored in blocks which are then chained (hence, the word "blockchain") and, as these transactions are linked together, a detailed history of ownership is created. This basic scheme will enable retailers to keep track the supply chain of the food to find out details such as when produce was harvested, whether or not it is pesticide free, and how long it sat in the warehouse. This greater level of transparency is not just about data and documentation. It will enable enforce stakeholder accountability, ensure sustainable sourcing and speed certification process with regulatory agencies.

### BLOCKCHAIN AT EVERY STEP IN THE FOOD SUPPLY CHAIN:

According to Galvez, Mejuto & Simal-Gandara (2018), the inherent ability of blockchain to trace the source of a

transaction can be accomplished at all stages in the food supply.

**Production:** RFID tags can be used to capture valuable information on harvested crops. Information can be stored in the blockchain and include background environment (e.g., soil, water, air and sunlight quality); plant cropping conditions (e.g., quality of seeds, production area, growing conditions); and use of fertilizers and pesticides.

**Processing:** As tags are scanned, processing companies can read and add new data regarding the processing environment (e.g., temperature control, disinfection); additives used and staff involved.

**Storage:** Accurate storage information (e.g., temperature, humidity, storage time) can be obtained by using wireless sensors





## Is Blockchain Going to Tell You What to Eat? Continued

and monitoring equipment. By keeping this information in products' tags, managers can make better decisions regarding product rotation, sale and disposal.

**Distribution:** Real-time monitoring information can be performed by using vehicle-mounted wireless networks and computers and stored in products' tags. GPS technology can also be used to optimize delivery process.

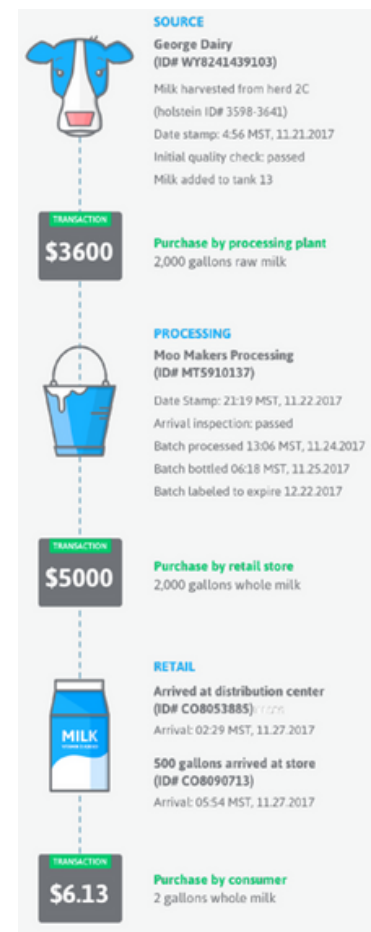
**Retailers:** Upon receiving, retailers can pull all the information from the supply chain. Inspections can be performed as blockchain provides an audit trail on the entire supply chain on real time. Consumers can then use RFID readers to obtain the entire history of the products being purchased.

**Administration:** Regulatory entities such as certification and government agencies can also rely on the information stored in the blockchain and, if a food incident occurs, the source and origin of a product should be easy to identify as this has been recorded and validated by participants along the supply chain.

### CONCLUSION

In 2018, Walmart started experimenting

with blockchain to track their supply chain. Other companies, including Kraft Heinz, Nestle and Tyson Foods have followed this practice, which is considered the next generation solution in food safety. Still, mass adoption of the blockchain is critical as some players may not quite understand how blockchain can be used in their specific business. If anything, research has shown blockchain can further enhance traceability. As issues such as food adulteration or food fraud become more pervasive, hopefully so does the use of blockchain in the food industry.





## Is Blockchain Going to Tell You What to Eat? Continued

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