

The long reach of lean retailing: Firm embeddedness and Wal-Mart's implementation of local produce sourcing in the US

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Abstract

With its corresponding concepts of societal, territorial, and network embeddedness, firm embeddedness offers a theoretical framework for analyzing how retailers develop strategies and business models determined by their home country context, but also adapted to new places, consumers, and networks. This paper uses firm embeddedness to examine food retailer adaptation *within* a changing home market, focusing on Wal-Mart's efforts to implement local produce sourcing in the U.S. Growing consumer interest in local food has sufficiently shifted the competitive landscape within the U.S. market that Wal-Mart and other food retailers have sought to incorporate local produce into their operations. This paper asks whether Wal-Mart's core lean retailing strategy facilitates or impedes such efforts to localize its U.S. produce supply chains. Qualitative field research conducted in 2011–2012 in one U.S. region centered on semi-structured interviews with 27 fresh fruit and vegetable producers involved in Wal-Mart's local produce supply chains and 20 representatives of organizations facilitating commercial relationships between local growers and Wal-Mart. We find that the lean retailing model developed by Wal-Mart in response to historical circumstances in U.S. retailing and central to its present global retail dominance also limits Wal-Mart's ability to engage in the bottom-up learning and adaptation to local contexts necessary for adjusting to the new competitive environment of local food. Wal-Mart's centralized management and distribution systems, practices of cutting out intermediaries, and emphasis on standardization all presented some barriers to establishing the territorial and network embeddedness that could facilitate adaptation. However, we conclude that rather than simply failing to adapt to the challenges of localization, Wal-Mart applied a hybrid strategy in its local produce sourcing program. This hybrid strategy combined lean retailing—Wal-Mart's traditional basis of competition—with selected, rather than comprehensive aspects of localization.

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Competitive environment, firm embeddedness, food retailer, food systems, lean retailing, local food, localization, standardization, supply chain

Introduction

In 2008, Wal-Mart announced its goal to purchase \$400 million worth of local produce on a state-by-state basis in the U.S. as part of its sustainability initiative (Wal-Mart, 2008). This announcement immediately drew charges of greenwashing from those for whom Wal-Mart and local food are inherently incompatible, while others applauded the company's commitment to supporting family farmers. These competing visions of Wal-Mart as either a boon or bane of the American economy relate to debates about whether Wal-Mart's interest in sustainability epitomizes capitalism's efforts to appropriate resistant discourses in order to preserve patterns of accumulation (Constance and Bonanno, 2000), or represents a timely opportunity to reform the conventional food system (Greenhalgh, 2010). However, these two stark readings oversimplify the social processes and economic relationships that determine whether and how the world's largest and arguably most powerful food retailer incorporates local produce into its established business practices. This paper goes beyond a black and white reading of Wal-Mart's local sourcing program as either the appropriation of a social movement or a boon for family farms and ventures into the gray area of actual implementation and implications. In this paper, we ask: How does Wal-Mart's core lean retailing strategy facilitate or impede its efforts to localize its U.S. produce supply chains?

In the retail sector, the very term "lean retailing" has become so associated with Wal-Mart that it is often referred to as "Wal-Martization" (Lichtenstein, 2009). Lean retailing refers to the economies of scale derived from streamlined distribution and just-in-time product management, both of which are achieved by shifting logistical responsibilities from retailers to downstream supply chain businesses in order to offer goods at low cost (Gereffi and Christian, 2009; Lichtenstein, 2009). To understand how Wal-Mart's lean retailing strategies facilitate or impede the company's ability to incorporate local food into its supply chains, we draw upon the theoretical framework of firm embeddedness as it has been used in economic geography. While the majority of empirical studies that apply the theoretical framework of firm embeddedness have explored firms in the production sectors (Burt et al., 2016), a subset of these studies (led largely by Wrigley, Coe, and colleagues) has examined how retailers develop strategies and business models that are simultaneously determined by their home country context (referred to as societal embeddedness) and also adapted to new places, consumers, and networks (reflecting territorial and network embeddedness) (Hess, 2004; Wrigley et al., 2005). Wrigley et al. (2005) and Burt et al. (2016) have argued that retailers are distinguished from manufacturing or other firm types in that all retail firms localize their operations to some degree in adapting to the host environment. Compared to other firm types, retailers are "intimately embedded" in the social and market networks that connect them to both suppliers and consumers, even as they remain global in nature (Burt et al., 2016: 4). Studies focusing specifically on retailer embeddedness examine how societal embeddedness shapes a retailer's ability to adapt to local contexts when it enters foreign, emerging markets, although some have also analyzed the process of retailers moving between two mature markets (Coe and Lee, 2013; Currah and Wrigley, 2004; Lowe and Wrigley, 2010; Matusitz and Leanza, 2011; Wrigley et al., 2005; Wrigley and Lowe, 2007). This paper builds on this work by applying the lens of firm embeddedness to understand how a

dominant food retailer has adapted to changing market conditions *within* its home environment, in this case the growing market for local food. We analyze how societal embeddedness shapes Wal-Mart's ability to draw on resources of territorial and network embeddedness to adapt to this new competitive environment. In doing so, this paper meets the call for "detailed grounded studies" of how firms restructure supply chains in mature, competitive markets (Lowe and Wrigley, 2010: 403).

We begin with the theoretical framework of firm embeddedness, and the interlinked concepts of societal, territorial, and network embeddedness, which have been used to study behavior and practices of transnational retailers in international markets. We then explore Wal-Mart's societal embeddedness, which we argue is manifested through its lean retailing model emphasizing centralization, supply chain efficiencies, and standardization. We next discuss how local food constitutes a new competitive market in the U.S., and how Wal-Mart's response has shifted since the early 2000s. We describe our methods in conducting qualitative fieldwork with growers and others involved in Wal-Mart's local produce supply chain management, before turning to an analysis of how Wal-Mart's societal embeddedness affected its ability to establish territorial and network embeddedness in the implementation of its local produce sourcing in the U.S.

