

Globalization of the food industry: Where to next and the role of food safety culture




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Presentation Outline

- Globalization of the food industry
 - Importance
 - Current primary focus
 - Extent of reliance on import & export
 - Extent of impact of a food poisoning outbreak
- Human Factors and Systems Thinking in the Food System
 - Role of HFE and ST in the food industry
 - HFE, ST and Food Safety Culture
 - Impact of HFE in influencing the FSC at a global level

The Globalization of Food

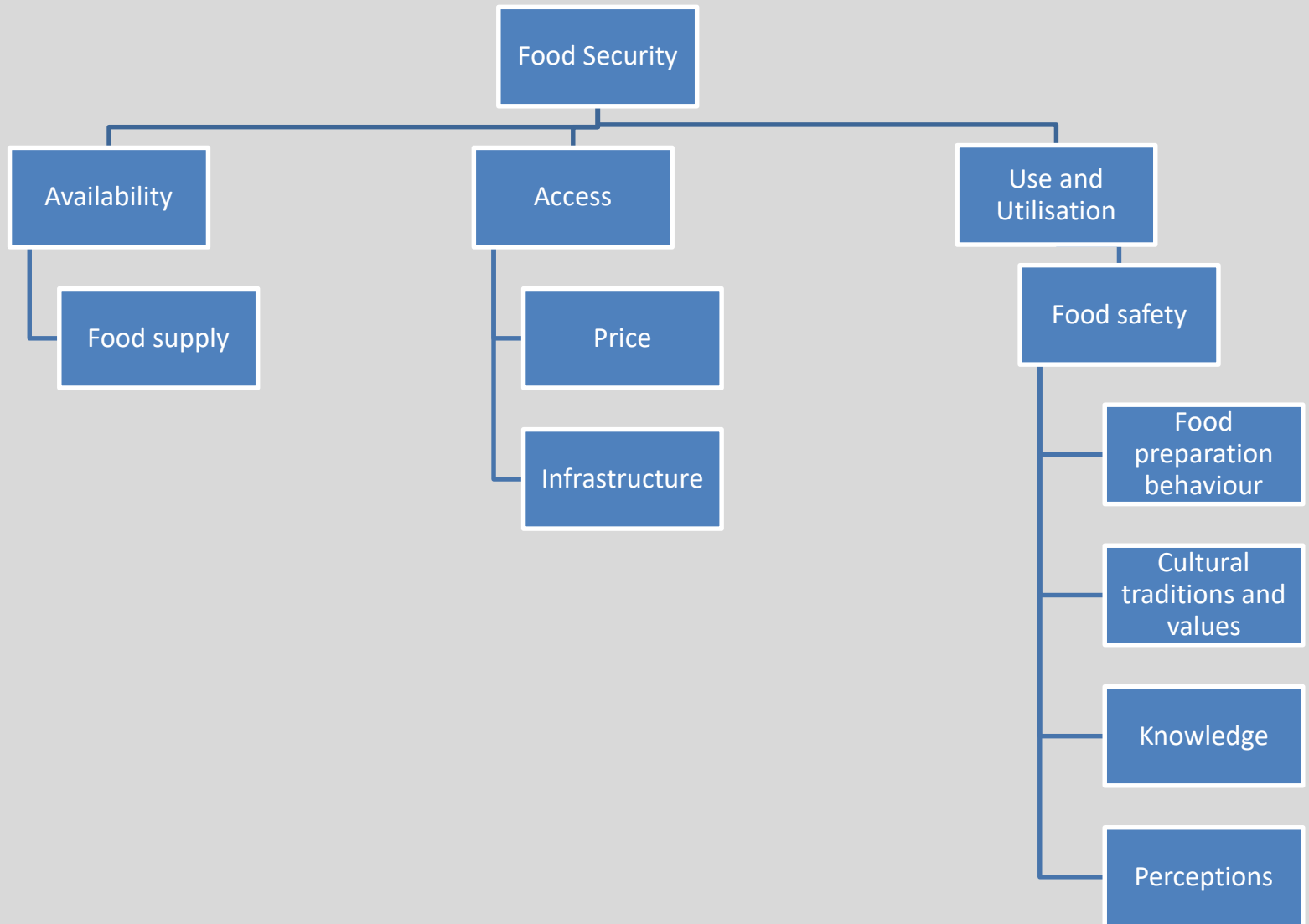


- Primary Purpose of Globalization – More efficient system of food production
- Average food miles in the UK:
Bananas – 5523 miles
Strawberries – 907 miles
Oranges – 1714 miles
- Population explosion + Food scarcity + Migration =  Export and Import of food
- By 2050-2052, it is projected that the global population will reach 8-9 billion people – At this point, the dynamics between population, climate and diet would have a more direct effect on the global food systems^{1,2}
- Assumption:  Food supply =  Food Security³

¹ Randers, J. (2012) 2052. 1st edn. Edited by J. Praded. Vermont: Chelsea.

² Lee, Y. (2014a) *Global food systems: diet, production, and climate change toward 2050*, University of Michigan.

³ Clapp, J. (2015) *Food security and international trade*. FAO of the United Nations. Rome.



All-American Hamburger



