

Exploring farmers markets as a temporary cluster to improve local food economy

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Abstract

Purpose – The purpose of this paper is to explore how to improve the contribution of farmers markets (FMs) to the local food economy and improve their management through a new temporary clustering management approach.

Design/methodology/approach – The research encompasses 78 structured interviews with farmers' market vendors in the central coast region of California. A descriptive statistical and exploratory analysis to capture and evaluate the extent of various clustering activities currently existing in FMs is presented.

Findings – Analysis suggested an existing clustering behavior in FMs with different degrees that would enhance the role of these markets in local food economy. The improved social capital and financial performance of these markets shown in this study outperformed other cluster metrics monitored. Furthermore, there were some positive relationships between knowledge sharing (as a cluster activity) and both integration and financial activities among FMs vendors, highlighting interesting dynamics generated by the temporary nature of these clusters.

Research limitations/implications – The study was based on an exploratory research design, investigating a selected number of vendors in the central coast region of California. The research does not claim to provide a comprehensive survey of all FMs.

Practical implications – The analysis resulted in recommendations to improve efficiency of FMs' practices at both the management level and the strategic level. These recommendations will enhance the contribution of these markets to the local food economy. The results also expand the practical knowledge bodies of regional and local food business development. Finally, the study highlights the social role of FMs through showing social capital as one of the main clustering drivers.

Originality/value – This study contributes to theoretical knowledge concerning the impact of clusters on operation performance by exploring a new temporary proximity that can be added to the existing geographical and digital proximity enriching the clustering approaches debate. Furthermore, the analysis provides specific novel insights into potential operational improvements for current farmers' market management to enhance their economic and social roles.

Keywords Social capital, Farmers markets, Temporary clusters

Paper type Research paper



Introduction

The importance of farmers markets (FMs) as prevalent venues for direct marketing of locally grown food is continually increasing. They are becoming more prominent players in emerging alternative food networks in countries such as Canada, the USA, the UK, Australia

and New Zealand (Gillespie *et al.*, 2007; Guthrie *et al.*, 2006; Lawson *et al.*, 2008; Smithers *et al.*, 2008). Direct marketing channels such as FMs can also allow farmers to have more control over their distribution and marketing activities relative to wholesale or commodity channels, while they offer an alternative outlet for consumers to seek local, fresh products directly from the source (Schmit and Gomez, 2011). FMs can also improve community economic performance by keeping dollars local, building social capital and making small family farms more viable (Oberholtzer and Grow, 2003).

Even though the number of FMs is increasing due to the benefits mentioned above (USDA, 2010), many of them are failing (Stephenson *et al.*, 2008). Furthermore, FM management has been facing challenges with regard to these markets sustainability (Briggs *et al.*, 2010; Lohr *et al.*, 2011). To deal with these problems, it is vital to understand the structural and behavioral nature of this collective setup of vendors and their interactions with customers in FMs. There are various organizational/agglomeration frameworks with their associated performance metrics that could be used for such tasks, among them is the cluster management framework.

A cluster is a geographical concentration of business and non-business (supporting) entities in certain interconnected industry to form collaborative and competitive relationships (Porter, 1998). This agglomeration of related economic activity brings various benefits to the cluster members including financial benefits, integration activities, knowledge and technology transfer/sharing and resources pooling at the operation level for each firm (Delgado *et al.*, 2015) and at the supply chain level across the networks of firms (Chiarvesio and Di Maria, 2009). The previous benefits make clusters a tempting approach for managing FMs and improving their success rate. However, this is faced with some challenges. First, this classical clustering framework has been applied in macro-regional contexts with little to no application in small temporary environments like FMs. Second, the geographical connectivity requirement makes this classical cluster infeasible for small farmers in terms of cost. Finally, the rigid structure of these classical clusters cannot cope with the dynamic and temporary nature FMs. For these challenges, a new clustering approach that see clustering beyond the rigid geographical agglomeration context and more as a process that enables the participants to exploit their synergies and the complementarities between their outputs are required.