We conclude by discussing how the core features of lean retailing—centralization, supply chain efficiencies, and standardization—generally impeded Wal-Mart's ability to adapt to the new competitive context of local food procurement. However, we also suggest that far from simply failing to adapt to the challenges of localization, Wal-Mart has applied a hybrid strategy combining its traditional basis of competition (lean retailing) with selective aspects of localization. This hybrid strategy has allowed Wal-Mart to draw on enough aspects of localization to meet its sustainability goals, but without radically restructuring its existing system. In concluding, we do not argue here that Wal-Mart cannot "do" local on moral grounds, as many proponents of a local food movement might claim. Rather, approaching Wal-Mart's local produce sourcing program from an organizational perspective, we highlight important logistical and ideological disjunctures arising from the incompatibility of Wal-Mart's core lean retailing strategies and the challenges of incorporating local produce and growers into its supply chains.

Firm embeddedness and the challenge of new markets

Research in economic and retail geography has applied the theoretical framework of firm embeddedness to analyze how transnational retailers both transfer and adapt their business practices when entering new markets.¹ Such research draws heavily on Hess (2004), and his distinction between societal, territorial, and network embeddedness. In the tradition of Polanyi (1944) and Granovetter (1985), scholars of firm embeddedness argue that globalization does not involve an overarching disembedding of markets from societies; instead, transnational corporations connect both to their home country contexts and to new places through the practices, networks, and adaptations they make to compete in new markets. For retailers, this lens has been applied to cases where retailers from the Global North enter emerging markets, and also to how these processes unfold as retailers move from one mature market to another (Burt et al., 2016; Currah and Wrigley, 2004; Lowe and Wrigley, 2010; Matusitz and Lanza, 2011; Shackleton, 2002). We contend that a firm embeddedness framework also provides conceptual guidance for understanding how retailers approach new competitive environments *within* their home markets.

Firm embeddedness is constituted of societal, territorial, and network embeddedness (Hess, 2004; Wrigley et al., 2005). Societal embeddedness can be understood as

“the legacy or ‘genetic code’ that a firm carries with it from the institutional, regulatory, and cultural context of its home market—for example, from national-level industrial relations systems, business practices, and prevailing corporate cultures” (Lowe and Wrigley, 2010: 384). Thus, a firm manifests underlying values and repertoires of practice forged within a specific national socio-economic context. Empirical research has shown that in the case of retailers, societal embeddedness often leads them to approach expansion through “organic growth,” or “transference,” wherein the company imposes its existing business model in a new context without adapting it (Lowe and Wrigley, 2010; Matusitz and Leanza, 2011). Wal-Mart is well known for pursuing an “organic growth” strategy in international markets, although with mixed results; in the UK, Germany, and South America, “Wal-Mart was adamant about replicating—rather than modifying—its Bentonville-based blueprint, thereby disregarding local idiosyncrasies” (Matusitz and Leanza, 2011: 132). This led either to early failure in these markets or to Wal-Mart’s total withdrawal (as in the case of Germany; see Christopherson, 2007). While Lowe and Wrigley (2010) argued that commonalities between Anglo and American versions of capitalism rendered societal embeddedness less relevant for their analysis of the UK chain Tesco’s expansion into the U.S. market, we maintain that Wal-Mart’s history of “organic growth” makes societal embeddedness critical for analyzing Wal-Mart’s practices in response to increased local produce demand within its home market.

In contrast, territorial embeddedness references processes of adaptation to the specific local context where a firm operates, including considerations of consumer culture and regulatory environments (Hess, 2004; Wrigley et al., 2005). More so than other types of firms, such as manufacturers, retailers need to be responsive to the sociocultural context of local consumption, make investments in local store infrastructure, and make some use of local networks of suppliers, even in the case of global retailers (Burt et al., 2016; Wrigley et al., 2005). According to Wrigley et al. (2005: 449), “the fundamental dilemma facing any [transnational corporation] is how to balance the unique needs of global operations to reap improved efficiencies arising from economies of scale and scope, and how to transfer knowledge within the firm to develop distinctive, place-based organizational competencies.” This “dilemma” is manifested as tension between top-down practices, as determined by societal embeddedness, and bottom-up adaptations to local contexts, which reflect territorial embeddedness (Coe and Lee, 2013; Currah and Wrigley, 2004). Together such top-down and bottom-up knowledge transfers have been described as “continuous morphing,” a “comprehensive and ongoing transformation of a firm’s organizational structures, routines, and capabilities through which it seeks continuously to regenerate and enhance its competitive advantage under conditions of intense competition” (Lowe and Wrigley, 2010: 382). For example, while Wal-Mart’s societal embeddedness impeded its early growth strategy in the UK market, over time the company learned to adapt to consumers’ taste preferences, including eventually implementing a decentralized sourcing model that could supply more local and organic produce (Matusitz and Leanza, 2011). It remains unclear, however, whether Wal-Mart can transfer lessons learned abroad for implementation in its home market, as suggested by the concept of territorial embeddedness (Coe and Lee, 2013).

