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Segmenting CSA members by motivation: anything but two peas in a pod

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Abstract

Purpose – The purpose of this paper is to seek to segment CSA members based on their motivations to join a CSA.

Design/methodology/approach – Data obtained from an online survey of 565 members belonging to a New York state CSA were analyzed using a combined hierarchical and non-hierarchical cluster analysis.

Findings – Based on their motivations to join a CSA results reveal four distinct types of segments among CSA members: No-Frills Member, Foodie Member, Nonchalant Member, and Quintessential Member. Results show all four clusters differ statistically across demographic characteristics including gender, political affiliation, and household income. The clusters differed across psychographic characteristics such as attitudes toward the treatment of animals, treatment of farm workers, pesticide use, the environment, food miles, and limiting factory farm purchases. Quintessential Members emerge as most concerned with food purchasing decisions while No-Frills Members are least concerned.

Research limitations/implications – The study employs a non-random purposive sample of CSAs in New York state. Respondents were recruited indirectly to participate in an online survey. The length and complexity of the survey, absence of an email address for respondents, levels of digital fluency, and technical glitches may result in lower participation rates.

Practical implications – This paper offers recommendations to farmers for retaining and attracting different types of CSA members.

Originality/value – This is the first study that segments CSA members in the USA based on their motivations to subscribe to a CSA, and it differentiates CSA member clusters based on their demographics, psychographics, and food purchasing decisions.

Keywords USA, Consumer perceptions, Consumer purchasing decisions, Cluster analysis

Paper type Research paper

Most American consumers are indiscriminate, "buying what they want, within the limits of what they can get without asking further questions about price or quality" with taste usurping all other preferences (Berry, 1989). Yet fresh, seasonal produce appears to be attracting a growing body of consumers who seek locally grown agricultural goods as an alternative to the industrialized food system. Several local food programs including Jersey Fresh, Virginia's Finest, and Arizona Grown cater to these types of consumers and even retailers like Wal-Mart endeavor to offer more locally grown foods (O'Mara, 2008; Philpott, 2012). Currently local, organic, and sustainable

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foods occupy 4 percent of the total food supply in the USA with heightened consumer interest in alternatives that emphasize local sustainable agriculture (Jalonick, 2014). As of 2013 there were more than 8,500 CSA farms in the US (McFadden, 2013) and upwards of 400,000 families subscribing to these farms (www.harvest2u.com/what-is-csa.html). Estimates predict continued growth in the number of CSAs might be attributed to increasing concerns about food safety, local sustainability, and environmental degradation (Lang, 2005).

With growth in the number of CSA farms and consumers interested in CSA it becomes critical for the CSA farmer to understand the different types of consumers who subscribe to a CSA so they can better tailor their products and services to meet the needs of different consumer segments. Several studies attempt to describe a typical CSA member and identify the motivations for joining a CSA (Lang, 2010; Pole and Gray, 2013; Uribe *et al.*, 2012), yet none appear to investigate the role of CSA members as consumers. Using cluster analysis we segment members based on their motivations to join a CSA and the analysis yields four subgroups, "No-Frills Members," "Foodie Members," "Nonchalant Members," and "Quintessential Members." Further, we examine the intersection of these subgroups with concerns about food purchasing decisions regarding treatment of animals, treatment of farm workers, use of pesticides, the environment, local sustainability, local food miles, support for famers in New York state, and limiting purchases from factory farms/industrial food system.

Why study CSA members' motivations?

Studies of CSA tend to focus on the perspective of the farmer (Lizio and Lass, 2005; Lyson, 2004; Ostrom, 2006), though increasingly research (Conner, 2003; Lang, 2010; Perez *et al.*, 2003; Pole and Gray, 2013) examines the opinions of CSA members ranging from what motivates them to join a CSA to whether and how they prioritize purchases. Studying membership provides an opportunity to gain greater insight into preferences of CSA subscribers[1]. Taste (87 percent) and price (87 percent) are the top influences on food purchases, however, increasingly consumers also are interested in health (66 percent), convenience (58 percent), and sustainability (52 percent) (Matthews, 2011).

To better understand specific segments of consumers, research investigating local food consumption uses cluster analysis, organizing consumers into groups or clusters based on common needs and priorities (Bond *et al.*, 2008; Keeling-Bond *et al.*, 2006; Nie and Zepeda, 2011; Thilmany *et al.*, 2008; Zepeda and Nie, 2012). To date, it appears few studies of CSA use this method to understand consumer preferences and research on purchasing decisions of CSA members appears to be largely absent. Our study segments CSA customers based on their motivations to join a CSA, thereby filling a methodological gap. It also benefits farmers in understanding subscriber preferences, retaining subscribers, attracting new members, and tailoring marketing strategies to specific segments of CSA members.

