

## Article

# Demystifying Members' Social Capital and Networks within an Agritourism Association: A Social Network Analysis

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**Abstract:** Membership associations are vital to build social capital and networks among their members through the exchange of information and resources, roles especially valuable for emerging entrepreneurs. That is the case of associations catering to professionals in agritourism, an enterprise bringing farming and tourism together. However, whether the exchange of information and resources among members holds true within agritourism associations is yet to be known. Filling this knowledge gap is critical given the stated benefits agritourism delivers to society and farmers' necessity to expand their business networks to increase entrepreneurial success. Therefore, this study evaluated the extent of social capital and networks within a prominent agritourism-focused association in North America. Data were collected from members using a web-based survey in 2016. Analyses included descriptive statistical tests and Social Network Analysis (SNA). Results showed high levels of social capital among members, especially related to its relational dimension (e.g., share professional advice), as well as strong bi-directional (to/from) trust, cooperation, and reciprocity among members. SNA indicated members were well connected and had a healthy information exchange, without the organization intervention. Study results are discussed to provide managerial intelligence towards strengthening social capital and networks within associations catering to agritourism and other niche-tourism professionals.

**Keywords:** association; social capital; social network; social network analysis; trust

## 1. Introduction

Many farmers throughout the world are offering a suite of recreational and educational activities to visitors, commonly referred as agritourism [1], seeking to increase their revenues and improve the overall economic value of their business [2,3]. The offer of agritourism remains growing, and it is expected to uphold this trend in the future given the increased interest of consumers to (re)connect with local producers and the need to close the rural-urban gap [4,5]. However, farmers' venture into agritourism is not an easy task as many do not have adequate entrepreneurial skills (e.g., product innovation mindset) or business competencies (e.g., direct marketing expertise) conducive to success [6]. Building social capital and a network beyond their traditional farming community appears to be the most challenging asset for new entrepreneurial farmers to acquire, yet a critical asset in their entrepreneurial success [7–9].

To enhance entrepreneurial readiness, new entrepreneurs join business-specific associations, as these provide their members with a diversity of information (e.g., required licenses, business standards) and resources (e.g., professional referrals, group insurance purchase) designed to stimulate entrepreneurial innovation and business success [10]. Importantly for emerging entrepreneurs,

these associations are instrumental in fostering social capital and building social networks among their members [11]. Social capital, defined as “an aggregation of actual or potential resources embedded in a network or membership in a group” ([12], p. 21), provides a pool of information and resources for people within a network [13,14]. Social networks are the systems that facilitates information sharing and resources mobilization among a group of people [15–17].

Notwithstanding the stated role that associations have in building social capital and networks among their members, and their especial relevance for entrepreneurs, it is not yet known whether that statement holds within agritourism associations. Filling this knowledge gap is both critical and timely. It is critical to increase the likelihood of success among entrepreneurial farmers because of the many economic and non-economic benefits agritourism brings to family farms especially, such as increased profits and ease of farm succession, as well to overall society, such as heritage and resource preservation and enhancing environmental and agricultural consciousness in the public [18–21]. It is also timely because many business associations, including agritourism-related ones, are experiencing a significant decrease in membership that is affecting the quality of the benefits they provide to their members [22–24]. Such membership reduction could be related to the associations’ underperformance in building social capital and networks among their members [6,25,26].

Therefore, a study was conducted among members of a prominent agritourism-related association to evaluate the extent of social capital their members have as well as the social networks they have developed to share information amongst them. Accordingly, this study is driven by three objectives: (1) measure the quantity and quality of social capital among members; (2) identify the number of ties (connections) amongst members; and (3) evaluate members’ use of informational networks within their agritourism association. Investigating the extent of social capital in terms of quantity (number of ties) and quality (bi-directional relations) is critical to take managerial actions that may increase information sharing, activities coordination, and the ability to make collective decisions that can maximize members’ benefits [26–28]. To inform these managerial actions, Social Network Analysis (SNA) is suitable given its capacity to simultaneously display the quantity and quality of relationships amongst members and to identify the sources they trust to flow information [29,30]. In doing so, SNA yield results that are very useful to improve the efficiency of information dissemination and resource mobilization within the agritourism association, which in turn can improve members’ level of satisfaction and build trust, reciprocity, and cooperation amongst members [27,31,32].

## 2. Literature Review

The construct of social capital can be traced back to the early 1910s when Hanifan described it as the goodwill and social intercourse among individuals and families [26,33]. However, the actual term (social capital) was introduced more recently in the social sciences (e.g., [34,35]) to capture the importance of social relationships (ties) within a group [26]. Social network is a more recent construct, introduced to describe the structure of social relationships among individuals, groups, or organizations [16]. In brief, social networks are formed by social ties while social capital are the resources/benefits individuals can get from social networks [17]. The following sub-sections detail each of the aforementioned constructs, which provide the theoretical framework for this study.

### 2.1. Social Capital

Social capital, as an abstract construct denoting the importance of social relations in generating productive benefits, does not have a single universal definition [36]. As a result, two approaches to define social capital are commonly adopted. Personal approaches emphasize the role of individuals as the providers of benefits and resources; Burt [37], for example, define social capital as: “friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital” (p. 9). Social approaches emphasize the function of resources as the “aggregation of actual or potential resources embedded in a network or membership in a group” ([12], p. 21).

Putnam [38] advanced the scholarship of social capital beyond the emphasis on resources and structures of personal and social perspectives by introducing a utilitarian purpose in which individuals (actors) can purposely access, use, and mobilize the bundle of resources within social networks for specific actions [39]. The utilitarian approach of social capital has focused on identifying a set of individual and collective benefits that social structures produce. The former mainly focuses on individuals' potential to activate and effectively mobilize a network of social connections [12,40], while collective benefits primarily look at the gains of society [38]. More specifically, social capital facilitates the exchange of knowledge and information within and among networks [13,14]. Social capital also fosters a feeling of homogeneity within the network that stimulates trust, reciprocity, and cooperation [31,32] and enables people to act collectively [26,27].