This paper proposes a new type of clusters that fulfill this outlined need and refer to it as temporary clusters. We define a temporary cluster as the temporary localized agglomerations for a group of business entities in certain interconnected industries to form collaborative and competitive relationships over specific periodic intervals. This research will explore the extent to which FMs fit this definition and thus can be managed as temporary clusters. This will be carried out through examining the performance of a group of FMs in the central coast area in California against typical clustering metrics. The considered metrics are: integration level, financial benefits and knowledge sharing. In addition, a relatively new cluster metric will be used, namely, social capital, since it is relevant to the context of FM agglomeration. The outcome of this study would be to help FMs managers and planners to perceive these markets as clusters, manage them and improve them based on clusters metrics and leveraging clusters best practices.

Literature review

A comprehensive review on FMs research and their role in local economies can be found in Brown (2002). In this section, a sample of previous research that focused on FMs' performance assessment is reviewed. Examples of the work that focused mainly on the economic performance FMs include Guthrie *et al.* (2006) who evaluated FMs performance based on economic factors and how they relate to market policies, and vendor motivation for selling and perceiving consumer motives. According to their criteria, they argued that FMs provide additional outlets for entrepreneurial small-scale farmers and producers, alternatives for consumers and opportunities for communities. Griffin and Frongillo (2003) found that farmers

involved in FMs in New York State are frequently motivated by perceived economic opportunities in their initial decision to attend, but eventually acknowledge the importance of collaboration and (healthy) competition with fellow vendors.

Examples of work that highlighted the importance of social assessment in FMs include Wade (1988) and Wynne-Jones (2017) who both explored the relation between social factors and FM performance efficiency. Social factors included human capital development, increasing social capital, upgrading leadership skills and balance between individual and collective priority among farmers cooperation. In the same line, Fielke and Bardsley (2013) argued that in South Australia, FMs are one tool that can be used to facilitate the development of multi-functionality, assist small-scale farmers to challenge the “productivist” paradigm, and to allow farmers who are to compete within the neo-liberal productivist system to imagine and implement alternative futures. They also claimed that the social capital created by direct contact between producers and consumers adds to the overall benefits of alternative, cooperative food networks.

Other work had a more integrated approach for FMs assessment where multiple different factors were considered. Examples include Kaganzi *et al.* (2008) who captured social, technical and marketing metrics for success assessment of FMs. Based on these metrics, they suggest that: farmers should take on new responsibilities and learn new skills, facilitate market linkages by having marketing competence, make a combination of strong social cohesion within the group, improve collective learning, develop skills and access to new technology, consider long-term market success. Tudisca *et al.* (2015) also integrated the socio-economic metrics to evaluate the FMs in Sicily. They showed how focusing on both the economic benefits as well as the social capital gains in managing these markets will lead to increase in the sales volume. Along the same integrated socio-economic assessment, Nilsson and Mont (2017) analyzed FMs in Sweden. Their analysis proposes that these FMs are a voluntary bottom-up initiative (what they called social innovation case) and comprise both production and consumption sides, with the main focus on the point-of-sale.

Some work selected specific additional performance metrics other than the previous famous ones. For example, Schmit and Gomez (2011) assessed FMs sustainability using data collected from customers, vendors and managers in a rural region of New York State. They suggested some policies to improve FMs sustainability including: establishing centrally located markets, targeting variety in products and vendors, prioritizing attention to marketing and reducing cost burdens to low-income residents. Abello *et al.* (2014) focused on the number of visitors as a different performance metric for FMs. They used two FMs in Texas, and used to determine consumer factors, market factors and socio-demographic characteristics of shoppers influencing frequency of visits.

Exploring the management role in improving the FMs performance was the focus of some of the research in this area. Examples include the work of Gantala and Lev (2015) who explored the relationship between FM structure and how participants other than vendors engage with the market. They showed that the performance of FMs will differ depending on the type/goal of their management. They compared how vendor vs community vs sub-entity managed markets have distinct goals and outcomes, with vendor-managed markets being least embedded in the community but most in-tune with farmers’ needs and community-managed markets functioning conversely. Betz and Farmer (2016) examined performance of FMs under different governance systems, specifically considering the demographics, values for local foods, motives for attending farmers’ markets and outcomes of the experience based on the dichotomous governance classification. Their results showed that by better understanding how the emerging governance system impacts who ultimately attend the market, FMs management can improve their efficiency.