Literature

CSAs

A rich literature on CSA examines alternative farming arrangements in which CSA members pay farmers a fee in exchange for a weekly supply of fresh produce, and other farm products during a growing season (Lang, 2010). Studies show CSA subscribers are well-educated, upper income, women with a majority self-identifying as Democrat (Lang, 2010; Oberholtzer, 2004; Pole and Gray, 2013). Reasons for joining a CSA appear

centered on the quality and provenance of food with only moderate to weak support for sharing risks with farmers and the community aspects of this alternative farming arrangement (Lang, 2010; Oberholtzer, 2004; Pole and Gray, 2013). Chronicling her own experience, DeLind (1999) recounts how subscribers were more concerned with fresh produce and having a pleasant experience than helping harvest or weed.

By joining a CSA members assume risk, paying for a subscription in advance of receiving any products. Members develop concern for the society and community that go beyond market considerations (Hinrichs, 2000). In their theoretical framework, which places support for farmers on a continuum, Feagan and Henderson (2009) suggest a truly collaborative CSA model faces many challenges. Many CSAs are closer to instrumental and functional models with weak or no support for farmers, respectively. Empirical studies of CSA show mixed results on support for farmers. Lang's (2010) study of a CSA in Maryland shows 60 percent of members joined their CSA to support small farmers and more than three-quarters joined to support local farmers – though these were not the most common reasons for joining a CSA – while Pole and Gray's (2013) study of New York CSAs suggests respondents in the lowest income category are more willing to share financial risks with a farmer than CSA members in the highest income category.

Emphasis on the local aspects of food production also plays a prominent role in the literature, and it is often cited as a reason a member joins a CSA. While the term "local food" appears to be a unifying theme that challenges the industrial food system (Ostrom, 2006), contested definitions of what constitutes local abound. In the US, The Food, Conservation, and Energy Act of 2008 (2007-2008) defines local as, "the total distance a product can be transported must be less than 400 miles from its origin or within the state in which it is produced" (http://thomas.loc.gov/cgi-bin/query/z?c110:h2419). To wit, Schnell (2013) contends members are less concerned with what constitutes local and food miles, instead caring more about the production and consumption aspects of food. Eating locally emphasizes the individual, largely ignoring the role of communities, and it highlights the individual as a consumer, first and foremost (DeLind, 2010). With diminished emphasis on community our research investigates consumer interests.

Concerns about the environment, pesticides, and issues related to sustainability also arise as reasons for joining a CSA. Focussing on environmental and sustainability issues Zepeda and Nie (2012) finds CSA farms are more sustainable, preserving more farmland and diversifying production. In studies of mid-Atlantic CSAs, as many as 80 percent of respondents in one study (Lang, 2010) and as few as 62 percent of CSA members in another (Oberholtzer, 2004) reported they joined their CSA because of environmental concerns. Similarly, members who belonged to CSAs in California's central coast underlined the importance of ecological concerns by reducing shipping costs and providing more support to local farmers (Perez *et al.*, 2003). Our study also seeks to gauge the importance of environmental issues in terms of motivations to join a CSA and food purchasing decisions.

Decisions guiding food purchasing and consumption

To better understand how CSA subscribers make food purchasing decisions, this research draws upon the ethical consumption literature. Ethical consumption guides food purchasing decisions for many consumers including those who prefer local and/or organic (Johnston and Szabo, 2011). Understanding how food purchasing decisions

impact alternative agriculture may elucidate motivations to join a CSA. Subscribing to a CSA might enable consumers to consciously support local farmers and the community, while other consumers prefer food absent pesticides or factory farms. According to Johnston and Szabo (2011) this consumer consciousness is termed reflexivity. A contested term, the authors argue reflexivity "seeks to address problematic aspects of the food system" (p. 303). Other scholars contend reflexivity includes knowledge of food system actors and individual choices (Power, 1997; Rose, 1999). Still reflexivity is not without criticism. Shaped by structural inequalities in the marketplace (Johnston and Szabo, 2011), reflexivity creates a false dichotomy between consumers. Upper income shoppers are perceived as more cognizant of their decisions, while low-income shoppers are often viewed as undiscerning (DuPuis and Goodman, 2005). Despite these shortcomings, scholars argue CSA, farmers markets, and community gardens offer the best alternative for consumers to express their interests in justice through the marketplace (Allen, 2008; Buttel, 2000).

Consumer segmentation

Segmentation is a popular concept in shopping studies and it includes food purchasing. Identifying consumers' motivations offers insight into purchasing behavior, which can then be adapted to develop appropriate marketing strategies (Hollywood *et al.*, 2007; Nunes and Cespedes, 2003). Research detailing the food purchasing patterns of average consumers abounds, however, consumer segmentation research delineates the motives and preferences of particular types of consumers. More recently, psychographic and behavioral variables are encompassed in segmentation research, which results in greater explanatory power (Quinn *et al.*, 2007). In the context of food for example, researchers use value (Macharia *et al.*, 2013), lifestyles (Kesic and Piri-Rajh, 2003), and safety attitudes (Kennedy *et al.*, 2008) to segment food shoppers.