Altogether, the aforementioned individual and collective benefits are commonly crowned under three dimensions: structural, cognitive, and relational [41–43]. The structural dimension depicts the overall pattern of social connections and relationships within networks (e.g., associations) by revealing the presence/absence of network ties [25,44]. Since ties are the source of social interaction that activates knowledge exchange and information sharing, this structural dimension captures the potential to mobilize available resources (e.g., capital, equipment) within the network [37,45]. The cognitive dimension uncovers the extent of members' homogeneity in terms of values, attitudes, beliefs and vision within groups [44]. Such homogeneity facilitates members' mutual understanding, which in turns fosters support for social action [46]. The relational dimension refers to the quality or strength of network ties in terms of individuals' trust, reciprocity, and cooperation [14]. This dimension usually uncovers members' length in a social relationship and the extent of their emotional intimacy, as well as the frequency of members' reciprocal behaviors [13].

Although the examination of social capital in the context of tourism has increased in recent years, it is still under-investigated [47]. Such scarcity in research is even more pronounced in the context of niche tourism and especially related to agritourism [48,49]. Most of the existing literature has focused on the synergistic relationships between social capital and community development in tourism destinations, indicating overall positive effects [33,50]. That is, either finding a positive relationship of cohesive communities on the success of tourism endeavors (e.g., [42,51]) or the impact of tourism development in increasing community social capital (e.g., [52]). In the context of agritourism, social capital strengthens the entrepreneurial identity [48] and the chances of success [53] of their operators. It is also imperative that businesses in agritourism destinations encourage bonding social capital with local residents as this can expand their customer base [49].

## 2.2. Social Networks: Concept and Analysis

A network is a specific type of relationship (tie) that links a defined group of persons, objects or events (actors or nodes) [15]. In this sense, social networks refer to the set of social ties from which individuals can get certain resources or benefits [17]. Given that the actors have the capacity to provide information, opportunities and perspectives that can benefit the entire network, it is stated that there is a positive relationship between social capital and the intensity of social network used [17]. Therefore, indicators of the quantity (e.g., number of ties) and quality (e.g., trust, reciprocity, cooperation) of available resources are used to assess the level of benefits within a network [54].

The complexity of examining interpersonal relationships within networks, including social capital, has called for visual representations to better illustrate the patterns and the structures of these relationships such as their characteristics, sources, and outcomes. Among these visual methods, SNA has gained popularity because its capacity to simultaneously display the quantity and quality of interpersonal relationships using points and lines. Thus, SNA is suitable to examine social capital within associations because it can capture the central relationships among the members (actors) of an association (network), identify actors' embeddedness within the network, and display the static and dynamic aspects of the network by highlighting the linkages between actors [29,30].

The investigation of networks and use of SNA in tourism, although still novel and rare, has increased in recent years, either to examine overall networks within specific tourism activities (e.g., food tourism) or macro structures such as tourism governance and sustainable tourism [55,56]. Overall, the extant literature stresses the need of agritourism operators to establish and nurture social networks with customers as well as with other farmers to facilitate the exchange of knowledge and resources [5,9,56,57]. Developing social network ties within the community have a positive effect on microbusiness success of micro agritourism operations [53]. The application of SNA in small rural destinations further emphasized the importance of networks, especially informal ones, to build social capital beyond economic transactions [56].

Social networks can be visually displayed from different scopes and measurements. In terms of scope, SNA can display the ties of all members (whole or global) or of one typical actor (egocentric) in any particular network [16]. The selection of the most suitable scope is based on their strengths. Whole SNA provides an accurate picture of the entire network, but it requires responses from all members within the network, which is usually hard to achieve. In this sense, ego-centric SNA is particularly useful when the population is large or the boundaries of the population are hard to define. Methodologically, networks can be measured using structural (e.g., density, centrality) and compositional (e.g., age, education, place of residence) variables [58].

The structure of social networks can be measured at the node and network/graph levels [59]. The node-level captures density and centrality measurements. Density describes the general cohesion within a network from zero to one, representing from loosely-connected to highly-connected networks, respectively [58,60]. Centrality comprises four measurements: (1) the degree of centrality denotes the popularity of a specific node; (2) the eigenvector centrality, an extension of the degree of centrality, captures the connectedness of an actor to those who have high levels of centrality in the network; and (3) closeness centrality indicates the actor's level of closeness and dependence with other actors, which ultimately affects their chance to capitalize on network resources; and (4) betweenness centrality captures the actors' control over the flow of information within the network, which is calculated based on the number of times a node rests on the shortest path between any pairs of nodes [58].

Centralization is the network/graph level measurement that describes the extent to which the network cohesion is organized around particular focal points, which are the main sources of information that individuals utilize [55]. A graph centralization can be measured through degree centralization, closeness centralization, and betweenness centralization, which altogether express the amount of variance in a network as a percentage of a hypothetical perfectly centralized network (a star or wheel). Each centralization measure ranges from zero to one, in which zero represents no variability across all nodes' centrality measures (complete graph) and one represents a high degree of variability (star or wheel) [58]. Measures of centralization reveal the extent to which each network has a central information source that members of that network utilize [58].

### 3. Materials and Methods

This study was conducted among premium members affiliated to the North America Farm Direct Marketing Association (NAFDMA; <https://nafdma.com/>). NAFDMA, a non-for-profit organization founded in 1986, has set the benchmark for the development of the agritourism industry in North America. NAFDMA has a broad membership in terms of geographical scope (Canada, Mexico, United States of America) and type of agritourism professionals (e.g., farmers, extension agents, industry suppliers). It also offers two types of memberships (standard and premium) with different annual dues. At the time of the study (June 2016), there were 523 premium members who, on top of standard benefits (e.g., Facebook for Members only, membership list), also had exclusive access to a variety of information sources through the Resource Center. With those characteristics, NAFDMA was deemed suitable to assess the level social capital and networks among their premium members.

### 3.1. Survey Instrument

A questionnaire addressing the study objectives was drafted with the input of the NAFDMA Executive Director. Specifically, the survey instrument collected information related to membership attributes (e.g., length of membership), socio-demographic characteristics, and indicators of social capital and networks. Informed by the literature (e.g., [41–43]), the survey queried the level of members' social capital through 9 items representing three dimensions of social capital applicable to NAFDMA premium members: structural (3 items; e.g., "NAFDMA members develop close relationships with other members"), cognitive (3 items; e.g., "NAFDMA members have common interests"), and relational (3 items; e.g., "NAFDMA members trust each other with their business concerns"). To capture members' perceived quality of social capital, 6 statements representing members' trust, reciprocity, and cooperation were queried in bi-directional form (e.g., "I can trust NAFDMA members with my business concerns"; "NAFDMA members can trust me with their business concerns") adapted from previous studies [13,14]. All social capital items were assessed using 5-point Likert-type scales (1 = "Strongly disagree" to 5 = "Strongly agree").