Few approaches attempted to assess FMs performance from a cluster perspective. Pickernell *et al.* (2004) indicated that farmer markets work as cluster association. They

describe that FMs associations can be considered as clusters that could provide the administrative structures through which groups of entrepreneurs can co-operate collectively and beneficially in networked arrangements. Lawson *et al.* (2008) explained FMs as one form of cluster, increasingly seen as alternative strategy and counter-measure to the dominant agro-food system. This strategy allows small enterprises to compensate for lack of resources. Beckie *et al.* (2012) in their study explored the nature and significance of FMs clustering in the western Canadian provinces of British Columbia and Alberta, focusing on the possible connection between clustering and a “scaling up” of alternative food networks. They indicate that in addition to spatial agglomeration, dynamic processes of interaction and knowledge exchange are occurring and are shaped by vendor mobility as well as collaborative and competitive forces. In the same line, Smithers and Joseph (2010) looked at FMs as a functioning whole, rather than a series of discrete stalls, where the success of individual vendors is at least partly determined by the success of the wider venture. Finally, Adebajo *et al.* (2006) discussed a digital e-cluster approach for the farmers industry in the UK highlighting the positive impact and challenges facing this approach.

The reviewed literature covers a wide range of FMs performance assessment and metrics, mainly revolving around versions of economic, social and learning performance metrics. The work focused on providing different management policies based on how FMs performed against the selected metrics. However, the relation between the structure of the FMs and their performance is not explicitly addressed. This is essential to our work that suggests temporary clustering as an alternative structure management platform. Furthermore, the little work relating FMs to clusters did not explore whether FMs performance align with cluster metrics or not to support such claim. The presented work complements the above literature by attempting to study both the structure and the behavior of FMs from a clusters performance perspective. This will contribute to our understanding of how FMs align with the new temporary clustering proposed and how such alignment can be used to improve FMs economic impact.

Study methodology

To study the existing cluster behavior of FMs, it was important to define the different metrics that will capture such behavior. As stated earlier, these metrics were the integration level, financial benefits, social capital and knowledge sharing. A structured questionnaire was designed to capture these four metrics through questions that either focused on one metric or multiple metrics (please refer to Appendix 1 for these questions). This empirical approach is similar to many research works that attempted to capture FMs dynamics and performance (e. g. Lawson *et al.* 2008). This device was developed by the research team in discussion with the two cluster management experts to assess the ability of the selected questions to capture the intended clusters behavior metrics. Furthermore, the device was tested through tentative interviews with four vendors at one of the FMs. The feedback from the pilot version was used to adjust some of the questions articulation and/or the measuring scale for others.

Eight FMs in the central coast area of California were selected to interview farmers there using the developed questionnaire. These sites were chosen to represent variation in sizes of markets and to cover a wide geographic area in this region. FMs included three markets in each of the north (28 vendors), coastal (37 vendors) and south (18 vendors) parts of the central coast area. The researchers sought interviews with farmers during the FM hours over the period of approximately six months. The response rate was almost 55 percent among those sought for interviews. Key demographics of the respondents include: 60 percent male, 55 percent reported possess a college degree or higher, 70 percent identified as Caucasian, and over 50 percent of respondents reported their main products were fruits and vegetables. Of the people we did interview we were struck by the education level and race demographics, which could have been caused by not offering the survey in Spanish (as 40 percent of the population in this region is from a Hispanic background).

Study results

Before conducting the descriptive statistical analysis for the data of the interviews, a two-sided, unpaired *t*-test was used to decide if answers given by different groups were significantly different. This was to examine whether there was a difference between responses to questions within each FM, as well as differences between groups of the eight selected FMs. After demonstrating that there were no significant statistical differences among the responses of all FMs, the analysis for the performance metrics of FMs (as a temporary cluster) was grouped according to these four selected metrics as follows.