Several studies investigate consumer preferences for local and organic foods (Bond *et al.*, 2008; Keeling-Bond *et al.*, 2006; Nie and Zepeda, 2011; Thilmany *et al.*, 2006, 2008; Zepeda and Nie, 2012). To investigate local and organic foods among different consumer groups Nie and Zepeda (2011) segment consumers into four lifestyle categories. Results show statistically significant differences among farmers markets and organic shopping, however, participation in a CSA was not significant, likely due to a small *n* for CSA subscribers (Nie and Zepeda, 2011). Similarly, Thilmany *et al.* (2006, 2008), Keeling-Bond *et al.* (2006), segment consumers who purchase fresh produce directly from farmers and compare this group to other consumer segments using a national online survey of US food shoppers. Pesticide-free produce emerges as the most important value among all clusters (Keeling-Bond *et al.*, 2006). In subsequent analysis, the authors indicate local production is more valued than organic food, while pesticide-free continues to rank highly among all clusters (Bond *et al.*, 2008). Explaining the conflicting results, Bond *et al.* (2008) contend "specific claims may resonate more than certifications like organic, which may be misunderstood because of its complexity." While these studies employ cluster analysis they do not segment CSA members nor do they offer insight into preferences and the food purchasing decisions of CSA members. Our research seeks to fill these gaps.

Data and methods

Data were generated from an online survey of CSA members, the unit of analysis, using a cross-sectional design. A cross-sectional design provides an opportunity to describe

the characteristics that exist in the population at one specific point in time (Levin, 2006). The survey was distributed to members of CSA farms in New York state between November and December 2010[2]. While agriculture in New York is small, relative to larger farming states, it is nevertheless vital to the state's economy[3]. Though estimates of CSA vary, the United States Department of Agriculture (USDA) ranks New York 13th with a total of 364 CSA farms, and Local Harvest ranks New York first with 261 CSA farms (www.localharvest.org/csa/)[4].

To draw the population of CSA farms in New York state we relied upon Local Harvest's database[5]. The USDA only supplies aggregate data on CSA farms, and supplements this with six links to databases designed to help visitors locate a farm. Of the six links, Local Harvest contains the most comprehensive list of CSA farms in the US. In September 2010, we generated a list of all CSA farms in New York state. This was augmented by a keyword search using Google and the words "New York state CSA." A total of 266 CSA farms were located, which appear to be well-dispersed geographically throughout the state with the exception of the Adirondack Mountain region. Using a non-random sample, we engaged in purposive sampling – sending all CSA farms an invitation to participate in our study – due to constraints associated with recruitment of CSA members.

Before distributing the survey we telephoned CSA farmers/managers informing them about our study and sent an introductory e-mail asking CSA farmers/managers if they would extend an invitation to their members to participate in a voluntary online survey[6]. In November 2010, a second e-mail was sent containing an explanation of the study and a link to the survey. A reminder to complete the survey was sent to members (via CSA farmers/managers) two weeks later. Consisting of 39 close-ended questions, the survey was designed to gauge members' views on a range of items. Table I provides descriptive statistics for variables included in the analysis. To participate in the survey two criteria were established. First, respondents needed to be 18 years of age and second, the CSA farm to which the respondent belonged needed to be located in New York state.

Data analyses

The data analyses consisted of descriptive statistics, factor analysis, cluster analysis, and ANOVA. Before segmenting CSA consumers based on their motivations, factor analysis using a principal component analysis (PCA) with varimax rotation was employed (Johnson and Wichern, 1992). The PCA method identified four distinct factors that motivate members to join a CSA: Building a Sense of Community; Local/Organic Produce; Seasonal/Fresh Produce; and Price/Convenience. Factor loadings ranged from 0.528 to 0.900, and the internal reliabilities of factors exceeded the minimum criterion of 0.60 (Hair *et al.*, 1998).

Cluster analysis was performed using a combined hierarchical and non-hierarchical method (Park *et al.*, 2011). Though hierarchical and non-hierarchical methods are used widely, employing each method independently is less preferred than a combination of the two methods (Hair *et al.*, 1998) because in hierarchical clustering undesirable early combinations can occur throughout the analysis. In non-hierarchical clustering results depend upon the initial seeds as it uses random initial seed points. To overcome these deficiencies this study employs a combined approach, using hierarchical (Ward's method) followed by non-hierarchical (*K*-means) clustering techniques. The *K*-means technique uses the initial seed generated by the Ward's method (Block *et al.*, 1994; Hair *et al.*, 1998).