To construct the extent of social networks among members, the survey included quantity and quality indicators of their interaction. In terms of quantity, respondents were asked the number of NAFDMA members (ties) they have met over the years, whom they keep regular communication, and with whom they do business. To assess the quality of their interaction, respondents were asked about the frequency of use (5-point scale ranging from 1 = "Never" to 5 = "Always") and level of trust (4-point scale ranging from 1 = "Do not trust" to 4 = "Trust all") of NAFDMA information sources (e.g., members' only Resource Center) to obtain information related to agritourism, overall business practices, and direct marketing.

### 3.2. Data Collection and Analysis

On-line survey procedures were deemed as the most suitable to survey premium members given that the Internet is the main communication channel between NAFDMA and their members. Data collection procedures followed the Tailored Design Method for online surveys [61], slightly modified to send non-respondents up to four reminders when response considerably dropped. Both study researchers administered the survey procedures and communications using the contact information of premium member provided by NAFDMA. Data collection spanned two months (June–July 2016). The chance to win a sort of association benefits (e.g., one 5-year premium membership, two annual conference registrations) were offered as incentives to encourage participation. The survey yielded a total of 221 responses, representing an overall response rate of 42.3%, which is similar with previous research on affiliation networks (e.g., [60]).

Descriptive analyses were used to portray the socio-demographic and membership attributes of respondents, the extent of their social capital related to NAFDMA, and the number of ties within the association. Cronbach alphas were computed using SPSS to examine the internal reliability within the social capital dimensions, adopting the 0.60 minimum threshold as conservatively suggested [62]. The UCINET 6 software was used to conduct SNA due to its strength in providing well-designed and high-quality plots from a variety of statistical linear and nonlinear modelling and graphical techniques [63]. The analysis of the structure of each informational network (agritourism, farm direct marketing, overall business practices) included the calculation of node-level (i.e., density, degree of centrality, closeness centrality, betweenness centrality, eigenvector centrality) and network/graph-level (i.e., degree centralization, closeness centralization, and betweenness centralization) measures [59].

## 4. Results

Respondents were mostly female (58.4%) and averaged 51 years old (Table 1). They were highly educated, having the majority (67.9%) at least a four-year college degree. Accordingly, 50.0% reported at least USD 100,000 annual household income. As expected given NAFDMA's mission, two-thirds

(66.7%) were full-time farmers and 30.9% were agritourism managers or employees. Few respondents (15.9%) were recent NAFDMA members (1–2 years); the largest proportion (40.6%) were long-standing members with at least 10 years of membership. A relatively large proportion of respondents (16.9%) reported NAFDMA as their only membership association; most (57.5%) held between two and four association's memberships, and 25.6% at least five.

**Table 1.** Socio-demographic and membership profile of respondents.

Socio-Demographic and Membership Indicators	Number	Percent
<b>Gender (n = 154)</b>		
Male	64	41.6%
Female	90	58.4%
<b>Age (n = 153)</b>		
18–35 years old	25	16.3%
36–45 years old	23	15.0%
46–55 years old	43	28.1%
56–65 years old	48	31.4%
66 years old or more	14	9.2%
<b>Mean (in years)</b>		<b>(51.2)</b>
<b>Level of Education (n = 156)</b>		
High school graduate or less	6	3.8%
Some college	22	14.1%
Two-year college degree	22	14.1%
Four-year college degree	78	50.0%
Postgraduate studies	28	17.9%
<b>Pre-Tax Annual Household Income (n = 142)</b>		
Less than USD 50,000	22	15.5%
USD 50,000–USD 74,999	24	16.9%
USD 75,000–USD 99,999	25	17.6%
USD 100,000–USD 199,999	42	29.6%
USD 200,000 or more	29	20.4%
<b>Farm-Related Occupation <sup>1</sup> (n = 165)</b>		
Full-time farmer	110	66.7%
Part-time farmer	13	7.9%
Farm manager or employee	32	19.4%
Agritourism manager or employee	51	30.9%
Other (e.g., industry supplier, extension agent)	22	13.3%
<b>Years of Membership (n = 182)</b>		
Less than 1 year	9	5.0%
1–2 years	20	11.0%
3–5 years	39	21.4%
6–9 years	40	22.0%
10–19 years	47	25.8%
20 years or more	27	14.8%
<b>Number of Associations Belong to (n = 176)</b>		
1 (only NAFDMA)	30	17.0%
2 associations	33	18.8%
3 associations	39	22.2%
4–5 associations	45	25.6%
6 associations or more	29	16.5%

<sup>1</sup> Percentages sums to more than 100% because participants could check more than one response.

#### 4.1. Social Capital among NAFDMA Members

Respondents agreed that NAFDMA members have high levels of social capital in all their three dimensions. Respondents rated Relational social capital ( $M = 4.50$ ;  $\alpha = 0.866$ ) as the highest dimension, closely followed by Cognitive social capital ( $M = 4.40$ ;  $\alpha = 0.839$ ); Structural social capital ( $M = 4.19$ ;  $\alpha = 0.896$ ) was the lowest dimension, although with still with high mean scores (Table 2). More specifically, most respondents strongly agreed that NAFDMA members are willing to help each

other (70.3%;  $M = 4.68$ ), share professional advice among them (59.3%;  $M = 4.51$ ), have common interests (54.4%;  $M = 4.50$ ), and have a shared vision of farm direct marketing and agritourism (47.1%; 4.37). Respondents least agreed, although still within agreement levels, that NAFDMA members know each other on a personal level ( $M = 3.94$ ).

**Table 2.** Indicators of relational, cognitive and structural social capital within North America Farm Direct Marketing Association (NAFDMA) members.

NAFDMA Members ... ( $n = 172$ )	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean <sup>1</sup>
<b>Relational (<math>\alpha = 0.866</math>)</b>						<b>4.50</b>
... are willing to help each other	0.0%	0.6%	1.2%	27.9%	70.3%	4.68
... share professional advice among them	0.0%	3.5%	1.2%	36.0%	59.3%	4.51
... trust each other with their business concerns	0.6%	0.6%	9.3%	44.2%	45.3%	4.33
<b>Cognitive (<math>\alpha = 0.839</math>)</b>						<b>4.40</b>
... have common interests	0.0%	0.6%	3.0%	42.0%	54.4%	4.50
... have a shared vision of farm direct marketing and agritourism	0.0%	1.2%	8.1%	43.6%	47.1%	4.37
... share similar values	0.0%	0.6%	8.2%	48.0%	43.2%	4.34
<b>Structural (<math>\alpha = 0.896</math>)</b>						<b>4.19</b>
... easily communicate among one another	0.0%	2.3%	10.5%	36.0%	51.2%	4.36
... develop close relationships with other members	0.0%	2.4%	15.3%	35.9%	46.4%	4.26
... know each other on a personal level	2.3%	4.1%	23.8%	37.2%	32.6%	3.94

<sup>1</sup> Measured on a 5-point scale from (1) strongly disagree to (5) strongly agree.