Finally, firm embeddedness also draws on network embeddedness, or the transnational corporation’s, “web of inter- and extra-firm relationships with suppliers, customers, competitors, and other organizations that provide those firms with access to products, markets, technologies, information, and influence in the markets in which they enter and operate” (Lowe and Wrigley, 2010: 384). Hess (2004) posited these networks as both relational and constituting the very infrastructure determining the flow of products. In studies of retailer expansion, network embeddedness has often been operationalized as

supply chain restructuring, centralization, and consolidation, including establishment of a network of preferred suppliers (Lowe and Wrigley, 2010). Failure to establish networks with existing wholesale distributors in Germany contributed to Wal-Mart's failure in that market, while its ability to adopt a decentralized sourcing model in the UK has contributed to greater success there (Christopherson, 2007; Matusitz and Leanza, 2011).

Such research on processes shaping retailers' expansion initiatives points to obstacles that Wal-Mart could encounter in attempting to implement a local produce sourcing program in the U.S. In the next section, we discuss how Wal-Mart's societal embeddedness developed, including the key components of centralization, supply chain efficiencies, and standardization.

Societal embeddedness: Wal-Mart and lean retailing

In 2011, Wal-Mart controlled one-third of all U.S. grocery sales (Howard, 2016). Wal-Mart's retail power rests on specific strategies historically and contextually determined within the U.S. market, and arguably anchoring its societal embeddedness. Important for this research, Wal-Mart occupies a unique position in food retailing. Wal-Mart is typical, representing a business model now characterizing U.S. retailing more generally, but also exceptional, exercising unrivaled scale, influence, and retail market power. One could claim that identical institutional and regulatory contexts shape the societal embeddedness of all U.S. retailers, which were similarly affected by policies that relaxed anti-monopoly legislation and facilitated industry-wide consolidation and concentration in the 1980s (Levinson, 2011; Wrigley, 2002). However, Wal-Mart also stands apart, due partly to the charismatic leadership of founder Sam Walton, and partly to the ensuing infrastructural innovation and organizational culture supporting Wal-Mart's early strategy of targeting rural, and later exurban, locations. In essence, the retailer translated its societal embeddedness into an organizational culture valuing *centralization*, *supply chain efficiencies*, and *standardization*. It then leveraged both its infrastructure and its culture into a replicable model that other international retailers have adopted.

Wal-Mart's *centralized* structure is first evident in the relationship between headquarters and individual stores. To ensure consistency across stores, store layout and management have been determined at the corporate level, leaving store managers little autonomy (Gereffi and Christian, 2009; Lichtenstein, 2009). Wal-Mart's distribution infrastructure further demonstrates the primacy of centralization. As most early Wal-Mart stores were located in rural areas where it was difficult to ensure a consistent supply of deliveries, founder Sam Walton established proprietary distribution centers to facilitate the flow of goods (Lichtenstein, 2009). This distribution system built Wal-Mart's expertise in logistics, allowing it to move high volumes of product while cutting costs and keeping prices low. Wal-Mart's lean retailing model has also promoted *supply chain efficiencies* by leveraging its vast economies of scale to cut out wholesalers and develop direct relationships with suppliers (Burt and Sparks, 2006; Gereffi and Christian, 2009). Previous research on its operations found that Wal-Mart has developed its networks of suppliers instrumentally, cutting out wholesalers, and also leveraging its scale to force suppliers to adapt their own products and processes to meet Wal-Mart's demands, while being expected to bear the costs, risks, responsibilities, and lack of autonomy such adaptation entails (Fishman, 2006; Lichtenstein, 2009; Petrovic and Hamilton, 2006). Finally, *standardization* has been a central feature of Wal-Mart's societal embeddedness. Companies like Wal-Mart, referred to as "replicator organizations," highly value standardizing products and processes to ensure consistency across stores (Lichtenstein, 2009). Historically, standardization drove the development of the modern produce industry, which moved from packing and shipping

many diverse produce varieties to breeding and favoring varieties that could withstand longer distance transport (Levinson, 2011).

Centralization, supply chain efficiencies, and standardization strongly characterize Wal-Mart's societal embeddedness and undergird the lean retailing model. Research on local food systems suggests that features of Wal-Mart's organizational culture and infrastructure may impede bottom-up knowledge transfer. For example, procuring and effectively marketing local produce often rests on the knowledge, motivation, and some autonomy of store-level grocery employees (Abatekassa and Peterson, 2011). In addition, although local food movement actors may champion "cutting out the middleman" as a strategy allowing farmers to retain a greater share of the food dollar, Wal-Mart's pattern of eliminating middlemen and shifting risks and costs onto suppliers could sit uneasily with its potential need for intermediaries to incorporate smaller-scale farmers in its supply chains. Finally, standardization of produce can preclude attention to regional differences in growing and social conditions, which translate to differences in costs and subsequent pricing.

Before analyzing Wal-Mart's local produce sourcing initiative in the U.S., we next turn to how local food has reshaped the competitive environment of U.S. food retailing, and figured within Wal-Mart's larger sustainability initiative.

Local food: A new competitive environment

Consumer interest in local food can be seen as a reaction against perceived negative repercussions of an increasingly globalized and industrialized food system. Proponents imbue local food systems with certain social values and expectations of benefits, although the lack of a consistent or binding definition for "local," or any type of standard or certification process, means that these values and benefits remain perceived, not guaranteed. In agrifood studies, "local embeddedness" has referred to how commercial and social relationships in food production and exchange are embedded in local contexts (Hinrichs, 2000; Murdoch et al., 2000). Consumers tend to associate local food with rural and community economic development, support of small-scale agriculture and family farmers, health, and food security, and often see direct interactions between producers and consumers in emplaced communities as a means to achieve wider social and economic goals (Moser et al., 2011). These multiple associations have pushed "local" beyond only a sourcing strategy and more into social movement territory.