Integration activities assessment in FMs temporary cluster

Integration activities were captured through questions that examined the integration level experienced by the vendors along the full supply chain (questions 5, 8–13). The questions investigated integration activities of the vendors in the FM with respect to their type and location along the supply chain. At the upstream integration level, 62 percent of the vendors indicated that FMs give them opportunities to know new suppliers. Information about new sales opportunities as well as purchasing needs at lower prices are the highest benefits of such upstream integration.

Downstream integration is more manifested in FMs at different levels. For example, more than 97 percent of the vendors said that having direct contact with the customers is the second most important reason for participating in the FMs. Furthermore, 75 percent of the vendors explained that such direct contact enables them to foster immediate relationship with customers as well as getting direct feedback from them. In addition, 80 percent of the vendors said that building customer relationship and 47 percent of them said that being introduced to new customers that cannot be reached except through such clustering are both the most added value they had from FMs. At a different level of this downstream integration, 34 percent of the vendors indicated that FMs introduced them to bigger retailers and distributors. As for the integration level between vendors themselves, more than 92 percent confirmed that they experienced different cooperation levels in FMs including serving each other’s customers and sharing ideas and promotions which were ranked at the top list of such cooperation. Table I shows the different forms of cooperation experienced by the surveyed vendors and their ranking. Finally, 25 percent of the vendors said that meeting other vendors is one of the top 3 takeaways from attending FMs.

The data reported above show that FMs exhibit different forms of integration among vendors and along their supply chain. Such performance supports the proposition of this work that FMs can be considered as a temporary cluster since vertical (upstream and downstream) and horizontal (among vendors) integration activities are typical performance of a cluster (Porter, 2003).

Relationships with other vendors	Frequency	%
Referring customers	48	67
Sharing solutions to problems	42	58
Providing relief to an one another’s stalls	36	50
Sharing equipment	23	32
Encouraging new traders to the market	22	31
Sharing promotions	18	25
Selling others products	14	19
Sharing costs on market days	5	7
No cooperation	5	7

Table I.
Relationships with other sellers

Note: *n* = 72

Knowledge sharing/transfer assessment in FMs temporary cluster

A typical performance of clusters is the sharing and transfer of knowledge and/or technology, which some consider a special form of integration that exists among clusters members. This is due to the continuous interaction between these members who usually exhibit different levels of maturation and technology investment. Vendors surveyed at FMs reported some forms of knowledge sharing and development through their participation in this temporary cluster. For example, 58 percent of the vendors who indicated that they interact with other vendors said that this interaction was in the form of sharing ideas and solutions to existing farming or sales problems. When asked whether the FM had helped them or not, more than 85 percent replied positively among them 57 percent said that such help was in the form of a new idea or solution suggested by either customers or suppliers, while 52 percent said that this help was through generating new idea or innovation that helped their business. Finally, 50 percent of the vendors mentioned (at different level of importance) that gaining more knowledge on how to promote their business is one of the motives for participating in FMs.

Financial benefits assessment in FMs temporary cluster

The financial benefits of the FM temporary clusters were clearly outlined by the vendors. In total, 70 percent of the vendors indicated that FMs represent an average of 63 percent of their income leading all other listed sources. This high dependency reflects how FMs plays a pivotal role in the financial sustainability of the surveyed vendors. The financial motive of FM temporary clusters was also evident. The opportunity to promote/sell their products was selected by 70 percent of the vendors as the number one motive to participate in these markets, while having a supplementary income was ranked as the third motive of participation by the same vendors.

Vendors also appreciated the financial performance added value gained through FMs. At the sales level, 75 percent of the vendors selected increasing their sales volume as one of the top three ways FMs add value to their business and 17 percent indicated that having access to new customers that cannot be reached except through FMs as another important value.

Finally, the entrepreneurial aspect of the financial growth through FMs as a cluster platform can be sensed as 69 percent of the vendors indicated that these temporary clusters helped them to scale up or grow their current business. Furthermore, 30 percent of the vendors indicated that FMs helped them to start a new business/product line. This entrepreneurial performance is an important evidence for how FMs exhibit a cluster behavior since entrepreneurship environments are always expected as a cluster externality.