A closer examination of the quality of bi-directional Relational social capital showed that NAFDMA members also have high levels of trust ( $M = 4.48$ ), cooperation ( $M = 4.40$ ), and reciprocity ( $M = 4.28$ ) among them in both (to/from) directions (Table 3). Consistent with the cautionary nature of entrepreneurial farmers, respondents perceived that other NAFDMA members can trust them with their business concerns ( $M = 4.56$ ) higher than they can trust other NAFDMA members ( $M = 4.39$ ). These results somewhat contradict the fact that respondents have received more help and professional advice from other NAFDMA members ( $M = 4.48$  and 4.36, respectively) than helped and gave to other members ( $M = 4.32$  and 4.19, respectively).

**Table 3.** Quality of bi-directional relational social capital among NAFDMA members.

Relational Social Capital ( $n = 168$ )	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean <sup>1</sup>
<b>Trust</b>						<b>4.48</b>
Association members can trust me with their business concerns	0.0%	0.0%	3.6%	36.9%	59.5%	4.56
I can trust association members with my business concerns	0.0%	0.0%	9.5%	41.7%	48.8%	4.39
<b>Cooperation</b>						<b>4.40</b>
I have received help from association members	1.2%	0.6%	4.2%	37.5%	56.5%	4.48
I have helped association members	1.2%	1.2%	10.7%	38.7%	48.2%	4.32
<b>Reciprocity</b>						<b>4.28</b>
I have received professional advice from association members	0.6%	1.2%	10.7%	36.3%	51.2%	4.36
I have given professional advice to association members	0.6%	3.0%	15.0%	39.5%	41.9%	4.19

<sup>1</sup> Measured on a 5-point scale from (1) strongly disagree to (5) strongly agree.

#### 4.2. Quantity Indicators of Social Networks: Number of Ties among Members

Results indicate a strong social network with NAFDMA in terms of number of ties among their members (Table 4). Most respondents have met at least 50 other members over the years (70.2%;  $M = 141$  members) and communicate on regular basis with at least six other members (57.6%;  $M = 15$  members). Beyond social interactions, some of those ties have evolved into business relationships; the vast majority (74.7%) reported doing business with at least one other NAFDMA member, and about half (47.4%) have done so with at least three other members over the years ( $M = 6$  members).

**Table 4.** Number of NAFDMA members that respondents have met, kept communication on regular basis, and have done business with over the years.

Number of Members ( $n = 154$ )	Number of NAFDMA Members Respondents:		
	Met over the Years	Keep Regular Communication	Do Business with
None (0 members)	0.7%	3.9%	25.3%
1–2 members	0.0%	13.1%	27.3%
3–5 members	3.3%	25.4%	28.6%
6–9 members	1.3%	12.5%	1.4%
10–19 members	6.6%	21.5%	12.3%
20–49 members	17.9%	18.3%	3.9%
50–99 members	20.5%	3.3%	0.6%
100–199 members	28.5%	2.0%	0.6%
200 members or more	21.2%	0.0%	0.0%
<i>Mean (number of members)</i>	<i>(141)</i>	<i>(15)</i>	<i>(6)</i>

One of the great values of examining social networks is to identify the level of information sharing within actors, which in the case of business-related association, such as NAFDMA, pertains to information that can be useful to enhance their operations. In this regard, results indicate that all respondents would feel comfortable to seek professional advice at least from one other NAFDMA member (Table 5). Most would seek advice from at least 10 other members on a variety of issues related to agritourism (64.5%;  $M = 80$  members), farm direct marketing (58.6%;  $M = 80$  members), and overall business practice (61.2%;  $M = 77$  members).

**Table 5.** Number of association members that respondents would feel comfortable to seek advice related to agritourism, farm direct marketing, and overall business matters.

Number of Members ( $n = 142$ )	Would Seek Advice on:		
	Agritourism	Direct Marketing	Overall Business Practices
None (0 members)	0.0%	0.0%	0.0%
1–2 members	9.2%	7.9%	10.6%
3–5 members	18.4%	20.6%	19.0%
6–9 members	7.9%	12.9%	9.2%
10–19 members	19.9%	17.1%	21.0%
20–49 members	16.3%	13.6%	14.8%
50–99 members	9.2%	9.3%	8.5%
100 members or more	19.1%	18.6%	16.9%
<i>Mean (number of members)</i>	<i>(80)</i>	<i>(80)</i>	<i>(77)</i>

#### 4.3. Quality Indicators of Social Networks: Informational Exchange among Members

Information among NAFDMA members flows through various sources sponsored by the association, namely: Farmers Inspired Magazine (NAFDMA quarterly printed magazine), Resource Center (an online clearing house for premium members), Group Facebook (for premium members only), and NAFDMA emails (directly distributed from organization to all members). Results indicate that

information also flows directly amongst members, without NAFDMA intervention. The use of these information sources though varies depending on the type of information (i.e., agritourism, farm direct marketing, overall business practices) they seek (Table 6). For agritourism-related information, respondents most frequently use the Group Facebook ( $M = 3.65$ ) and directly ask other NAFDMA members ( $M = 3.59$ ). For seeking farm direct marketing information, respondents most frequently ask other NAFDMA members ( $M = 3.62$ ) followed by Farmers' Inspired magazine ( $M = 3.53$ ) and the Group Facebook ( $M = 3.48$ ). In terms of overall business-related information, respondents reported other NAFDMA members as the most frequently used source of information ( $M = 3.57$ ), followed by the Farmers' Inspired magazine ( $M = 3.43$ ) and the Group Facebook ( $M = 3.40$ ). Notably, the Resource Center was the least used source of information for all types of information sought.

**Table 6.** Members' use of different sources to seek information related to agritourism, direct marketing, and overall business practices.