Australia, Belgium, Canada, Czech Republic, France, Germany, UK, Thailand, Switzerland, Poland, Russia



Belgium, Canada, Colombia, Costa Rica, Dominican Republic, Guatemala, Israel, Morocco, Mexico, Netherlands, New Zealand, Poland, Spain



Australia, Canada, Chile, Costa Rica, Honduras, Japan, Mexico, Nicaragua, New Zealand, Uruguay



Brazil, Canada, China, Germany, India, Israel, Japan, South Korea, Mexico

Increased Harm

1964 Aberdeen typhoid outbreak

Contaminated
canned sliced
beef imported
by Aberdeen
from Argentina

400 typhoid
cases in
Aberdeen

Reduced
consumption
of corned beef
in the UK



Salmonella
typhi
outbreak in
Aberdeen

Drop in
tourism in
Aberdeen

Paraguay,
Kenya,
Tanganyika
suffer
economic loss

So what role does Food Safety Culture play?

Food Safety Culture – What is it?:

- 1. A range of attitudes, values, perceptions and behaviours which food safety stakeholders share with regard to the risks and hazards associated with food safety and its impact on the wider general public (Nayak, 2018).*
- 2. ... a pattern of behaviours (leading to food safety) that are encouraged or discouraged, by people and systems, over time (Jespersen and Huffman, 2014).*

Common Issues Usually Associated with Globalization



- Lack of clarity and transparency
- Industrialization of the food industry and scale of production (Automation)
- Modernization of production and processing practices
- Shipping over long distances
- Shift from supply-driven to demand-driven economies