Social capital assessment in FMs temporary cluster

Considering social capital as a cluster performance metric is aligned with the work of Burt (1992) who defines social capital as the structure of the player's network (clusters in our case) and the location of the player's contacts in the social structure of the arena that provides an advantage. The survey in this research attempted to capture the social benefits experienced by the vendors through their involvement in FMs temporary cluster. This qualitative metric is challenging to measure, however, it can be captured through various aspects. One of these aspects is how the social atmosphere available in these markets motivated vendors to participate. As indicated by vendors, 65 percent selected this social atmosphere to be among the reasons for their participation and even 40 percent of these vendors ranked this as one of their highest motives.

Another aspect of social capital is the relationship developed between vendors and the FMs' customers. In total, 85 percent of the vendors said that among the positive experiences in the market was that most of their customers are regular customers. Table II captures how the majority of vendors in the farmer market (almost above 90 percent) strongly agree or agree that this temporary cluster develops different social capital aspects and benefits among themselves and also with their customers. The outlined aspects highlight various

social capital dimensions in the cluster including trust, direct communication, a social platform and a welcoming environment.

Finally, the positive social impact that this temporary cluster brings to the well-being of the community was clearly recognized by most vendors. In total, 88 percent of them agreed that FMs foster greater local community activity, 97 percent of the vendors agreed that FMs bring residents, local business community, and smaller organizations together, 94 percent of them agreed that FMs improve the quality of life in their areas and 91 percent agreed that FMs foster greater local community activities.

Comparative analysis of FM temporary cluster metrics

After illustrating how FMs exhibited a good level of cluster behavior in their temporary format, a more detailed analysis is conducted to study the interaction between the selected metrics in this new type of cluster. For this purpose, we developed an aggregated metric for each of the four performance measures. We created the metrics by assigning points for questions that were pertinent to the specific performance metric. We added these points together and then rescaled them for easy comparison. See Table AI for list of questions used to capture each metric. The overall values for each of the four metrics are shown in Table III and displayed in Figure 1.

From the data in Table III and Figure 1, one can observe the following:

- Social capital is the most manifested temporary cluster metric. This interesting observation suggests that temporary clusters exhibit significant social dynamics bringing benefit for both vendors and customers, especially in a social context like FMs.
- Financial performance is the next highest scoring metric as economical motivation will always be a critical driver for vendors of any cluster. The higher the score of this metric, the more viable the temporary cluster would be.
- The knowledge sharing performance score is reflective to the amount of technology and knowledge transfer existing in FMs. The temporary nature of these clusters, as well as their level of business sophistication would not allow for extensive diffusion of technology experienced in a typical permanent cluster.

Table II.
Vendors who strongly agree/agree

Statement	Frequency	%
FM's build relationships between customer/seller	61	85
FM's welcoming to all family members	60	83
FM is a good place to socialize	56	78
I sell at FM to have an impact on the local economy	53	75
The FM supports sustainable agricultural practices	49	68
FM connects to other community activities	32	44

Note: n = 72

Table III.
Performance metrics

Performance metric	Mean	SD
Integration activities	41	18
Knowledge sharing	48	26
Financial benefit	56	17
Social capital	67	22