	Mean	SD	*n*
Rate factors motivating decision to join a CSA[a]			
Seasonal fruits/vegetables	4.56	0.819	564
Freshly picked fruits/vegetables	4.75	0.594	564
Organic fruits/vegetables	4.49	0.890	565
Health	3.92	1.19	565
Price	2.83	1.27	565
Convenience	2.89	1.21	565
To eat locally produced food	4.69	0.688	565
Reduce food miles	3.95	1.25	565
Limit exposure to pesticides	4.42	0.958	565
Build stronger sense of community	3.57	1.27	565
Share financial risks with a farmers	3.14	1.33	564
Volunteer at farm	1.84	1.14	565
Meet like-minded people	2.35	1.28	564
Participate in farm events/activities	1.98	1.13	565
Treatment of farm workers	2.68	1.37	564
Rank-order top three items influencing decision to join a CSA[b]			
Seasonal fruits/vegetables	2.01	0.802	223
Freshly picked fruits/vegetables	1.97	0.773	273
Organic fruits/vegetables	1.80	0.823	303
Health	2.14	0.772	69
Price	2.46	0.793	28
Convenience	2.63	0.496	19
Eat locally produced food	1.74	0.792	392
Reduce food miles	2.33	0.696	78
Limit exposure to pesticides	2.20	0.793	125
Build stronger sense of community	2.57	0.615	63
Share financial risks with a farmers	2.26	0.791	66
Volunteer at farm	2.43	0.787	7
Meet like-minded people	2.90	0.316	10
Participate in farm events/activities	2.00	1.00	3
Treatment of farm workers	2.78	0.441	9
Degree of concern about food purchasing decisions on[c]			
Treatment of animals	1.88	1.06	555
Treatment of farm workers	2.02	1.03	555
Pesticide use	1.48	0.914	555
Environment	1.46	0.905	555
Local sustainability	1.45	0.919	555
Food miles	1.88	1.02	555
Supporting farmers in NYS	1.69	1.04	555
Limiting purchases from "factory farms" or "global industrial food system"	1.69	1.04	555
Age	42.29	12.5	565
Female	0.84	0.363	565
Education			
Elementary school or less	0.00	0.059	565
Some high school	0.00	0.042	565
High school degree	0.01	0.094	565
Some college	0.06	0.224	565

(*continued*)

Table I.
Summary statistics

	Mean	SD	*n*
College degree	0.28	0.447	565
Some graduate school	0.11	0.313	565
Graduate school degree	0.47	0.500	565
Hispanic/Latino(a)	0.03	0.169	511
Race			
White	0.83	0.379	565
Black	0.02	0.144	565
Asian	0.04	0.194	565
Native American	0.01	0.103	565
Native Hawaiian	0.01	0.094	565
Household income (in dollars)			
0-15,000	0.05	0.214	565
15,001-35,000	0.07	0.254	565
35,001-50,000	0.10	0.294	565
50,001-75,000	0.15	0.360	565
75,001-125,000	0.22	0.412	565
125,001 >	0.25	0.431	565
Number of people contributing to household income	1.64	0.564	530

Notes: [a]The scale ranges from 1 to 5, 1 being no influence and 5 the most influence; [b]the scale ranges from 1to 3; [c]1 = very interested, 2 = somewhat interested, 3 = neutral, 4 = somewhat uninterested, 5 = very uninterested

Table I.

Results

CSA member demographics

A total of 565 CSA members responded to the survey, and of this 84 percent of respondents are women (Table I). On average respondents are 42 years of age, ranging from 20 to 78 years. More than 80 percent of respondents identified themselves as white and well-educated. Almost half of CSA members (47 percent) earned a *graduate degree* and 11 percent of CSA members attended *some graduate school*, while more than a quarter of respondents (28 percent) reported *earning a college degree*. A majority of the CSA members who responded to the survey appear to be well-off financially. In total, 46 percent of respondents indicated their annual household income is $75,000 or more, which also is the median income category. In contrast, 12 percent of CSA members reported annual household incomes less than $35,000 and the same percentage of respondents declined to provide their household income. A majority of respondents (59 percent) indicated that two individuals contributed to their annual household income, and almost one-third of respondents (31 percent) reported their household contains only one wage earner.

Motives for joining a CSA

We surveyed members' motivations for joining a CSA asking respondents to rate the factors that motivated them to subscribe to a CSA by selecting from a list of 16 items. On a five-point scale, approximately 80 percent of respondents rated eating freshly picked fruits and vegetables and eating locally produced food a five – a major influence – in their decision to join a CSA. Seasonal fruits and vegetables and organic also was ranked a five by nearly 70 percent of respondents. Respondents also were asked to rank-order the top three factors that influenced their decision to join a CSA.

Collapsing the rankings, eating locally produced food (69 percent), followed by organic (53 percent), and finally freshly picked fruits and vegetables (48 percent) were ranked the top three factors. The least influential factors – five percent or less ranked these items in the top-three – are price, convenience, volunteering at the farm, meeting like-minded people, and participating in farm events/activities.

CSA member clusters

CSA members are motivated to join alternative farming arrangements for a variety of reasons. Results from cluster analysis (see Table II) yield four distinct consumer groups: No-Frills Member; Foodie Member; Nonchalant Member; Quintessential Member. All four clusters are significantly different from each other. The No-Frills Member (Cluster 1) seeks seasonal and fresh produce above all else. These members might be characterized as utilitarian, primarily seeking seasonal and fresh produce. Low negative scores along the other dimensions characterize this cluster, and again underline their singular focus. The Foodie Member (Cluster 2) scores high along two food dimensions – local/organic and seasonal/fresh – with low negative scores on the community dimension, and low positive scores on price and convenience. This group highlights the importance of food quality. The Nonchalant Member (Cluster 3) scored negative and close to zero along all dimensions suggesting that none of the traditional motivations explain why members of this group joined a CSA. Finally, distinguishable from other groups by their high scores across all four dimensions, the Quintessential Member (Cluster 4) is the ideal CSA member who cares about all aspects of the CSA, especially building a sense of community.

