Chapter 7

Reasons for Adapting Information Connectivity in the Short Supply Chains of Local Food Producers

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ABSTRACT

Local food production is becoming increasingly popular in developed post-modern economies. Attention has been directed to developing such forms of food supply by adapting information connectivity. A case study of a local food network in Norway indicates that local food supply paradoxically attempts to mimic the dominant industrialised modes of food production. It is suggested that the fact that local food supply is “personal” and associated with close proximity makes it more closely resemble service supply chains. Applying contingency theory, a conceptual model is developed that indicates how the local food supply must take into consideration the degree to which customer value is associated with tailoring food supply. The high need for tailored local food production implies that information connectivity should support mutual adaptation while, in cases of less need for tailoring information, connectivity should seek automation. Local food production is always a hybrid of these approaches.

INTRODUCTION

Abatekassa and Peterson (2011) revealed how food markets are becoming increasingly globalized, a trend that is rooted in industrialised large-scale production of both fresh and processed foods. This chapter focuses on a specific issue within the emerging industry: namely, the use of information technology in local food production with the aim of creating value for practitioners in these types of short supply chains (Engelseth & Hogset, 2016). Local food production is a particular form of industry. The research question that we pose is, more specifically, whether it is necessary to adapt the information systems structure and processes for use in such short supply chains typical of local food production.

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To consider this issue, it is first pertinent to analyze the societal context of local food production; the outer layer of the research query. This is because information use is fundamentally viewed as being contingent on such societal factors, including paradigmatic world views regarding how the food industry, and people in general, perceive food production. Due to the dominance of this form of food production, the supply chain management of foods is commonly associated with modern large-scale production systems found in complex industrial networks.

What then is modernism and how does this impact on current food supply? According to Giddens (1991, p. 5), modernism implies a state of mind in which self-identity becomes “… a reflexively organized endeavor”; that is, people in the modern age are not bound by a locality. This also implies that consumption of local “product” is ideally not bound by space. This state of mind impacts on technology use through production. Thus, as it emerged, modernism has encompassed the Industrial Revolution, the mechanization of “man” and mass production to achieve economies of scale.

How then do local foods relate to the dominance of modernism in food production? Accordingly, “local” food may also be mass-produced and distributed globally. This technological change has also meant that the “traditional” ways of producing foods prior to the Industrial Revolution will never return to the same manner as before. Some sort of “going back to the future” is viable, whereby historic modes of food production such as using traditional marketplaces to distribute foods may still inspire but do not completely drive change in food production as a blueprint may.

Apart from nostalgia, consumers seeking foods that remind them of the old days, traditional modes of local food distribution have features that we can still learn from today. This involves also features of information connectivity and use. Food was previously produced close to consumers and sold direct from farmers or fishermen or at local markets. At traditional markets, consumers and farmers as well as fishermen often developed personal bonds, securing value from a customer perspective through institutionalized business relationships. Connectivity in this form of local food supply was manual and sufficient. The Industrial Revolution led to increased scales of raw-material production, processing, distribution and retail. Information connectivity, involving features of the quality of communicating information that binds these supply chain actors together, was adapted to this modernistic logistics system. Integration was simple and personal. Information systems did exist and predominantly involved personal communication.

With the spread of modernistic production, traditional markets faltered in what we currently term “developed countries”. The rise of food production involving collaboration between various specialised producers and service providers and large amounts of long-distance transport also meant that information connectivity and information use had to support such modernistic food supply. From a supply chain management viewpoint, this connectivity may range in industrialised food supply chains from weak to strong, depending technically on investments in information technology to standardise resources facilitating automating interaction. This automation is associated with the now common modernistic information system use, and is therefore dependent on technical features associated with network complexity, perceptions of supply risk and interdependency. Information connectivity is an expression of supply chain integration, a cornerstone of this modernistic supply chain management thinking; the information flow supporting production as flows of goods and services (Lambert et al., 1998). According to Closs et al. (2005), managers who run large-scale factories that are responsible for product supply regard information connectivity as playing a vital role in achieving successful logistics management programs. However, this view does not account for small-scale production where goods supply is targeted at a local market. This indicates also a research issue associated with adapting information connectivity and use to the short supply chain structure typical of local food production.
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