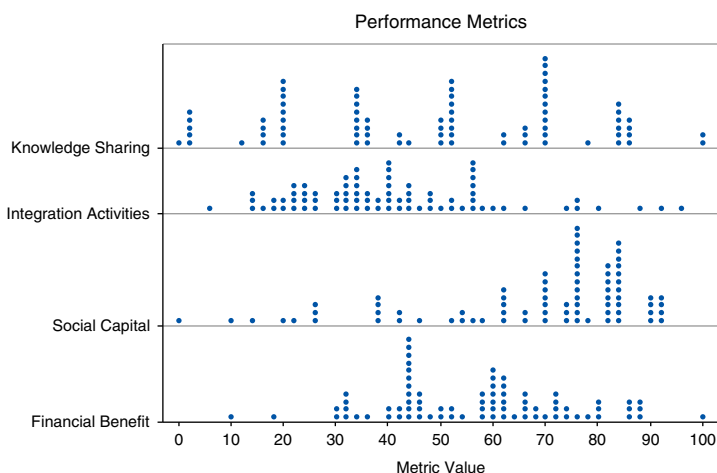


Figure 1.
Dot plot for the scores
of the considered
performance metrics

- The relatively low score of integration activities metric reflects an existing level of integration that does not match the expectation of the vendors. This can be related to the temporary nature of the considered FMs cluster as well as their size. The temporary nature of the FMs cluster does not allow enough time for existing integration activities to reach their full potential. This was clear in the survey responses of the vendors who acknowledged different integration activities along the supply chain but with relatively lower scores in some of them. Furthermore, the small size of the FMs and the participating vendors limit the extent of integration that can occur in such setup.

Exploring association among the four performance metrics in FMs temporary cluster

A correlation analysis was conducted to examine the association between the four performance metrics. Of the six pairs of metrics, two of them were found to have a statistically significant correlation. These were knowledge sharing and integration and knowledge sharing and financial metric.

Specifically, the correlation between the knowledge sharing metric and the integration metric had a Pearson correlation coefficient, $r = 0.472$ (p -value < 0.001), indicating a weak positive association between these two metrics. This positive association between technology/knowledge transfer and integration activities is possibly attributed to the relationship that exists among vendors and across the supply chain in FMs during the different integration activities. Such relationships may allow for the dissemination and diffusion of different forms of knowledge between vendors. This positive relationship may be the reason why many researchers consider technology/knowledge transfer a typical externality of the input output dynamics of clusters members (which we refer to here as integration activities).

Technology/knowledge sharing has a weak positive relationship with financial performance ($r = 0.365$, p -value = 0.001). This can be related to how vendors in this study indicated that much of the shared knowledge and technology were to promote their sales or to solve an existing business issue. From this perspective, one can suggest that this relationship is due to the positive impact that the shared knowledge and technology have on the financial performance of the vendors in this temporary cluster. In other words, vendors see a financial value in sharing and receiving knowledge and information during their temporary clustering.

The relative weak or no relationship between the different performance metrics is interesting in itself. It seems that these metrics are primarily measuring independent aspects of the FM temporary cluster behavior. This allows us to study the different metrics without being concerned that they are actually measuring the same behavior.

Summary and recommendations

Improving the effectiveness of FMs success rate through a cluster management approach was the main driver of this research. The relocation cost and infeasibility of traditional clusters posed a clear challenge to small vendors of FMs due to its permanent geographical connectivity requirement. For that, a new temporary cluster approach was proposed as a management alternative. An empirical study was setup to examine the degree to which FMs exhibit a clustering behavior. The designed survey captured four clustering metrics, namely: integration activities, knowledge sharing, financial benefit and social capital. The main findings of the surveyed data and the developed aggregated metrics analysis can be summarized as follows:

- Multiple integration activities were manifested along the vendors' value chain, however, these activities were encountered more downstream rather than upstream. Furthermore, the temporary nature of the FMs played a role in limiting various integration activities from reaching their full potential.
- The entrepreneurial impact of FMs was reported by various vendors in forms of innovative ideas and ability to scale up some of their business aspects. Such entrepreneurial behavior adds more evidence to the cluster nature of FMs.
- Another benefit experienced by vendors was knowledge sharing and spillover. They exchanged advices and experiences on how to improve their marketing, solve technical problems or better integrate across the value chain. This typical cluster externality builds more confidence to the proposed hypothesis that FMs exhibit a clustering behavior.
- Financial motive was a clear driver for vendors to not only participate in FMs but also engage in some integration and knowledge transfer activities. This comes as no surprise since clusters are mainly used as an economic empowerment platform.
- Social capital was the most evident cluster performance metric in the study. Usually clusters' analysis do not pay much attention to this metric, but in this study, it was clear that both the local and temporary nature of FMs created a valuable social capital that all vendors acknowledged and were interested to capitalize on.
- In general, FMs, based on the selected typical performance metrics and within the scope of the surveyed markets, showed a good conformance with the clustering phenomenon enhancing the potential of temporary clusters as a candidate for an alternative management approach for FMs.