CSA member profiles

A χ^2 test was conducted to determine whether or not the resulting clusters differ across demographic characteristics. Table III illustrates the clusters differ significantly with respect to gender ($\chi^2 = 12.648$, p 0.05) and all clusters contained a greater percentage of females than males. This finding supports the literature, which illustrates CSA members as predominantly female (Lang, 2010; Pole and Gray, 2013). Further, a statistically significant relationship ($\chi^2 = 17.68$, p 0.05) exists among the clusters and political affiliation (i.e. Democrat, Independent, Republican, and Other). Not unexpected, all four clusters are characterized by a majority of Democrats followed by Independents, Republicans, and Other. Again this finding supports the literature demonstrating a majority of CSA members self-identify as Democrat (Lang, 2010; Pole and Gray, 2013). Household income also shows a significant relationship ($\chi^2 = 34.453$, p 0.05) across the four clusters. The No-Frills, Foodie and Nonchalant Members occupy the highest income

	Means[a]				
Motivations	No-Frills Member	Foodie Member	Nonchalant Member	Quintessential Member	*F*-values
Building a sense of community	−0.34	−0.57	−0.07	1.20	215.079*
Local/organic produce	−2.00	0.37	0.10	0.24	247.152*
Seasonal/fresh produce	0.44	0.35	−1.74	0.29	299.170*
Price/convenience	−0.18	0.01	−0.39	0.31	11.073*
Cluster size	69	254	94	145	
(Percentage of total, $n = 562$)	(12.28)	(45.19)	(16.73)	(25.80)	

Notes: [a]The cluster means are based on factor scores. *$p < 0.001$

Table II. Results of cluster analysis

Demographics	No-Frills Member (%)	Foodie Member (%)	Nonchalant Member (%)	Quintessential Member (%)	χ^2	p-value
Gender					12.648	0.005
Male	18.8	12.6	26.6	11.7		
Female	81.2	87.4	73.4	88.3		
Political affiliation					17.678	0.039
Democrat	71.6	64.1	64.8	59.0		
Independent	14.9	21.5	17.0	18.0		
Republican	11.9	6.3	9.1	6.5		
Other	1.5	8.0	9.1	16.5		
Household income					34.453	0.032
0-15,000	6.0	2.5	5.7	8.8		
15-35,000	4.5	6.3	6.9	10.9		
35-50,000	11.9	10.5	3.4	13.1		
50-75,000	14.9	15.2	13.8	19.7		
75-125,000	22.4	23.6	21.8	23.4		
Over 125,000	29.9	25.7	37.9	17.5		
Education					19.965	0.523 ns
Race					20.386	0.672 ns

Table III. Results of χ^2 differences among clusters

category followed by the other categories, which appear in descending order. In contrast, a plurality of Quintessential Members (23 percent) occupy the 75,000-125,000 category followed by the highest income category (125,000 or more) with the other income categories following in descending order. Again these findings buttress research that shows CSA members consist of respondents in the upper income strata (Lang, 2010; Pole and Gray, 2013; Uribe *et al.*, 2012). There is no significant relationship among the four clusters and education and race.

Segment psychographics

To understand the degree of concern with food purchasing decisions across the following variables: treatment of animals, treatment of workers, pesticide use, environment, local sustainability, local food miles, support for New York state farmers, and limiting purchases from factory farms ANOVA was conducted across the four consumer segments (see Table IV). Compared to the other groups, No-Frills Members are least concerned about treatment of animals, pesticide use, environment, local food miles, and limiting factory farm purchases. This is consistent with and supports the cluster characteristics of the No-Frills Member, which only yield positive scores for seasonal/fresh produce. Views about local sustainability are of significantly lower concern for No-Frills Members than Foodie and Quintessential Members. In the case of attitude toward the treatment of workers, Quintessential Members show significantly greater concern compared to the other clusters. Finally, Quintessential Members also appear most concerned with supporting farmers in New York state, while concern is significantly lower among No-Frills and Nonchalant Members. Generally these findings suggest No-Frills Members exhibit the least concern while Quintessential Members exhibit the greatest concern about factors typically viewed as integral to CSA. The Foodie Members and Nonchalant Member are not very different from each other in terms of level of concern about food purchasing decisions.