However, as local food interest has grown, large corporate players have paid attention. By 2009, "seven of the top ten [US] food retailers had some reference to local foods on their websites" (Oberholtzer et al., 2014: 346), and by 2012, local farm sourcing was identified as the top grocery trend (Low et al., 2015). In 2012, local food sales in the US totaled between \$6.1 and \$9.0 billion, according to the USDA and a private industry consultant, respectively (Low et al., 2015). Leading global retailers, including Carrefour, Tesco, and Wal-Mart, now incorporate local food within an overall corporate sustainability strategy (Peters and Zelewski, 2013). Although local food remains a small percentage of total market share, surveys indicate strong consumer interest in purchasing local foods, with demand for local exceeding that for organic (Low et al., 2015; Moser et al., 2011).

Promoting "local" food aligns well with Wal-Mart's longstanding emphasis on low prices and quality products. Local food taps into rising consumer social and economic values, yet avoids price premiums attached to organic or other sustainability standards. In 2006, procuring local produce became part of Wal-Mart's overall sustainability initiative, which had been launched the year before to increase the company's competitiveness and innovation

(Scott, 2005). Around the same time, Wal-Mart began an initiative “upscaling” its products to compete better with retail rivals, such as Target, which were growing market share (Lichtenstein, 2009). However, the 2008 recession prompted Wal-Mart to step back from “upscaling” and re-focus on its low price reputation and competitive advantage, both again key in a recessionary context. In the early 2010s, Wal-Mart outsourced some major elements of its sustainability initiative to external partners, such as the Environmental Defense Fund and the Sustainability Consortium, a newer multi-sector collaboration that Wal-Mart helped to found and continues to fund (Konefal et al., 2014). Through these partnerships, Wal-Mart has contributed to developing supplier self-assessments, possible standards for measuring and reducing greenhouse gas (GHG) emissions, and other metrics related to sustainability (Freidberg, 2013).

While Wal-Mart has engaged in activities aimed at defining and regulating sustainability for its own supply chains, Wal-Mart’s definition of “local” produce for the U.S. market has fluctuated over time. Wal-Mart referred to its local produce program as “Heritage Agriculture” when first announced in 2006, again in 2008 with its commitment to spend \$400 million on “local” produce, and as part of its sustainability goals for agriculture in 2010. The Heritage Agriculture program focused on three regions (a Mid-America States project, a Delta States project, and an I-95 Corridor project) and emphasized reintroducing horticultural crops historically grown in these regions. As part of its 2010 sustainability goals, Wal-Mart also vowed to double its sourcing of local produce by 2015; in 2012, Wal-Mart reported the goal achieved by reaching 11% of produce in Wal-Mart stores then coming from “local” sources (Global Sustainability Progress, 2012). That same year, the *Wall Street Journal* ran a story questioning the company’s definition of “local”, reporting both that distribution centers were encouraged to purchase from within 450 miles, and that “local” was defined strictly by state boundaries (Bustillo and Kesmodel, 2011).

By 2012, Wal-Mart’s reporting on local produce projects in its Global Sustainability Reports no longer referred to Heritage Agriculture, and instead focused on one project in the Delta States region, where Wal-Mart collaborated with the USDA and Tuskegee University to source from a small cooperative of African American farmers (Robinson et al., 2014; Walmart Locally Grown, 2012). By 2015, Wal-Mart’s Global Sustainability report emphasized GHG reductions within Wal-Mart’s Climate Smart Agriculture Platform, and also local produce sourcing from small-scale growers in international markets. Focus on US local produce had diminished, mentioned only with reference to increased consumer access to local produce, and a reiterated statement about doubling Wal-Mart’s amount of locally sourced produce (Walmartstores.com: Global Sustainability Report, n.d.).

Despite shifting programs and priorities, local produce continues to be advertised in Wal-Mart stores and on Wal-Mart’s website (Weninger, 2015). The evolution of Wal-Mart’s local produce sourcing strategy demonstrates how the competitive environment surrounding sustainability and local food has shifted. We now turn to empirical research examining implementation of Wal-Mart’s US local produce sourcing initiative and emphasizing how aspects of Wal-Mart’s societal embeddedness affected the formation of territorial and network embeddedness. This research investigates how this program functioned in 2011–2012, as Walmart was shifting from its Heritage Agriculture approach to promoting its ability to double its sourcing of local produce within each U.S. state. The analysis expands the literature on retailer strategy by exploring adaptation to changing markets *within* a home country market.

Research methods

This research examines Wal-Mart's implementation of its local produce sourcing program through the perspectives and experiences of growers and representatives of organizations working to facilitate linkages between Wal-Mart and local growers. Beyond its significant retail power, Wal-Mart is famed for its proprietary stance on information about its operations (Fishman, 2006; Levinson, 2011). This stance also creates barriers for researcher access to Wal-Mart employees or managers, contributing in part to this study's empirical attention beyond the formal organizational boundaries of Wal-Mart to focus instead on its networks of suppliers. However, because the larger supply chain is now widely recognized as the structure through which firms exercise control over the distribution and allocation of resources and benefits, there is analytical value in looking beyond formal firm boundaries to other supply chain actors for understanding firm behavior (Ponte and Gibbon, 2005; Whitley, 1987). Our decision to focus on growers and representatives of facilitating organizations accords with an agrifood supply chain perspective, which approaches the firm through its multiple interactions, linkages, and disjunctures with other relevant actors throughout the chain (Busch, 2007).