	Never	Rarely	Sometimes	Often	Always	Mean <sup>1</sup>
<b><i>Agritourism</i></b>						
Farmers' Inspired magazine	1.8%	8.9%	38.1%	35.1%	16.1%	3.55
Resource Center	9.6%	23.4%	44.3%	16.8%	6.0%	2.86
Group Facebook	14.3%	7.1%	14.3%	28.0%	36.3%	3.65
NAFDMA e-mails	1.8%	15.5%	33.9%	36.3%	12.5%	3.42
Other NAFDMA members	4.2%	7.1%	32.7%	37.5%	18.5%	3.59
<b><i>Direct Marketing</i></b>						
Farmers' Inspired magazine	2.4%	10.3%	29.7%	47.3%	10.3%	3.53
Resource Center	11.6%	18.3%	39.0%	25.0%	6.1%	2.96
Group Facebook	15.6%	6.3%	15.6%	40.0%	22.5%	3.48
NAFDMA e-mails	3.1%	13.5%	31.9%	41.7%	9.8%	3.42
Other NAFDMA members	4.2%	4.8%	29.7%	47.3%	13.9%	3.62
<b><i>Overall Business</i></b>						
Farmers' Inspired magazine	3.8%	8.8%	36.9%	41.9%	8.8%	3.43
Resource Center	14.3%	16.8%	41.6%	19.9%	7.5%	2.89
Group Facebook	16.4%	5.0%	20.8%	38.4%	19.5%	3.40
NAFDMA e-mails	4.4%	15.7%	39.0%	35.2%	5.7%	3.22
Other NAFDMA members	3.7%	6.8%	32.9%	42.2%	14.3%	3.57

<sup>1</sup> Measured on a 5-point scale from (1) never to (5) always.

Respondents showed high levels of trust toward all information sources NAFDMA uses to communicate with them about issues related to agritourism, direct marketing, and overall business practices; they also highly trust the information shared directly amongst members (Table 7). Specifically related to agritourism, respondents reported the highest level of trust towards NAFDMA e-mails ( $M = 3.35$ ), closely followed by the Farmers' Inspired magazine ( $M = 3.34$ ), and the Resource Center ( $M = 3.32$ ). Information related to direct marketing disseminated in the Farmers' Inspired magazine was the most trusted ( $M = 3.29$ ), followed by other sources to a very similar extent. Respondents also highly trusted information related to overall business practices when retrieved from the Farmers' Inspired magazine ( $M = 3.20$ ) and from other NAFDMA members ( $M = 3.20$ ).

**Table 7.** Members' level of trust toward sources disseminating information related to agritourism, direct marketing, and overall business practices.

	Don't Trust	Trust Some	Trust Most	Trust All	Mean <sup>1</sup>
<b><i>Agritourism</i></b>					
Farmers' Inspired magazine	0.6%	3.7%	56.8%	38.9%	3.34
Resource Center	0.0%	5.5%	57.5%	37.0%	3.32
Group Facebook	0.7%	9.4%	56.8%	33.1%	3.22
NAFDMA e-mails	0.6%	3.8%	56.0%	39.6%	3.35
Other NAFDMA members	0.0%	9.8%	58.9%	31.3%	3.21

Table 7. Cont.

	Don't Trust	Trust Some	Trust Most	Trust All	Mean <sup>1</sup>
<b>Direct Marketing</b>					<b>3.23</b>
Farmers' Inspired magazine	0.0%	5.1%	60.3%	34.6%	3.29
Resource Center	0.0%	7.4%	62.5%	30.1%	3.23
Group Facebook	1.5%	9.9%	55.7%	32.8%	3.20
NAFDMA e-mails	0.0%	10.6%	57.0%	32.5%	3.22
Other NAFDMA members	0.0%	10.3%	57.1%	32.7%	3.22
<b>Overall Business Practices</b>					<b>3.18</b>
Farmers' Inspired magazine	0.0%	9.3%	61.3%	29.3%	3.20
Resource Center	0.0%	8.3%	65.2%	26.5%	3.18
Group Facebook	0.0%	10.9%	60.9%	28.1%	3.17
NAFDMA e-mails	1.3%	10.7%	60.4%	27.5%	3.14
Other NAFDMA members	0.0%	7.9%	64.5%	27.6%	3.20

<sup>1</sup> Measured on a 4-point scale ranging from (1) Don't trust to (4) Trust all.

#### 4.4. Social Network Analysis: Frequency Use of Information Sources among Members

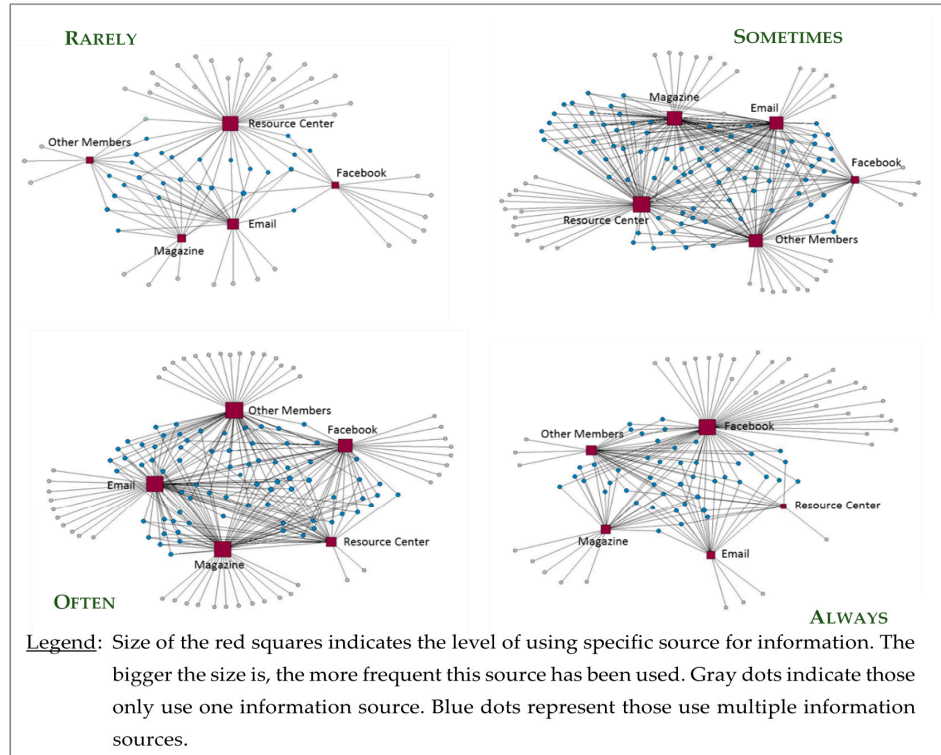
The frequency that members use different sources to seek business-related information, normalized for different sample sizes, yielded roughly similar density values (Agritourism = 0.059; Direct Marketing = 0.059; overall Business Practices = 0.061) indicating moderate cohesive networks. SNA revealed large variations in centrality measures (i.e., degree, closeness) related to members' use of individual informational sources (Table 8). Specifically, the high degree of centrality and closeness centrality found related to Agritourism and Direct Marketing indicate that all five sources are heavily sought to obtain information related to both topics, without showing a pronounced preference for individual sources over others. Yet, these results also indicate that members are not as dependent on these sources to seek information on overall Business Practices. Conversely, small variations found in the betweenness and eigenvector centrality measure did not reveal a monotonic pattern across the three topics. Specifically, low betweenness centrality across the three topics indicate that the flow of information among the five information sources NAFDMA provide to their members is very weak, indicating no overlap across them. Eigenvector centrality across all five information sources indicate a moderate, yet similar/equal, influence of these sources on members.

