

The Advantage of Food Traceability during Covid-19 Pandemic for Chinese Food buyers

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Introduction

- Food safety during Covid-19 period faces a significant challenge, one of which is food supply.
- From 2001 to 2013, China Central Television reported 71 major food safety events, and past recalls of food containing hazardous substances have significantly reduced consumer trust. (Li et al., 2020).
 - Melamine to milk powder incident



Covid-19 on Food

- According to Rizou et al. (2020), they found that the COVID-19 virus can still reach fresh food via an individual cough or sneeze on it.
- WHO (2020b) discovered that coronavirus is stable at four °C and can remain at -20°C for up to two years, so it can still be transmitted via frozen food



Blockchain Technology

- As consumers become more concerned about food safety, traceability becomes more critical:
- IBM developed a blockchain-based Food traceability system (FTS) that caters to Carrefour and Wal-Mart as the customers of this system (Dimitrov, 2019; Slocum, 2018).
- Applying blockchain to this area could facilitate anti-counterfeiting and product quality and increase transparency and trust (Galvez et al., 2018).

Objectives

- The purpose of this study is to explore the contribution of FTS to addressing the value, safety, and health benefits in food supply during the COVID-19 pandemic and ongoing food safety issues. The main objective is to study which factors using the DeLone and McLane Information System Success Model (ISSM) on FTS can help improve the food safety problems during the COVID-19 pandemic and understand consumers' willingness to use FTS in purchasing food.



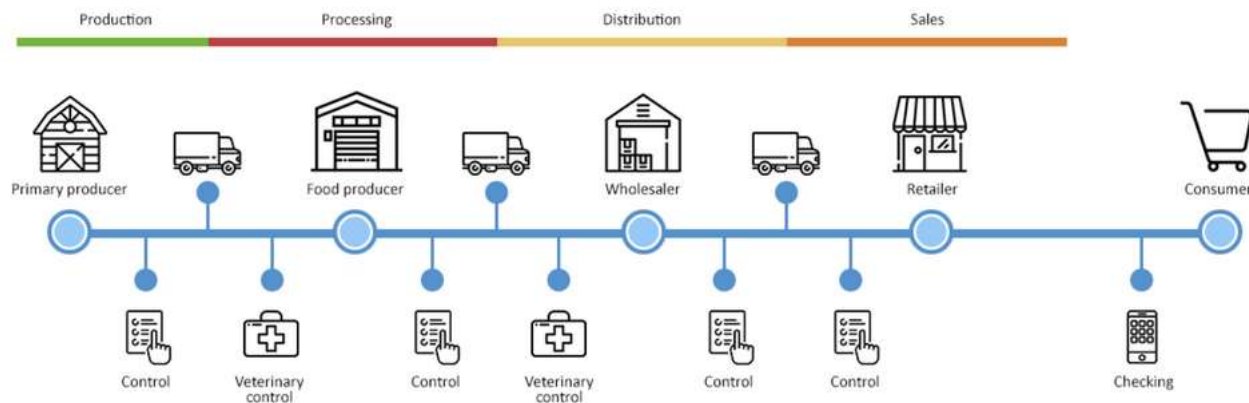
Food Traceability Systems

- Tang et al. (2015) FTS five essential functions:
 - Enhance the management of food supply
 - Promote food safety and quality traceability
 - Distinguish small quality attribute differences of food when selling
 - Effectively utilize resources for food production
 - Help establish long-term relationships.



Food Traceability Systems

- Galvez et al. (2018) noted that a BCT business model could greatly enhance trust, transparency, security, confidentiality, and increased efficiency.
- BCT can often significantly reduce friction and unlock more excellent economic value for individuals with multiple parties involved in a transaction or a business that collaborates across various organizations.



Information System Success Model

- Information Quality (INQ)
 - Bei and Jiabao (2015) stated that the quality of traceable information refers to the accuracy, richness, readability, and authority of information that customers can perceive.
- System Quality (SYQ)
 - System quality is the quality of the data processed by the system and the system's overall performance (e.g., user-friendly, easy to use, easy to maintain, and adequate functionality of data), which represents the technical aspect of FTS (Duan et al., 2017).
- Service Quality
 - Delone and McLean (2004) consider service quality as the overall support provided by the service provider throughout the system's operation

Information System Success Model

- Product Diagnosticity
 - Jiang and Benbasat (2014) pointed out that the diagnostic nature of products means that people evaluate products based on specific information
- Impact of perceived **value**, **safety**, and **health benefit** on **purchase intention**

Research Methodology

Table 1. Demographic Profile of Respondents

Demographics	Frequency	%
Gender		
Male	195	41.49
Female	275	58.51
Age		
18-22	55	11.70
23-27	80	17.02
28-32	84	17.87
33-37	73	15.96
38-42	76	16.17
43-47	64	13.19
48-52	27	5.74
Above 53	11	2.34
Education		
Less than high school	15	3.19
Bachelor's Degree	439	93.40
Graduate school or higher	16	3.40
Where do you buy food?		
Convenience store	5	1.06
Supermarket	227	48.30
Traditional market	85	18.09
Online	153	32.55

- 470 online questionnaire
- Used a 7-point Likert scale with 1 representing strongly disagree and 7 representing strong agree
- Hayes Process Macro version 4 as a statistical tool to examine the hypothesis by estimating the path coefficients between independent and dependent variables and testing the indirect effect of the mediation variables (Hayes, 2013)

Conclusion & Implications

- This study aims to determine how perceived value, safety, and health benefit positively affect consumers' purchase intentions. Similarly, how food traceability systems affect the consumers' demand for a better quality of food that they are buying, as food safety problems are prominent in China, FTS may be able to have a positive effect on consumers buying intentions.
- Creating good policies and promoting FTS may help to improve the product information quality and provide better service and knowledge for the daily consumers.