This paper draws on field research conducted between November 2011 and March 2012 in one U.S. region where Wal-Mart was then working to develop local produce supply chains for its stores.² Fieldwork included semi-structured interviews with 27 fresh fruit and vegetable producers across 25 operations, which were then either participating in Wal-Mart's local supply chains, had previously participated, or had been recruited to participate, but had declined.³

Table 1 presents basic characteristics for the grower sample. About one-third of growers' operations farmed more than 1000 acres, with most focused on vegetable production. Of the 25 operations studied, 18 were currently supplying produce for Wal-Mart stores; nine of these sold produce to a broker, who then supplied Wal-Mart (with one additional grower having previously sold through this channel); six sold directly to the Wal-Mart distribution center, while three used Wal-Mart's Direct Store Delivery (DSD) option (and one had previously sold through this channel).

Five growers in the study sourced produce from smaller-scale growers, and had processing facilities where they aggregated and shipped these products; we refer to them

Table 1. Characteristics of sample growers' operations.

	Farm operations
Operation size (acres)	
1–100	7
101–599	8
600–999	0
1000–5000	5
>5000	3
Unknown	2
Mode of sale to Wal-Mart (current and previous)	
Through intermediary	10
Direct to Walmart distribution center	6
DSD	4
Not selling to Wal-Mart	5

DSD: Direct Store Delivery.

as grower/packer operations (their operations ranged in size from 200 to 4000 acres). Two brokers were interviewed, who each combined their own smaller-scale farming operation of 300–400 acres with a business sourcing product both regionally and internationally.

Fieldwork also included semi-structured interviews with 20 representatives from 10 different organizations working in the region to facilitate commercial relationships between local producers and Wal-Mart, either by providing introductions, resources and training, or by aggregating and distributing local produce to regional Wal-Mart stores. Eight interviews were conducted with university extension staff or educators, four with representatives of individual state Departments of Agriculture, three with staff in non-profit organizations, three with staff of wholesale distributors in the region, and two with federal USDA employees based in the region.

We asked all interviewees to describe their working relationship and local produce sourcing activities with Wal-Mart, including what specific agricultural practices Wal-Mart requested and monitored, how “local” and “sustainable” were defined and implemented in the local produce supply chain, and what commercial interactions they had observed or experienced along the chain. Interviews ranged between 15 and 90 min, and were digitally recorded and transcribed verbatim. NVivo 10 software was used to code and analyze the interview data, identifying and interrelating recurring themes and patterns.

We organize the findings into three sections that relate to the aspects of lean retailing that Wal-Mart derived from its societal embeddedness: centralized management and distribution, supply chain efficiencies, and standardization. We analyze how each aspect of Wal-Mart’s societal embeddedness was applied in the company’s local produce sourcing strategy, stressing how territorial and network embeddedness were either established or challenged.

Centralization and direct store deliveries

For Wal-Mart, developing local produce supply chains involved finding and working with more small and mid-sized farms in order to build network embeddedness. Wal-Mart achieved this in two ways: first, grower/packers and brokers with volumes large enough to sell directly to Wal-Mart warehouses sourced from small to mid-size farms (discussed in the following section); second, some small to mid-size growers sold directly to individual Wal-Mart stores through the option of DSD. DSD is a common model that retailers employ for branded manufactured goods; it cuts costs for supermarkets by shifting inventory management, delivery, and stocking responsibilities onto manufacturers (Brennan et al., 2008). However, reflecting Wal-Mart’s preference for centralized distribution, only 15% of what it spends on overall store merchandise is channeled through DSD, compared to 50% for its competitors (Direct Store Delivery vs Central Distribution White Paper, 2015). DSD for produce was developed by the Senior Vice President and General Merchandise Manager of Perishables for Wal-Mart between 1992 and 2007. Although it ceased to be an official program after that individual left Wal-Mart, DSD relationships that had begun before Wal-Mart’s local produce initiative continued, and more developed in response to Wal-Mart’s new interest in local food (Prevor, 2013). While DSD for produce remains a small fraction of Wal-Mart’s produce purchasing, it warrants attention because it ostensibly represents a decentralized sourcing model building territorial and network embeddedness by allowing individual store produce managers to form relationships with local producers and adapt their purchasing to local conditions. Importantly, however, DSD also represents a potential threat to centralized management’s ability to ensure Bentonville’s versions of price uniformity, standardization, and quality control—hallmarks of Wal-Mart’s societal embeddedness.

Some growers using DSD reported interacting largely with store-level produce managers, who readily placed orders and made payments to them. For example, Grower A described his relationship with Wal-Mart in terms of his dealings with produce managers at several local stores: “I’m very happy with that because I do not have to go any higher in the organization than the local store produce manager... Whatever he and I decide, that’s it. He don’t even have to go to his store manager.” In such cases, DSD sourcing served as a decentralized procurement model that fostered network embeddedness.

Some growers, however, described challenges in having to deal both with store produce managers and centralized “local” category managers. To maintain price uniformity and quality control, most supermarket retailers employ “category managers” who make purchasing decisions at a national level within certain categories; for example, for produce, common “categories” include leafy greens, melons, or stone fruit (Lichtenstein, 2009). In implementing its local produce sourcing program, Wal-Mart adopted this model, creating “local” category managers who are responsible for all purchases of “local” categories of produce (e.g. “local” leafy greens, “local” melons, or “local” stone fruit). Growers’ DSD experiences revealed the uneven interplay of roles, knowledge and commitment across such national-level “local” category managers and store-level produce managers as Wal-Mart sought to source local produce.