Based on these reported results and since other FMs in the USA have similar dynamics, various recommendations are offered to all FMs management. In general, they should go beyond running these markets as a simple sales management activity to a cluster management one. By this we mean that managers should assess the performance of their markets not only based on the sales volume, but also based on clusters' performance metrics. Furthermore, they should promote membership in these markets through the temporary clusters' added value propositions. Examples of suggested management policies in this regard include:

- Promoting clusters' inter-vendor cooperation that will improve the integration metric of these clusters (FMs) performance. This can include working on developing integration platforms among vendors that can go beyond the temporary duration of the FMs.

In clusters, the most frequently emphasized phenomenon is the competitive cooperation where competition should serve as a driving force among members (Porter, 2003).

- Improving the level and effectiveness of knowledge sharing among the cluster members. This will require nurturing a culture of open communication, sharing best practices and facilitating technology shared investment. Knowledge and technology spillover rate is one of the closely monitored metrics of success for any cluster (Baptista and Swann, 1998).
- Capitalizing on the existing social capital developed within FMs to enhance the integration among vendors and with customers. Farmers tend to make collective actions at various levels with the momentum of social capital (e.g. Koutsou *et al.*, 2014). Also, research shows that mortality rate of firms dropped with higher level of cluster-customer integration (Tavassoli and Tsagdis, 2014).
- Enabling these FMs (as all clusters) to act as platform for farmers' entrepreneurs. This will include low entry barriers, incentives for growth and transformation, access to suppliers and vendors in the same cluster (to leverage their capacity) and finally working on the introduction and connection with investors of different types. It is that entrepreneurial aspect that made the OECD adopt different forms of clustering as a fundamental development tools in recent years (OECD, 2005 and see also Glavan, 2008).

In addition to the previous recommendations addressing FMs' managers specifically, managing FMs as temporary clusters offers important strategic insights to other local and regional development planners. Some of these insights are listed next:

- Temporary FMs clusters should be among the driving forces for regional and local food economy as well as sustainable thriving communities (Spencer *et al.*, 2010). These temporary clustering setups can improve the productivity and technology transfer among farming SMEs as well as reduce the significant imbalance of sales between food sold through foodservice and retailers from one side and direct sales to customers from the other side (e.g. less than 10 percent of the fruits and vegetables in California are sold through direct channels like FMs, Caremn *et al.*, 2003).
- The cluster management approach by development planners, and due to its integrative dynamics, can act as a way to bring both the benefits of vendor-managed FMs and community-managed FMs (Gantala and Lev, 2015).
- The mobile and temporary nature of these FMs clusters offers a flexible planning advantage for regional and local development planners to react and cope with the continuous changing demand across their territories.
- For FMs to be effectively managed as temporary clusters, resources should be dedicated to equip current FMs with the required understanding and skills. Empirical research in this field suggests specific managerial roles and skills including establishing an environment in the cluster that is result oriented as well as having a supportive, open and innovative attitude (Lippert and Gaál, 2014).

In conclusion, clusters are a common feature in today's economy and this is why FMs should harness the best practices offered by different clusters models. A temporary form of clusters is proposed as a practical alternative given the economical context of today's FMs. This paper suggests that FMs should be regarded by FMs managers as well as regional and local development planners as cluster management process rather than a simple sales activity. This will in turn improve both the planning as well as the execution of these markets through adding effective metrics and successfully proven practices to these managers and planners.