Role of food purchasing decisions on	No-Frills Member	Foodie Member	Nonchalant Member	Quintessential Member	*F*-values	*p*-value
Treatment of animals	2.45[a,c,e]	1.82[b]	1.95[d]	1.65[f]	9.677	0.000
Treatment of workers	2.38[a,c]	2.00[b,e]	2.25[g]	1.69[d,f,h]	9.472	0.000
Pesticide use	2.14[a,c,e]	1.36[b]	1.43[d]	1.40[f]	15.691	0.000
Environment	1.88[a,c,e]	1.31[b]	1.45[d]	1.35[f]	6.618	0.000
Local sustainability	1.75[a,c]	1.41[b]	1.53	1.29[d]	4.469	0.004
Local food miles	2.51[a,c,e]	1.84[b]	1.92[d]	1.60[f]	13.407	0.000
Support farmers in New York State	1.96[a]	1.68	1.85[c]	1.46[b,d]	4.833	0.002
Limit factory farm purchases	2.16[a,c,e]	1.56[b]	1.71[d]	1.42[f]	8.657	0.000

Notes: Pairs of superscripts (a/b, c/d, e/f, g/h) indicate that the means are significantly different from each other; the mean ranges from 1 to 5, 1 = very concerned and 5 = very unconcerned. A *post hoc* Tukey HSD test reports *p*-values < 0.05

Table IV. Results of ANOVA among clusters

Discussion

Cluster profiles

The first cluster, No-Frills Members, consists of 12.27 percent of the sample and their primary goal is to obtain seasonal and fresh produce from their CSA. Comparatively no other cluster scored as high on this measure. Other elements like community, local/organic food, and price/convenience were considered less important motives for joining a CSA. Given their desire for seasonal and fresh produce joining a CSA is not unsurprising. While seasonal items might be available at the supermarket along with non-seasonal items, CSA typically stresses seasonality. Similarly, supermarket items might not yield the highest degree of freshness unlike a CSA. The literature suggests one of the primary reasons why individuals join a CSA includes the desire for fresh produce (Oberholtzer, 2004; Conner, 2003; Lang, 2010; Pole and Gray, 2013).

Just under half of the sample (45.19 percent) is composed of Foodie Members, the second cluster. Not only do these members value seasonal and fresh produce, but they also value local and organic too. Members of this group are likely foodies who seek the best quality produce, which is seasonal, fresh, local, and organic. Building a sense of community and price/convenience are ancillary factors in their decisions to subscribe. Our findings are consistent with the broader CSA literature and the general characteristics that describe why respondents join CSA including the desire for local and organic (Oberholtzer, 2004; Conner, 2003; Lang, 2010; Pole and Gray, 2013). For example, a 2010 study shows more than 80 percent of respondents reported local and organic produce as the primary reasons they joined their CSA (Lang, 2010).

The third cluster, Nonchalant Members, consists of 16.72 percent of the sample. Since they scored negative or close to zero on reasons for joining a CSA, it is unclear what compels this particular segment of members to subscribe. Reasons such as social pressure, health factors, and personal norms might offer alternative explanations as to why these members joined a CSA though these external factors are not measured in this study (Dholakia, 1999; Steptoe *et al.*, 1995). With a greater percentage of men in this cluster, it is possible they completed the survey on behalf of their spouse or partner with an incomplete understanding of why their household subscribed to the CSA.

In the fourth and final cluster, one quarter of the sample is composed of Quintessential Members who embody the traditional notions of CSA. These consumers

rated all the motivational dimensions positive with the highest score on sense of community. This group of consumers demonstrates the idealized model of CSA, which not only values community but also the aforementioned variables. Increasingly, CSA members value seasonal, fresh, local, organic perhaps above all else. Yet a segment of members still value community upon which the CSAs were predicated (Hinrichs, 2000; Jacques and Collins, 2003; Schnell, 2007). Of particular note, this is the only segment that scored positive on price and convenience. This finding is somewhat unexpected because price and convenience are not often reasons members cite as to why they joined a CSA, though the instrumental model recognizes these factors (Ostrom, 2007).

Demographics

On average the demographic profile of the clusters is female, identifies as Democrat and tends to appear in the highest income category. These results reinforce findings from the CSA literature describing the demographics of CSA members (Oberholtzer, 2004; Conner, 2003; Lang, 2010; Pole and Gray, 2013). There are some exceptions, however. First, across gender, Nonchalant Members contain a greater percentage of males with more than one quarter of respondents in this category. This finding is consistent with the general shopping segmentation literature, which shows males are less interested in shopping than females and they demonstrate a more nonchalant attitude than females (Reid and Brown, 1996). This might be extended to CSA membership as well. Second, our results show following Democrat the next largest political affiliation is Independent. Even though there is a growing segment of individuals who identify as Independent, most Americans identify with Democrat or Republican, one of the two major political parties. This is supported by a Gallup Poll illustrating in 2010 (when these data were collected) nearly 38 percent of Americans identified their party affiliation as Independent (Jones, 2014). Third, among three of the four clusters income generally descends from highest to lowest, however, for Quintessential Members most respondents are concentrated in the 75,000-125,000 category, followed by the 50,000-75,000, and then 125,000 or more category. This might be attributed to the fact that Quintessential Members are committed to the ideals espoused by the traditional notion of CSA and they are willing to almost any fee, regardless of their income.