Current food safety-related focus areas in the US, UK and Europe



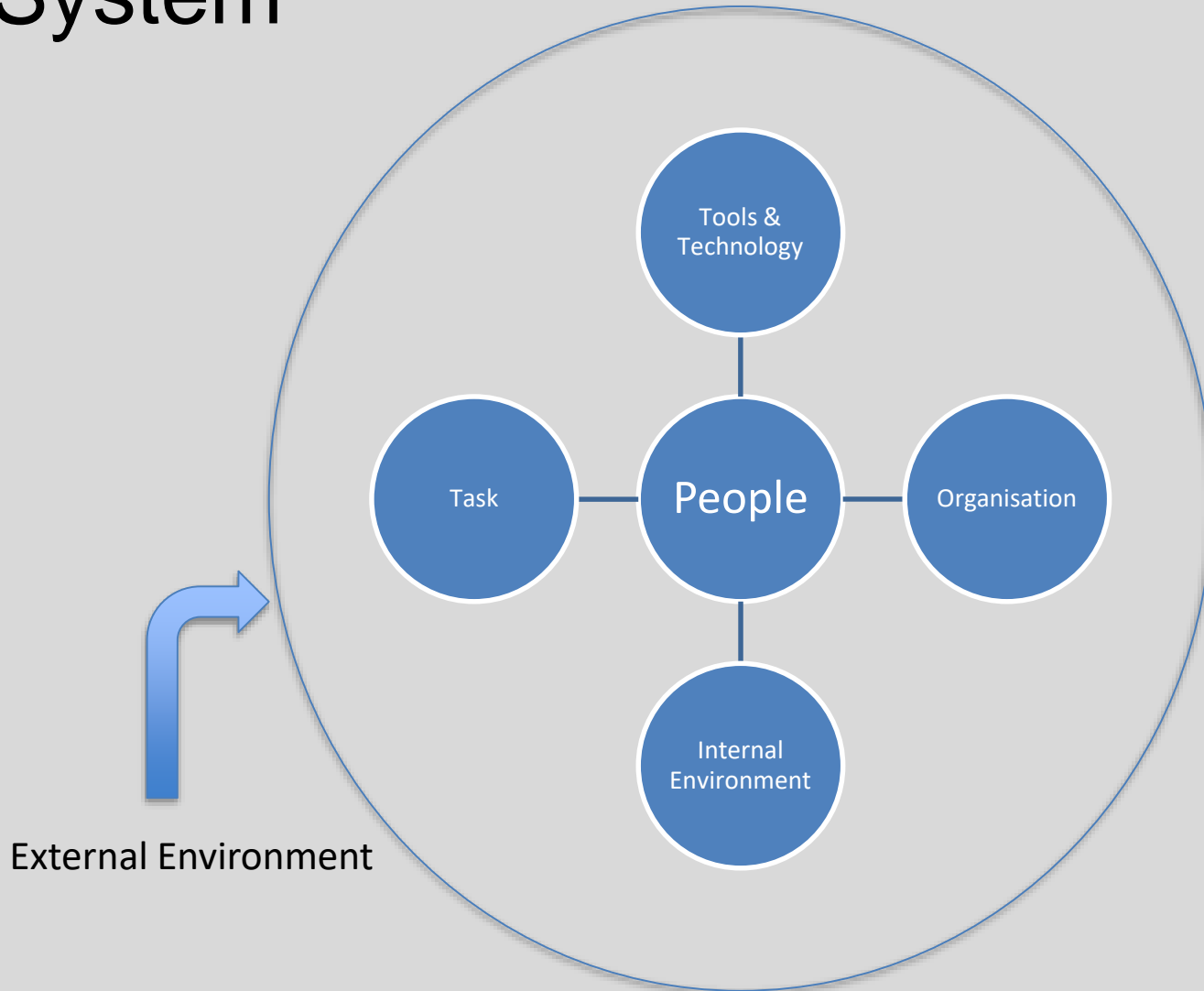
Systemic Level	Current Focus
Wider physical and virtual work environment	Root cause analysis, audits and inspections by food safety inspectors
Personal physical and virtual workspace	Survey instruments, benchmarking, microbial testing, rapid testing techniques
Tasks	Focus on mistakes, individual errors and targets
People	Team training and making every employee understand company protocols and the health and safety protocols
Technology	Reliability and costs
Tools	Compliance, standardisation

SEIPS Model

- Framework designed to study and improve the work of healthcare professionals and patients.
- 3 Principles:
 - a. Systems Orientation
 - b. Person-centeredness
 - c. Design-driven improvements
- SEIPS Model Outline:



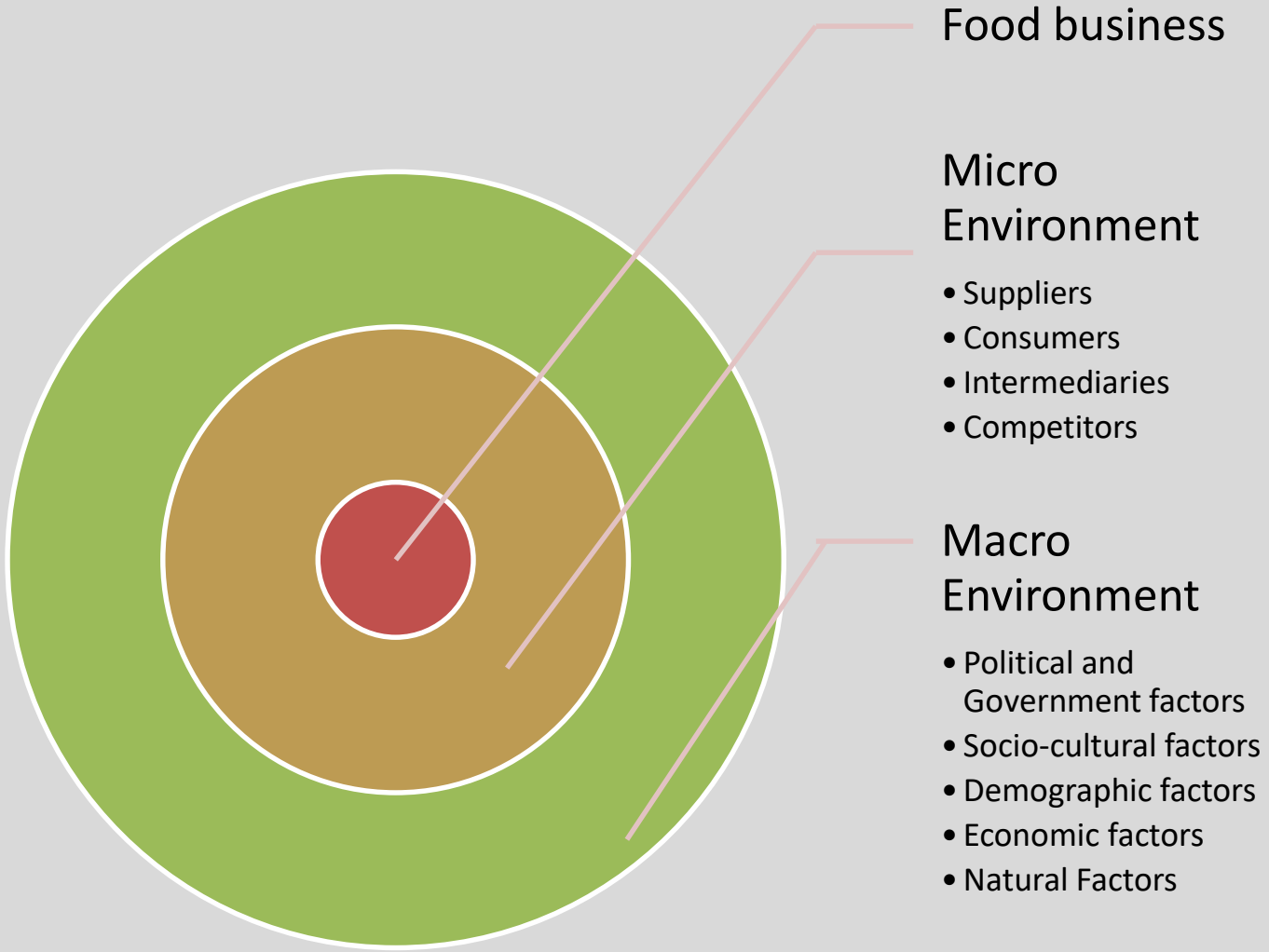
Dimensions of the Work System



So what really are the issues here?

- Lack of clarity and transparency
- Industrialization of the food industry and scale of production (Automation)
- Modernization of production and processing practices
- Shipping over long distances
- Shift from supply-driven to demand-driven economies

Micro and Macro Environments



You can't really influence the external factors

BEAUTY AND THE BEAST



Think Big, Start Small



- Understand the functioning of the global food system
- Distinguish between Symptoms and Causes
- The “root cause” is only the symptom of a systemic level failure
- Don’t focus just on the negatives; Use success stories as examples too
- Don’t confuse people!
- The aim is to improve attitudes, perceptions, values and behaviours or employees as well as organizations

Don't set the system up to fail!



Thank you for listening!

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