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Appendix 1

Market Name: _____

Vendor No.: _____

1. Please identify your gender:
 - Male
 - Female
 - Other
2. How would you describe your race/ethnicity?
 - Asian
 - American Indian/Alaska Native
 - Hispanic or Latino
 - Black, African–American
 - White, Non-Hispanic
 - Multi-racial/ethnic
3. What is the level of your education?
 - Less than high school.
 - High school college degree.
4. Please indicate which of the following items you sell (mark all that apply):
 - Fruit and vegetables
 - Bakery goods
 - Meat, poultry or fish
 - Flowers
 - Spices
 - Dairy/egg
 - Wild/foraged foods
 - Other food items
 - Other nonfood items
5. Rank your main reasons to participate in this farmer market? (Rank from 1 to 8, 8 being most important and 1 the least important. Please mark options that do not apply with “0”):
 - The desire to obtain a fair price.
 - To cooperate with similar businesses.
 - To obtain a supplementary income.
 - To gain more knowledge on how to promote my business.
 - Because the market is well supported.
 - Atmosphere of the market.
 - To be able to have direct contact with the final consumer.
 - To promote my products.
6. Using the scale of 0=No, 1=Yes, 2=not applicable, rate these statements about your experience at this farmer market:
 - Most of my customers are my regular customers.
 - I sell my product lower than retail market.
 - This is a right place for a farmer market.
 - All merchants receive support from the City in a fairly manner.

7. How much of your total farm income came from direct sales through the following local sales channels?
 - All farmers markets
 - This farmers' market
 - CSA shares
 - Restaurant direct sales
 - Farm gate sales
 - Local retail
 - Other local sales
8. In your opinion, what are the benefits of face-to-face interactions between vendors and customers?
 - Direct feedback.
 - Foster more personal and immediate relations.
 - Generates new ideas/requests about products and services.
9. Did this farmer market introduce you to new/bigger retailers or distributors?
 - Yes
 - No
10. Does working in this farmer market makes opportunities to know new suppliers? If yes, how working with these new suppliers can help you?
 - Getting to know new suppliers helped me to purchase what I need at a lower price.
 - Suppliers inform me about new essential products for my business in the market.
 - Suppliers inform me about different selling market opportunities.
 - Suppliers inform me about different innovative production methods.
11. Does working beside other vendors has helped you to grow your business? If yes, Please explain.
12. Identify actions and relationships do you have with other stallholders in the farmer market?
 - Providing relief to man one another's stalls.
 - Sharing promotions at the market.
 - Sharing ideas/solutions to problems.
 - Sharing equipment.
 - Sharing costs on market days.
 - Referring customers.
 - Selling one another's product.
 - Encouraging new traders to the market.
 - No form of cooperation.
13. Please choose the top three ways in which participation in this farmers' market adds value to your farm/business:
 - Sales Volume/Income.
 - Branding/Marketing/Image.
 - Building customer relationships.
 - Meeting other vendors.

- Building distribution networks.
 - Product testing/Market insights.
 - Access to new customers that cannot be reached except through farmer market.
 - Other (please describe).
14. Please indicate the extent to which you agree/disagree with the following statements about this market. (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree):
- The farmers' market provides valuable connections to other community activities (e.g. community service, local politics, neighborhood events; or others).
 - Shopping at the farmers' market builds trusting relationships between vendors and customers.
 - The farmers' market is a social good place to socialize.
 - I sell at the farmers' market to have a positive impact on the local economy.
 - The farmers' market supports sustainable agricultural practices.
 - The farmers' market feels welcoming to all family members.
15. Do you agree or disagree with these statements?
- This farmers' market fosters greater local community activity. (Y/N)
 - This farmers' market brings residents, local business community, and smaller organizations together. (Y/N)
 - This farmers' market improves the quality of life in their areas. (Y/N)
 - The farmers' market gave you access to new local farming organization/associations/groups. (Y/N)
16. Has this farmers' market helped you to (choose all what apply):
- Improve your knowledge and insight about your business.
 - Generate a new idea or innovation solution to your business.
 - Has any customer or supplier suggested any new ideas/solutions to your business.
 - Start a new business/product line.
 - Scale up or grow your current business.

Appendix 2

Table AI.
List of questions
used to capture
comparative analysis
metric

Demographic assessment	1–4
Integration activities assessment	5, 8–13
Knowledge sharing/transfer assessment	5, 11, 12, 16
Financial benefits assessment	5, 7, 13, 16
Social capital assessment	5–6, 14–15

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