**Table 8.** Centrality measures of the frequency members use NAFDMA information sources related to agritourism (AT), direct marketing (DM) and overall business practices (BP).

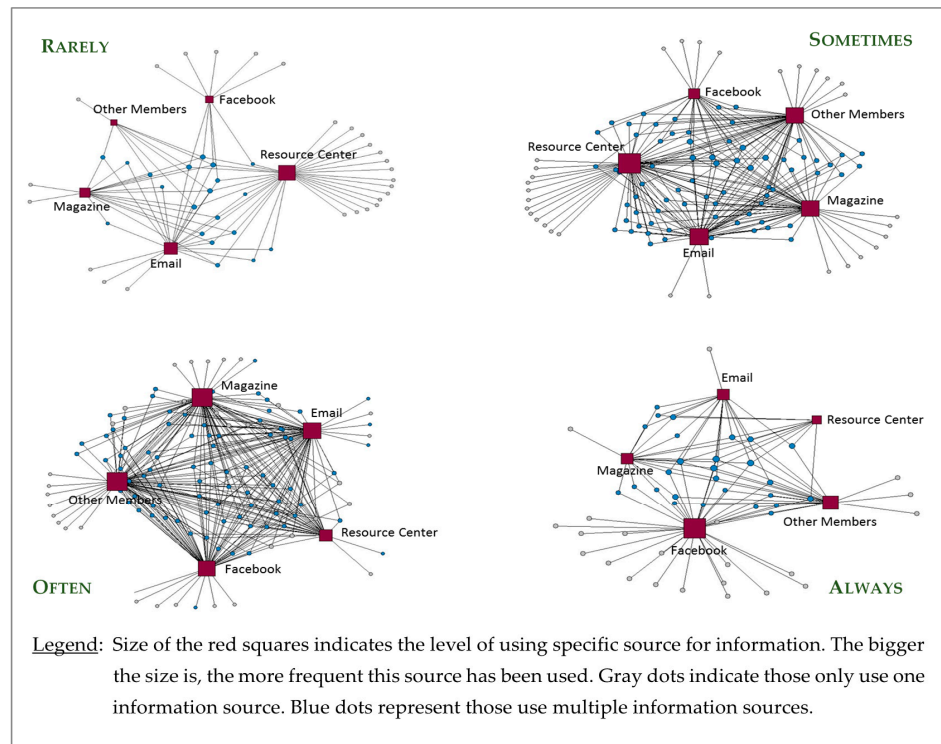
NAFDMA Information Sources	Normalized Degree Centrality			Normalized Closeness Centrality			Normalized Betweenness Centrality			Normalized Eigenvector Centrality		
	AT	DM	BP	AT	DM	BP	AT	DM	BP	AT	DM	BP
Magazine	1.00	0.98	0.16	1.00	1.00	0.29	0.19	0.20	0.01	0.45	0.45	0.45
Resource Center	0.99	0.99	0.17	0.99	0.99	0.29	0.19	0.19	0.01	0.45	0.45	0.45
Group Facebook	1.00	0.95	0.16	1.00	0.95	0.29	0.19	0.18	0.01	0.45	0.44	0.45
NAFDMA e-mail	1.00	0.97	0.16	1.00	0.98	0.29	0.19	0.19	0.01	0.45	0.45	0.45
Other members	1.00	0.98	0.17	1.00	1.02	0.29	0.19	0.20	0.01	0.45	0.45	0.45

The aforementioned results of the network that respondents use to exchange information are easier to grasp and summarize through visual representations. Specifically, these visual representations convey the extent to which members use single or different sources (Farmers Inspired Magazine, Resource Center, Group Facebook, NAFDMA emails, other members) to share information related to agritourism (Figure 1), direct marketing (Figure 2), overall business practices (Figure 3). All figures