For example, Grower B, a larger-scale grower who had been delivering to multiple Wal-Mart stores in the region for some ten years, reported that having to work with Wal-Mart’s “local” category manager (based in a distant office) only undermined relationships he had built with produce managers at local Wal-Mart stores, including, significantly, his ability to negotiate prices with them. Just as Wal-Mart centrally manages for low-cost purchasing in its other product categories, the “local” category manager aimed for a consistent, nationally-based price for all of Wal-Mart’s “local” produce. Frustrated, Grower B ultimately flouted Wal-Mart’s efforts to maintain centralized control: “We had set a price with him [local category manager] and he actually came back during our season and said ‘Oh, we’re going to lower that price.’ So we just ignored him and dealt with the local [store] produce managers here.” This grower’s relationship with local produce managers preceded Wal-Mart’s local produce sourcing initiative and creation of “local” category managers. It reveals tensions that arose as Wal-Mart sought to impose its centralized management strategy on its local produce sourcing system without recognizing the need for a regional pricing system that would account for differences in growers’ costs.

For some producers in the program, tensions in centralization stemmed not from undue control by “local” product category managers, but more from entrenched infrastructures favoring centralized distribution. For example, Facilitator A, an extension agent who had worked with a produce cooperative selling directly to 17 Wal-Mart stores, described how store-level employees struggled to balance local sourcing with deliveries from Wal-Mart’s warehouse:

[Produce managers] are trained or somehow they are instructed to do all of their food ordering through the distribution centers. And it’s more convenient for them to do it that way than to work with someone that’s coming in locally bringing the stuff in. Because orders would have to come from Arkansas [Wal-Mart headquarters] to these particular stores to hold off ordering from the distribution centers and take the product in locally.

Such observations underscore how Wal-Mart’s deep “genetic code” favoring central management authority and distribution shaped implementation of a purchasing option such as DSD that might facilitate effective local sourcing. Longstanding centralized practices have socialized store-level employees to operate in ways beholden to and reinforcing of central management control, favoring a centralized distribution system.

Farmers and facilitators in this study suggested that some Wal-Mart store produce managers could independently stop orders from Wal-Mart's centralized warehouses so as to accommodate local produce acquired through DSD. However, in other cases, the effectiveness of DSD relied more on a centrally located "local" category manager being able and willing to coordinate warehouse and DSD deliveries.

The resulting uneven implementation of Wal-Mart's DSD program for local produce sourcing shows how the strategy of centralization in its lean retailing model has influenced Wal-Mart's engagement with local food suppliers. Development of more territorially-based relations between local produce suppliers and Wal-Mart buyers at specific stores was constrained by centralized management policies and existing distribution systems. While Wal-Mart's DSD program highlights how centralized management can undermine efforts to establish network embeddedness in the local produce program, DSD was only one sourcing model within Wal-Mart's overall local sourcing. Larger scale growers frequently assumed an intermediary role in order to integrate smaller, local growers into Wal-Mart's produce supply chain. However, the complex role of intermediaries within Wal-Mart's lean retailing strategy produced further tensions in implementing its local produce program.

Efficient supply chains and the role for intermediaries

In 2009, Wal-Mart announced a new produce procurement system that included purchasing directly from suppliers and cutting out "co-managers," the term for a third-party company which itself never handled the product, but was responsible for all paperwork and managing relations with Wal-Mart (Aubrey, 2013; Prevor, 2011). For local produce sourcing, this shift has meant turning to particular grower/packers and brokers as new intermediaries to aggregate and distribute produce from smaller-scale farms, in effect building new forms of network embeddedness. While intermediaries can help ensure that such smaller-scale growers do not compromise the supply chain efficiencies so central to lean retailing, the very need for intermediaries sits uneasily with Wal-Mart's pattern of cutting out middlemen and extracting cost savings by shifting risks and costs onto suppliers.

Pressure from Wal-Mart compelled grower/packer operations to identify and work with smaller-scale producers so that their produce met Wal-Mart's requirements. Grower/packer operations in this study all had processing facilities, as well as a full-time staffperson dedicated to food safety compliance. They could offer post-harvest processing and guidance on food safety to smaller local growers and also coordinate planting schedules to stagger supply. Working with local growers further allowed grower/packers to offer more local products, creating a commercial benefit for grower/packers. For example, speaking about whether Wal-Mart asked him to reach out to smaller growers, Grower C, a grower/packer, explained, "...initially it was probably that way. Now more and more people like ourselves are just doing it because of the local movement, and it makes a lot of sense. You know, everybody can't sell to a major retailer every day." Here the grower/packer referenced "everybody" who might want to tap larger retail markets, while alluding to the special role and capacity of operations like his to make this happen.

Placing larger-scale farms with aggregating capabilities in the position of identifying and training smaller-scale local growers clearly aligned with Wal-Mart's core model by shifting the costs, risks and responsibilities of integrating such producers into Wal-Mart's local supply chains onto extra-firm farms and businesses. Larger-scale growers benefited from being able to offer more local produce, but they also assumed the transaction costs of working with multiple small growers on Wal-Mart's behalf. Grower C described both risk

and hassle in Wal-Mart's request that he deal with certain smaller-scale producers whose operations didn't meet the strict standards (such as those for food safety) that Wal-Mart required, commenting that for Wal-Mart to connect with these small farms,

You need to look at doing it direct to the store, because logistically you know... We can't go by there and pick up 35 boxes to come in here and mix it into our mix... Same reason why they [Wal-Mart] can't do it!

This perspective illustrates the challenges of purchasing from smaller-scale local growers who may not meet all of Wal-Mart's requirements, and thus how Wal-Mart has shifted the responsibility and costs of establishing network embeddedness onto larger scale growers who serve as intermediaries.

