



2015 HAWAII UNIVERSITY INTERNATIONAL CONFERENCES
S.T.E.A.M. & EDUCATION JUNE 13 - 15, 2015
ALA MOANA HOTEL, HONOLULU, HAWAII
S.T.E.A.M & EDUCATION PUBLICATION:
ISSN 2333-4916 (CD-ROM)
ISSN 2333-4908 (ONLINE)

INFLUENCES OF NETWORK SCIENCES ON FOOD INDUSTRY: A COMPARISON OF LOCAL, REGIONAL, AND NATIONAL PERSPECTIVES

LIANG, KATHLEEN

THE UNIVERSITY OF VERMONT, BURLINGTON

DEPT. OF COMMUNITY DEVELOPMENT AND APPLIED ECONOMICS

Dr. Kathleen Liang
Department of Community Development and Applied Economics
The University of Vermont, Burlington.

**Influences of Network Sciences on Food Industry: A Comparison of Local, Regional,
and National Perspectives**

Synopsis:

This paper introduces and discusses the relationships between network sciences, marketing strategies, and impacts on local and regional food systems.

Influences of Network Sciences on Food Industry: A Comparison of Local, Regional, and National Perspectives

Liang, Chyi-Lyi (Kathleen), The University of Vermont, Department of Community Development and Applied Economics, 103 C Morrill Hall, Burlington, Vermont 05405

Abstract

The term “food” has changed significantly in the 21st century. A very basic definition of food involves *“material consisting essentially of protein, carbohydrate, and fat used in the body of an organism to sustain growth, repair, and vital processes and to furnish energy”* (Merriam Webster Dictionary). As societies and countries experience intensive transformation in technology and industrial development, “food” becomes a complicated form with embedded influences in our lives. Studies of food vary from basic chemistry to exploring and examining the origins of food, characteristics of food, functions of food, and purposes of food from social, economic, and ecological aspects. Innovative production, marketing, and management strategies have been designed, developed, and implemented in food industry. New policies have been drafted and introduced to encourage, promote, and support food safety and food security at local, regional, and national levels.

One thing is very clear through all the new movements in local and regional food systems – to help producers and consumers connect with food issues beyond conventional business model and practices traditionally embedded in the food industry. There is also a growing trend in local and regional food issues focused on availability, affordability, accessibility, and accountability with respect to food production and consumption. These new ways of doing business between farmers and consumers have explicitly changed the relationships between growers, buyers, and foods from a simple distribution channels to a networking diagram.

This article introduces some preliminary findings from a series of 4 on-going projects funded by the USDA programs to examine the formation and impacts of social and economic networks on farm sector and food market. The overall purpose of these projects is to explore and analyze innovative food networks in the U.S. Specific objectives include: (1) to identify types of multifunctional agriculture activities strategies adopted by farmers; (2) to examine categories of multifunctional agriculture activities associated with social and economic networks; (3) to categorize types of innovative food networks and practices that have improved and encouraged profitability and wellbeing for producers, consumers (buyers), and communities; and (4) to develop strategies and best practices that would assist in establishing sustainable food networks in the long term. We note that there is no widely-accepted definition of “local” and “regional” food systems in this evolving field. The definition of multifunctional agriculture is also new to the U.S. scholars, and it refers to farmers utilizing existing resources to expand their farming activities beyond producing traditional food and fiber to include new, non-traditional production functions and benefits of tangible and intangible goods and services, such as agritourism, direct sales, value added, organic practice, landscape preservation, and balancing/maintaining the health of the eco-system and community well-being. The long-term goal upon completing these projects is to use a trans-disciplinary, cross-regional comparison to critically examine the internal and external drivers for RFNs as components of resilience in the national food system by integrating our assessment across social, economic, and ecological variables.