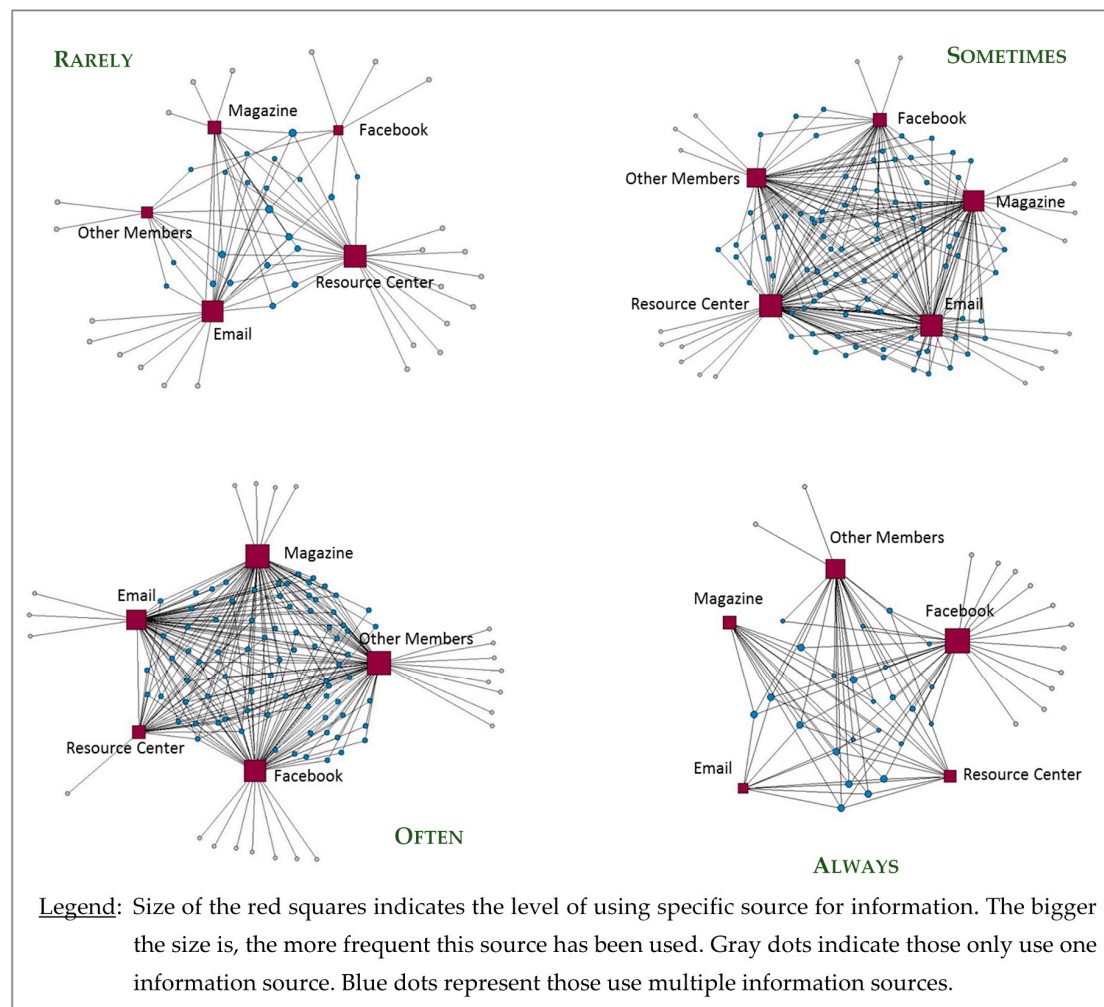
also show that members' usage pattern of these sources range from "rarely" to "always", with most of members using them "sometimes" and "often". The size of red squares in the figures indicate the level of use of each information source, while the colors of the dots represent whether respondents use the only one source (gray dots) or multiple sources (blue dots).



**Figure 1.** Extent that members use NAFDMA sources for sharing agritourism information.



**Figure 2.** Extent that members use NAFDMA sources for sharing direct marketing information.



**Figure 3.** Extent that members use NAFDMA sources for sharing overall business information.

At the network level, results of centralization measures yielded small variations among the three informational networks (Table 9), indicating that the sources members use to retrieve information are highly popular and the patterns of information exchange are quite similar. Results also indicated that network cohesion is not organized around any particular information source.

**Table 9.** Centralization measures of members' frequency of using the informational sources.

Informational Sources	Degree of Centralization	Closeness Centralization	Betweenness Centralization
Agritourism	0.0033	0.0233	0.0000
Farm Direct Marketing	0.0133	0.2333	0.0075
Overall Business Practices	0.0100	0.1167	0.0049

## 5. Discussion

The overall young age and high education level of study participants is consistent with the profile of young and high-skilled farmers venturing into agritourism reported across the United States of America [9,21] as entrepreneurial farming require high competency in business skills that are usually attained through formal education beyond the agricultural expertise [7]. Higher levels of education in the study sample may also be due to the broader professional background of the participants that included farm or agritourism managers or employees and other professionals indirectly related to

agriculture (e.g., extension agents, agricultural suppliers). The large proportion of study participants (40.6%) who were long-standing NAFDMA members suggest that agritourism-related associations should consider directing efforts toward recruiting new members taking into consideration the steady membership decrease these associations are experiencing [23]. To do so, it is advisable that associations understand and adapt their offerings to their members' needs, especially as results showed a large number of members affiliated to multiple agritourism-related associations. Based on the SNA results, for example, associations should prioritize disseminating topic specific information (e.g., focused on agritourism and direct marketing) rather than overall business practices.

Respondents' high levels of social capital in its three dimensions (relational, cognitive, structural) suggest that associations are suitable to foster a sense of community among their members. In the context of agritourism, all these forms of social capital are essential to strengthen the farmers' entrepreneurial identity and cooperation among stakeholders, which ultimately increase the chances of business success [48,53]. Such sense of community creates a propitious environment in members' benefit, which is especially relevant in rural tourism [42]. The high relational social capital in terms of members' willingness to help and share professional knowledge and information with other members shows that the association effectively helps to build social ties, which in turn fosters trust, reciprocity, and cooperation among members [27,29,31,32]. The high cognitive social capital among members, indicating strong levels of shared values, attitudes, and beliefs towards their association, can facilitate collective action [26,28], which in the case of agritourism is to increase customers' awareness of the local food systems and producers [5]. Lowest levels of structural social capital found indicate that further measures are needed to build social connections and relationships at the personal level among members [25,44].

Although reduced personal relationships can be attributed to the international nature of the study association, it is important to recognize that the lack of personal relationship might reduce social cohesion, further impacting members' desire to work towards their common goals [64]. These latter results suggest that the association's leadership should design activities to enhance members' bonding at a smaller geographic scale, such as organizing regional or state level conventions or workshops, and provide suitable space for members to develop their networks. High levels of bi-directional relational social capital in terms of trust, cooperation, and reciprocity amongst members reflect a positive environment for business cooperation and partnerships [65]. The association leadership can use such positive environment to sustain or even increase members' social ties [38,44] through a variety of ways, such as stimulating member-to-member communications or rewarding member-to-member partnerships. For the purpose of recruiting new members, it is advisable that associations use real examples (e.g., testimonials) in their advertisements campaigns to illustrate the actual benefits members attain resulting from the social capital and networks they support.