Although Wal-Mart had initially asked grower/packers and brokers to integrate more local growers into their own supply chains, several growers reported that Wal-Mart was also trying to bypass intermediaries and establish direct relationships with growers. Previous research has similarly found that wholesalers in Wal-Mart's supply chains are under constant pressure to develop networks of low-cost suppliers, yet face the threat that after doing so, they could lose their place in the chain should Wal-Mart try to bypass them (Petrovic and Hamilton, 2006). Indeed, Grower D, a smaller grower selling to a broker, reported that Wal-Mart had approached him directly in an attempt to cut out the broker intermediary. However, appreciating the intermediary's services, the grower rebuffed Wal-Mart's overtures:

The [Wal-Mart] buyer called me one time. He wanted to talk to me about selling to them without [the broker]. And I had heard some horror stories about dealing directly with Wal-Mart, so I was really cautious about that- I didn't call him back. The next time I talked to the buyer at [the brokerage], I said, "Are you aware that they're trying to go around you?"

This example underscores the importance of relationships along the supply chain, and suggests potential misreading of these relationships by Wal-Mart as it attempted to bypass intermediaries and establish networks of independent growers. In addition, this same grower indicated that managing supply was one service that he felt necessary to mediate his relationship with Wal-Mart. Other grower/packers mentioned this issue as well, noting that larger-scale grower/packer operations and brokers had more resources for either finding alternate markets or absorbing losses, and were therefore less vulnerable in dealing with a large, powerful company such as Wal-Mart if it suddenly reduced its orders due to oversupply in the market.

Grower/packer and broker intermediaries appeared crucial in offering needed services and training to help integrate smaller-scale growers into Wal-Mart's local produce supply chains, but their own role may have been precarious, due to Wal-Mart's pattern of eventual efforts to bypass its own intermediaries and associated additional transaction costs. This ambiguous place for intermediaries showed how establishing network embeddedness for procurement of local produce challenged both suppliers and Wal-Mart. Turning now to matters of territorial embeddedness, we question how adaptations to local context may be compromised by Wal-Mart's emphasis on standardization, which in turn affects the corporation's ability to adapt to the new competitive environment of local food.

Standardization and differentiation of local produce

The need for standardization to maintain its "replicator organization" model demonstrates further tensions between Wal-Mart's societal embeddedness and its ability to establish

network and territorial embeddedness within its approach to local food sourcing. Local food advocates have stressed how farm- or place-based labels can communicate social values and enable smaller-scale farmers to create brands that empower them (Lyson et al., 2008). However, allowing a multitude of farm-based “local” labels would detract from store-to-store consistency and weaken the centralized standardization on which Wal-Mart’s business strategy rests. Here again, rather than permitting a bottom-up approach to incorporating local food into its supply chains that might strengthen territorial embeddedness, Wal-Mart opted to centralize and standardize local food from the top down, an approach consistent with its lean retailing priorities.

Wal-Mart’s local produce marketing centered on special packaging design with a common logo, used company-wide to communicate when Wal-Mart produce was “local.” The packaging featured large, green balloon letters spelling “Locally Grown,” the product type in smaller black font below, and a small pop-out sign naming product origin (by state or region) to the side. The “local” packaging included no prominent display of the Wal-Mart name. Wal-Mart piloted its local produce labeling and packaging with selected produce varieties in 2012. However, growers in this study viewed Wal-Mart’s local labeling with concern, with many who sold produce to Wal-Mart objecting to use of this generic local label. Some had told their buyers that they refused to use the label, with Grower E commenting, “I kind of laughed even thinking about that, thinking Wal-Mart doesn’t hear ‘no’ very often!” In resisting Wal-Mart’s local labeling, the local produce growers offered evidence of how Wal-Mart’s strategic preference for standardization conflicted with other premises and values surrounding local food.

Importantly, growers disliked the prospect of being pooled into Wal-Mart’s “generic local” category. For example, Grower G, who had previously, but no longer sold produce to Wal-Mart, asked, “Why, if you’re going to promote a local product that has a 75 year track record, a brand that is a regional brand that is known, would you want to change it to ‘local’ that has no brand on it? It makes you a generic that fits in with everybody else.” This comment suggests that producers saw Wal-Mart’s labeling system as misaligned with their own perspectives on the best way to relate to their specific clientele or position themselves in response to growing consumer demand for information about the provenance of food.

In addition to concern about having to use Wal-Mart’s standardized local label, several growers worried that a company-wide local label would confuse Wal-Mart customers, who would not recognize state-based sources of produce beneath this nationally uniform Wal-Mart local label. They anticipated challenges in how Wal-Mart would manage and track its locally labeled produce to avoid consumer misunderstandings or backlash. As Grower B put it: “. . . if you have ‘locally grown’ label all over the country, where could it come from? You know, it could come, okay they’re short on the East Coast, let’s send some of these Texas [products] over there with ‘locally grown’ on them and they’ll never know the difference.” Producers expressed these concerns even though the Wal-Mart local label we observed in the field in 2012 included space for specifying the state or region from which the product originated. Further, Wal-Mart representatives have said that their local label includes a space where individual producers can also apply their own farm-based label (McCormick, 2012, sec. United States Senate Agriculture Committee). Nonetheless, growers’ wariness about the management and reception of Wal-Mart’s local label showed how the retailer’s commitments to standardization across operations shaped its approach to local sourcing in problematic ways. As one facet of Wal-Mart’s societal embeddedness, top-down standardization across stores and products worked against a localized sourcing strategy allowing for meaningful bottom-up adaptations to local contexts that might strengthen territorial embeddedness.