Purchasing decisions of four clusters

Compared to the other groups, No-Frills Members are least concerned with the effect of food purchasing decisions illustrated by ANOVA results. While these results are not especially surprising for members who favor seasonal and fresh produce above all else, this groups' lack of concern about food miles is counterintuitive. Since this group desires fresh produce it behooves them to be more concerned with the distance their food travels. There appears to be a disconnect among this consumer group between their desire for fresh produce and their concern for food miles. When food travels fewer miles it is likely to be fresher. Of course what constitutes local is much debated in the literature (DeLind, 2010; Feenstra, 2002; Ostrom, 2006). It serves to underline Schnell's (2013) finding that members are less concerned with what constitutes local and food miles, instead caring more about the production and consumption aspects of food.

With the exception of support for farmers in New York state, ANOVA shows a significant difference between Foodie Members and the No-Frills Members across the other eight variables. Compared to No-Frills Members, Foodie Members are slightly more concerned about their food purchasing decisions on a range of issues. What is

particularly noteworthy is the difference between Foodie Members and Quintessential Members across treatment of workers (discussed later). Concern for supporting farmers in New York state is not statistically different from the other groups. Often CSA members do not reside near the farm, never visit the farm, and never meet the farmer therefore they likely have a weak attachment to the farm and farmer. Both the instrumental and functional models of CSA underline weak support for farmers and low levels of participation (Feagan and Henderson, 2009), also described at length by DeLind (1999).

Among Nonchalant Members ANOVA yields a significant difference across seven of the eight variables. As noted in Table IV, there is a significant difference between No-Frills and Nonchalant Members on treatment of animals, pesticide use, the environment, local food miles, and limiting factory purchases. Nonchalant Members are, on average, more concerned than No-Frills Members with their purchasing decisions across these five variables. Nonchalant Members might illustrate a greater degree of reflexivity than the No-Frills Members, however, it is not entirely clear because the motives of the former remain obscured. Across treatment of workers and support for New York farmers there is a significant difference between Nonchalant and Quintessential Members with the latter illustrating greater concern than the former. Somewhat unexpectedly, the Nonchalant Member displays the same level of concern as the other groups with regard to local sustainability. In general, sustainability is important among consumers and more specifically it appears to be an important reason for joining a CSA (Lang, 2010; Oberholtzer, 2004).

Aside from pesticide use and the environment, ANOVA results show Quintessential Members reported the highest degree of concern across the other variables. Quintessential Members appear to be most concerned with their food purchasing decisions. These concerns might be associated with ethical and sustainable food purchasing decisions, which might predispose them to join a CSA. Quintessential members arguably illustrate a high degree of reflexivity (Johnston and Szabo, 2011). These members underline the ideal CSA member whose concerns about food purchasing decisions surpass those of other members. For example, concern about treatment of workers and support for farmers in New York highlights Quintessential Members' commitment to social justice (Allen, 2008) and sharing risks with farmers (Lang, 2010; Pole and Gray, 2013) perhaps suggesting a more sophisticated understanding of what it means to be a CSA member. These members are somewhat less concerned about pesticide use and the environment than compared to Foodie Members. This finding is somewhat unexpected given the importance of pesticides and the environment in other studies of CSA (Lang, 2010; Oberholtzer, 2004; Zepeda and Nie, 2012).

Recommendations

With four types of CSA subscribers emerging from this study, we offer farmers the following suggestions to market their products and services in order to maximize revenue. While seasonal produce is an integral part of CSA, farmers and managers should aim to ensure produce arrives in the best form possible for No-Frills Members. An attempt to ensure produce is harvested in close proximity to member distribution is imperative for this segment. For example, produce that arrives limp and wilted may lead to dissatisfaction for No-Frills consumers. Though the lack of concern about food miles for a group that desires fresh and seasonal food is disconcerting, this is an opportunity for farmers to inform this group of consumers about the connection between the distance food travels and its freshness, not just in terms of appearance but

also in terms of preserving nutrients. Farmers might consider indicating when produce was picked so No-Frills Members can be more confident about the freshness of produce they are receiving.

While CSAs are predicated on seasonal produce, characteristics such as freshness, local, and organic are more mutable. Freshness for example, often depends on the distance traveled along with other variables. As noted previously what constitutes local is much debated (DeLind, 2010; Lyson, 2004; Ostrom, 2006; Schnell, 2013). So too, not all CSAs offer organic produce. To meet the demands of Foodie Members, providing seasonal produce is insufficient; the produce also must be fresh, local, and organic. It is in the best interest of CSA farmers and managers to highlight any organic produce they might grow. Though costly and impractical, farmers might consider organic certification to appeal to this particular consumer segment.

In general a variety of reasons typically guide food purchasing decisions for CSA members. Concern for all seven variables materialize among Nonchalant Members, however, their motivations for joining a CSA are unclear hence marketing to this segment poses a challenge to CSA farmers. Despite this their food purchasing decisions illustrate a greater degree of concern than the No-Frills group. Ethical considerations related to food purchasing decisions might help retain and attract Nonchalant Members. Other factors not accounted for in this study such as social pressure, health, and personal norms might motivate these consumers to join a CSA. Further investigation might illuminate this, but until then marketing to this consumer segment remains elusive.