Along those lines, the trustworthy environment NAFDMA has created is praiseworthy, as it is critical to the strengthening of the agritourism industry. The high level of comfort that respondents felt to seek/provide advice from/to other members in a diversity of business related topics indicates the suitability of agritourism associations to serve as an effective educational platform, a major purpose of this type of associations [66]. The frequency and diversity of information (especially related to agritourism and direct marketing) flowing directly among members confirms that a central information gatekeeper is not always necessary confirming findings from previous studies [58–60]. Yet, centrality measures obtained in the SNA indicate that NAFDMA has an important impact on providing informational sources (e.g., Group Facebook) serving as clearinghouses that members actively use, especially to seek information related to Agritourism and Direct Marketing. These results indicate that it is important that the association leadership keep stimulating the exchange of information among their members, such as through the dissemination of information through their various communication channels.

The identification of the channels members most frequently use to retrieve business-related information from the organization (e.g., group Facebook, other members, Farmers Inspired Magazine)

also provide managerial intelligence on how to associations can more effectively reach their members. For example, the reduced use of the Resource Center, although highly trusted, should be re-evaluated as a suitable communication channel especially if it requires an economic burden. Alternatively, it could be better promoted among members to increase its use. Centrality measures also indicate that association managers should prioritize members' access to business specific information (in this case related to agritourism and direct marketing) rather than general business practices, most likely due to the abundant availability of the latter.

In addition to the aforementioned practical implications, this study also yielded important theoretical and methodological contributions. First, by adopting social capital framework into agritourism association studies, this study fills the gap of social capital knowledge about associations in the agritourism field. Specifically, study results not only expanded our current knowledge on the three dimensions of social capital within agritourism associations, but also elucidated the extent of bi-directional social capital among members. Second, this study adds to the still scarce information of social networks related to agritourism by confirming the necessity of operators to develop and cultivate relationships with other farmers to facilitate the exchange of knowledge and resources [9,56,57] that are finally conducive to their success [53]. More specifically, this study complements previous findings sustaining the importance of informal networks to build social capital [56] by identifying the key role that formal associations, such as NAFDMA, have in facilitating information sharing in business topics that are essential to the advancement of a given industry, such as agritourism. Finally, from a methodological perspective, the visual display of how members use different informational networks was suitable as an alternative and more direct approach to evaluate the value of different channels in the dissemination of business information. The SNA also was valuable to identify the most suitable sources for exchanging valuable information among members, as well as the patterns of use of these information sources.

#### *Study Limitations and Future Research*

Notwithstanding the aforementioned practical applications and theoretical and methodological contributions of this study, the generalization of their results to other contexts should be exercised with caution and taking into consideration some limitations. Although the selection of NAFDMA as a case study followed a thorough consideration as to meet the study purpose, it is not representative of other associations catering to the agritourism industry. Its broad membership scope in terms of members' international and business backgrounds (e.g., farmers, extension agents), the high income and educational level of their members, and the high membership dues may indicate a unique membership body, which may differ from other agritourism-related associations serving local (e.g., state level associations) or specialized (e.g., corn-maize associations) agritourism farmers. Although the study response rate is acceptable and comparable to similar studies (e.g., [60]), it is often suggested that for those whole network analysis of ego-centric data, a comprehensive network analysis require higher response rates (85%). In this regard, it is also worth mentioning that, not all respondents answered all questions, which omission may prevent further generalizations. Finally, caution is also advised to generalize study results obtained from data collected in 2016 to the current context, especially due to the COVID-19 pandemic. The overall mandatory and suggested restrictions (e.g., physical distance, travel advisories), and the resulting economic depression affecting both visitors and farmers, may have changed the informational and networking roles of agritourism associations.

Taking into consideration these limitations, study results suggest further investigation of the extent of social capital within agritourism associations using different research methods (e.g., in-depth interviews) to identify a more thorough picture of how information flows among members, especially to identify information channels beyond those evaluated in this study. Further investigation is needed also to evaluate how information shared within the association bridges to/from other associations (e.g., insurance related) or agencies (e.g., Department of Agriculture). Since social networks are dynamic, future studies should also examine how social capital and informational networks change

over time and to what extent these changes are influenced by demographic trends (e.g., decrease in gender imbalance) and political shifts (e.g., changes in agricultural subsidies), which can provide managerial intelligence that may enhance the industry development. It is also suggested to replicate this study during and after the COVID-19 pandemic to identify potential changes in the roles that agritourism associations provide to their members, especially to disseminate real-time guidelines and in fostering social capital, especially related to member-to-member relationships.

## 6. Conclusions

This study used a case-study approach to investigate the levels of social capital and networks existing within agritourism associations. This study advanced the scholarship of agritourism by identifying the extent of relational, cognitive, and structural social capital and members' bi-directional relational social capital within an association as well as depicting the social ties associations are able to build among their members. This study adds to the very limited literature utilizing SNA to evaluate the links between actors involved in agritourism [56] by undertaking an organizational perspective. That is, for the first time, SNA was applied to measure the role that an agritourism association has in channeling the exchange of relevant business information (agritourism, direct marketing, overall business practices) amongst their members. Its application yielded critical results, namely to identify the wide use of within-association information sources (e.g., Facebook) and to identify similar patterns of information exchange. By applying SNA within a tourism association, this study serves a cornerstone for future studies analyzing informational social networks that can serve to improve outreach efforts among associations' members and even education efforts beyond the association's scope (e.g., supporting agencies, customers). Furthermore, the identification of members' level of trust towards the information sources provided practical insights that associations can use to distribute their information in a more efficient manner.

Overall, this study's results and methodology (namely the combined use of statistical and social network analyses) can be used to evaluate the performance of different types of tourism associations in terms of social capital and social networks, especially among emerging niche tourism industries that require a wealth of educational materials and policy guidelines at the onset of their operations. Expanding the investigation of the informational role that agritourism associations facilitate to members and the public general is even timelier during the COVID 19 pandemic where both, small tourism providers and the public (especially local visitors) need real time information. For example, the open-space characteristic of farms where most recreational and educational occur, allowed farmers restart promptly their operations albeit restrictions. However, to do so, strong informational exchange was needed to inform the agritourism providers of safety guidelines.

At the broader scope, the evaluation of whether a given association is adequately building social networks among their members is critical to adjusting their services and offerings as a means of maximizing members' value. In doing so, associations can improve membership retention and even increase their membership base if those values are communicated in their recruitment efforts. Likewise, this information is valuable for potential members in making more informed decisions about the social capital and network benefits they can gain from joining a given association. A good match between the social benefits associations provide and members' needs have the capability to enhance associations' image and brand, which fosters members' commitment towards their association. In the case of agritourism, such commitment is critical to sustaining the minimal membership number that can help to consolidate the growth and development of this emerging industry in the long run.

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