Discussion

Drawing on a theoretical framework of firm embeddedness, this research has demonstrated how core features of Wal-Mart's lean retailing strategy were applied to its local produce sourcing initiative, as experienced and perceived by local producers and supply chain facilitators. This analysis sheds light on processes by which corporate retailers attempt to adapt to changing competitive conditions *within* the home market, in this case, by Wal-Mart's reliance on, and limited adaptation of, its lean retailing model for implementing local produce sourcing in the U.S. Wal-Mart's highly centralized structure and distribution networks (including use of "local" category managers) made it difficult for smaller-scale producers to access its local produce market. Direct-store-deliveries and large-scale growers acting as intermediaries did enhance integration of smaller-scale growers into Wal-Mart's locally grown program. However, DSD relationships sat uneasily with Wal-Mart's centralized management and infrastructure, and intermediaries incurred additional costs and risks in working with small-scale growers, while also facing the potential of being bypassed by Wal-Mart. Further, Wal-Mart's default to a national, centralized pricing structure for local produce failed to account for unique growing conditions and constraints in different geographical regions, which can mean higher costs and shorter growing periods for some producers than in other areas, and therefore the need for higher prices. Finally, Wal-Mart's treatment of local produce as simply another "category" and its attempts to standardize local products with a generic company-wide label further disembedded local produce from its social, environmental and farm contexts, in a move sometimes resisted and certainly questioned by the very local producers it sought to enroll.

This research shows how Wal-Mart's societal embeddedness—represented by its lean retailing strategy centered on centralized management and distribution, supply chain efficiencies, and standardization—impeded the company's ability to adapt to the new competitive environment of local food sourcing in food retailing. Wal-Mart's rigid hierarchical organization and emphasis on central control created little space for bottom-up knowledge management, and undermined territorial and network embeddedness. However, concluding that Wal-Mart failed to adapt adequately to the requirements of local produce sourcing overlooks the actual processes that the company used in its localization efforts, and its capacity to "continuously morph" (Lowe and Wrigley, 2010) in responding to a changing competitive environment.

In the early stages of the program studied here, Wal-Mart's local produce sourcing efforts suggested a hybrid approach, drawing significantly on aspects of its core lean retailing model, while selectively incorporating elements of localization. Standardization offers a good example of how Wal-Mart has combined, or hybridized, approaches to old and new bases of competition. In general, the retailing sector has shifted from competition based largely on undifferentiated commodities (and therefore price) to competition among differentiated, value-added products (Busch, 2007). Wal-Mart's generic local label can be seen as engaging both types of competition. It used standardization of local products to maintain the competitive advantage of low prices, but also nodded toward differentiation through product labeling to appeal to shifting consumer demand. This hybrid approach to local produce ultimately provided a "generic localism" (Guthman, 2007), which showed some evidence of antagonizing the very producers needed as suppliers. Efforts to merge corporate retailing and local food systems created contradictions, causing some observers to question the capacity of Wal-Mart to implement its local sourcing program. Despite these concerns, this research suggests that local sourcing works for Wal-Mart when it fits neatly into the win/win rhetoric of its overall approach to sustainability, that is, when Wal-Mart

can continue to apply the strategies that constitute the lean retailing model, while also fulfilling its commitment to offering produce from local farmers.

Conclusion

We have applied a theoretical framework of firm embeddedness to shed light on how a major corporate food retailer selectively adapted to shifting competitive conditions *within* its home market. Based on field research examining producers' and intermediaries' perceptions and experiences with Wal-Mart's early efforts to develop local produce supply chains for its U.S. operations, we examined how the company's societal embeddedness, manifested in its contextually-derived corporate strategies and infrastructure, profoundly shaped its approach to implementing local sourcing. Rather than viewing Wal-Mart's new attention to local food either as part of an inexorable conventionalization dynamic or as beyond the pale of genuine local food systems, we examined complexities and contradictions in how retailer embeddedness shaped the actual implementation and performance of Wal-Mart's local produce supply chains.

This research demonstrated that adapting Wal-Mart's produce supply chains to accommodate locally embedded networks of producers may be technically possible, yet remains significantly constrained by the company's "genetic code," including the infrastructure and contextually-derived strategies comprising the lean retailing model. Unsurprisingly, Wal-Mart introduced local produce sourcing into its retail operations with little evident deviation from the centralization, reduction or control of intermediaries, and standardization so key to its lean retailing model. But these obdurate commitments to lean retailing, whether as conscious embrace or enduring corporate habit, also created areas for contestation related to the local produce supply chains Wal-Mart aimed to foster. Tensions manifested between centralized and decentralized supply chain management, between eliminating intermediaries, but also needing them, and between standardizing Wal-Mart's local label and alienating producers of the product to be so labeled.

A significant limitation of this research is that we were constrained to perspectives of participants in, and facilitators of, Wal-Mart's local produce supply chains. Future research would benefit from investigating firm organizational behavior from within the corporation itself, drawing, for example, on the dynamic capabilities framework (Zahra et al., 2006); however due to challenges in studying Wal-Mart operations (described earlier), such direct study would appear unlikely. Instead, we recommend that future research consider how, in the context of growing corporate interest in sustainability, the culture and ideologies that grow up around existing systems define what practices will be considered sustainable and what reforms may ultimately be possible as a result.

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Notes

1. While the dynamic capabilities model and variants of institutional theory are also used to examine firm strategies and resources in managing business processes and behaviors in changing environments, we use an embeddedness framework here for two reasons. First, we had restricted access to the firm itself, which limits our ability to draw conclusions about managerial decision-making and strategies (Zahra et al., 2006). Second, we see areas of congruence with agrifood studies related to the evolving organization of actors in the food system, and embeddedness frameworks have been widely used in studies of agrifood systems change (Hinrichs, 2000; Murdoch et al., 2000).
2. The specific US region remains unspecified to protect research participant confidentiality.
3. At one particularly large operation, three separate individuals (with positions in field operations, food safety/sustainability and sales, respectively) were interviewed.

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