The Quintessential Members illustrate clear motives for joining a CSA and they are driven by all of the factors that underline the spirit of CSA. Being the archetype CSA member, marketing to Quintessential Members provides farmers with a plethora of opportunities because the farmer can appeal to any one of the four motives driving CSA membership. Also beneficial, existing marketing campaigns for other clusters can be recycled for Quintessential Members. This means farmers only have to devise two additional marketing campaigns that focus on community, and price and convenience to potentially retain and attract these types of consumers. Because this is an archetype group, Quintessential Members do not need specific promotional strategies describing the importance and benefits of CSA. Furthermore, CSA farmers might recognize these members as brand ambassadors who promote CSAs in general, and their farm in particular. For example, CSA farmers might consider offering a discount to Quintessential Members who successfully attract new members.

Limitations

The study contains several limitations, which are worth noting. First, because this study focusses on CSA in New York state our ability to generalize in the US is limited not only by geography, but by the types of products offered and the length of seasons. Still New York ranks 13th out of 50 states in terms of products marketed through CSA, making it an appropriate state for study (United States Department of Agriculture (USDA), 2007). More importantly, many of the findings from this study, including the demographics of CSA members and reasons for joining a CSA, mirror results from other CSA studies.

Second, while CSA farms are listed on Local Harvest, the total number of members who belong to each CSA is not available. Determining the population of CSA farms also is problematic because a comprehensive list of CSAs is not available. We relied upon Local Harvest to locate CSA farms, however, some farms may not be registered with

Local Harvest. Similarly, farms without an online presence might be missed in a keyword search. A non-random purposive sample such as this does not allow us to generalize, though the sample size is large enough to draw interesting conclusions.

Third, survey research contains some limitations. The length and complexity of the survey might dissuade some members from responding. Online surveys contain biases. Individuals without an e-mail are excluded from participating, and those who do participate in online surveys tend to be younger and highly educated. Minorities with low internet penetration rates and individuals with low levels of digital fluency might be disinclined to participate. Technical glitches such as crashes, error messages, and double entry are possible. For this study, only members whose CSA farmers/managers forwarded the survey via e-mail received an invitation to participate[7]. Since respondents are self-selecting the sample may not be representative of CSA members in New York causing unintended biases. Many of these limitations also are found with mail-in surveys (Wright, 2005).

Finally, the absence of a return rate is an additional limitation. Local Harvest publishes the number of shares for each CSA farm, however, this cannot be equated to the number of members. We asked farmers/mangers how many members they have and many offered an estimate rather than a definitive number. Still other farmers/managers did not respond to our request. As a result, a response rate cannot be calculated.

Conclusion

While CSA members appear to be fairly homogenous consumers, these data suggest the motivations of members are anything but homogenous. Some members – like respondents in the No-Frills group – join for seasonal and fresh produce, and others like Quintessential Members join not only for these reasons, but the more traditional aspects of CSA such as community and support for farmers illustrated by Hinrichs (2000) and Lang (2010). These results suggest characterizing CSA as instrumental or functional (Feagan and Henderson, 2009) may in fact be misleading given the different motives of individual members. This research suggests that while some subscribers remain interested solely in the provenance and make-up of the food like Foodie Members, others like Quintessential Members embrace the idealized archetype of CSA, likely exercising a high degree of reflexivity (Johnston and Szabo, 2011). What remains unclear are the motivations of the Nonchalant Members, though ethical considerations do appear to hold some importance for this group. More research is needed to further understand this particular cluster. In the end, greater insight into specific type of CSA members equips farmers with knowledge to develop strategies to retain and recruit members and to offer customized subscriptions to meet the needs of each consumer segment. These tailored strategies may result in greater member satisfaction leading to loyalty, which in turn may have a positive, long-term impact on the farmer's financial yield and continued prosperity.

Notes

1. We use the terms member, subscriber, and consumer interchangeably throughout this paper.
2. Data were collected by Antoinette Pole and Margaret Gray.
3. Comparatively, New York's position in US agriculture is exceeded only by California in market value of direct to consumer sales of farm products (Diamond and Soto, 2009).

4. The USDA (2007) reported 12,549 farms sold products through a CSA arrangement in 2007 compared to Local Harvest's report of over 4,000 CSA farms (www.localharvest.org/csa/).
5. Local Harvest (www.localharvest.org/) provides "a national directory of small farms, farmers markets and other local food sources." To locate CSA farms, the USDA web site www.nal.usda.gov/ afsic/pubs/csa/csa.shtml provides links to six online databases. Local Harvest contains the most comprehensive database (www.localharvest.org/csa/) for tracking CSAs in the USA.
6. For privacy reasons we did not request members' contact information from CSA managers. Instead we asked managers to forward our survey to their members. As mentioned elsewhere, not all managers were willing to participate, potentially biasing our results.
7. Among farms without an e-mail, we contacted farmers/managers via phone to update this information. A total of 96 out of 266 farms contained no e-mail.

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