The relationship between members' participation and organizational trust in cooperative firms: A case of dairy cooperatives in Izmir province - Turkey

FILIZ KINIKLI*, MURAT YERCAN*

DOI: 10.30682/nm2301f JEL codes: Q10, Q13

Abstract

Relationship between cooperative-member is very important for cooperatives to continue their activities successfully and effectively. Effective management of cooperative depends on participation of members in the process of cooperative management. The desire to participate in the management varies according to person to person. The main purpose of this study is to determine members' organizational trust level and examine the willingness to participate of members' into the decision making process according to organizational trust level. Interviews were conducted with142 members in Izmir. Organizational Trust Inventory (OTI) was used. Factor analysis and cluster analysis were used to divide into groups to members' organizational trust level. It has been determined that the members in the "non-trusting" group are more willing to participate in the management. Age, education and organizational trust, etc. have affected a willingness to participate in cooperative management. Professional management is necessary in order to raise economic and social profit of members. Cooperative leaders should not ignore the opinions of its members and they should also maintain good contact with members.

Keywords: Cooperative management, Participation, Organizational trust, Agricultural Cooperatives.

1. Introduction

It is claimed that cooperativism is the greatest socio-economic movement in the earth and that it is a giant institution due to its contributions to the national economy and the advantages it provides to its members (Çıkın and Karacan, 1994).

International Cooperative Alliance (ICA) defines a cooperative as an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise (ICA, 2019). The persons who voluntarily unite to form a cooperative are usually referred to as members or member-owners, and one of the key attributes of membership is active participation in the activity of the cooperative (whether economic, business, or social) (Lerman, 2013).

Cooperatives are voluntary and democratic grass root organizations of people and play an important role throughout the world in the agricultural sector and especially in the dairy sector.

Cooperatives are considered as the third sec-

^{*} Ege University, Izmir, Bornova, Turkey.

Corresponding author: filiz.kinikli@ege.edu.tr

tor alongside public and private institutions in many countries. Cooperatives facilitate resolving farmers' problems such as providing input and loan and marketing their products. The fact that the failure to satisfy the expectations of the members (price, finding a ready market, time of payment, revenue enhancement, employment increase, reasonable rate of interest, refund and so on) both prevents the participation of new members in the cooperatives and causes the present members to stay away from the cooperatives and remain passive. Cooperatives are controllable organizations which are controlled by their members who participated in general assembly and board of management. Participation of the cooperative members in the management processes of the cooperatives is essential for the order and durability (Cechin et al., 2013).

The members who can participate in decision making mechanism are not obliged to follow the decisions made by others. This situation indicates the linear and close relationship of participation in management with efficiency, commitment, and reliance (Talas, 1997).

An agricultural cooperative is a business that is held cooperatively by several individual suppliers. It includes both a horizontal arrangement of members and a vertical coordination mechanism between the upstream members and the downstream processor (Hakelius *et al.*, 2013).

Agricultural Development Cooperatives which are the most important cooperative types in Turkey have the most commonly organized and the most numerous institutions among the agricultural cooperatives in Turkey. They have emerged as the most prominent type of cooperative in terms of their members' participation into cooperative activities (Özdemir, 2005). Agricultural Development Cooperatives are independent bodies which are established by governmental incentives in accordance with the needs of the farmers, and their primary aim is contribute to the economic and social development of their members. For this reason, Agricultural Development Cooperatives exert an impact upon the incomes of the farmers directly. Particularly, the representation of the farmers under the tenders made in the dairy sector is made through agricultural development cooperatives (Köroğlu, 2003).

Cooperative-member relationship is highly substantial for cooperatives to pursue their activities successfully and effectively. In this respect, cooperative-member relations have been examined in terms of cooperative types in many regions in Turkey and the other countries in the literature for many years (Özdemir, 2005; Österberg and Nilsson, 2009; Barraud-Didier *et al.*, 2012; Sahin *et al.*, 2013; Cechin *et al.*, 2013; Msimango and Oladele, 2013; Alçiçek, 2016; Yacob *et al.*, 2018).

In most of the studies which were carried out, the reasons such as the reluctance of the members to participate in the management, the shortage of trust in the cooperative, the failure of the cooperative to fulfill the expectations of the members, led to failure while the participation of the members in the management brought along an increase in production and also provided quality improvement (Kubaş, 1992; Özdemir, 1996; Ertan and Turan, 2001; Karlı and Çelik, 2003; Sabuncuoğlu and Tüz, 2003; Eken, 2010; Kılıç, 2011; Ertan and Kaya, 2012; Barraud-Didier et al., 2012; Cechin et al., 2013; Msimango and Oladele, 2013; Alçiçek, 2016). It is claimed that trust is one of the most important factors about cooperatives management. Trust is defined that "psychological state which consists of accepting the vulnerability resulting from the positive expectations of the intentions or behaviors of the other" by Rousseau et al. (1998; Barraud-Didier et al., 2012). There are two components of organizational trust; trust in the organization, and trust in manager (Nyhan and Marlowe, 1997; Vanhala et al., 2016).

The effective management of the cooperatives and success depends on the participation of the members in the management. It is shown in Österberg and Nilsson's study (2009) carried out with over 2000 Swedish farmers. The desire to participate in the management varies according to the people, while some of them are eager to participate in the management, others do not even attend the meetings. In the studies which were conducted, it was found that this situation was related to the reasons such as age, education, and size of the enterprise (Ertan and Turan, 2001; Karlı and Çelik, 2003; Everest and Yercan, 2016). In this sense, this study attempts to examine the organizational trust levels of the dairy cooperative members in Izmir and to present the participation of the members in the management according to their trust levels.

2. Materials and methods

This study was conducted in the Izmir province which is located in the west of Turkey (Figure 1). Izmir is one of the most important cities about dairy cooperatives and dairy sector. It has modern dairy farms and dairy processing industries compared to other agricultural regions of Turkey. In particular, dairy cooperatives are really effective and dominant in the dairy market in this province. There are few successful dairy cooperatives which are market-dominant, in Izmir and they are shown an example in Turkey. General raw milk flow in Izmir is from farmers to cooperatives or investor-owned firms (dairy collectors, modern processors, etc.). Direct sales in open bazaars or on the street are really rare. According to food safety regulations, direct sales are restricted by law (Notification No: 2017/20).

In 2019, the total number of cattle in the province was 780,151 head and 82% of them were imported breeds. 39.38% of the total number of cattle in Izmir were dairy cows. In 2019, the total milk production in Turkey, Aegean region and Izmir is 20,782,374 tones, 3,751,147 tones and 1,150,838 tones, respectively. Izmir has 30.68% milk production of Aegean region and 5.54% milk production of Turkey (TurkStat, 2022).

The main material of the study is consisted of face-to-face surveys which were conducted with the members of Agricultural Development Cooperatives who were engaged in milk processing and milk collection activities in İzmir. Similar studies such as articles, theses, statistical data which were carried out earlier composed the secondary data.

The number of Agricultural Development Cooperatives which are engaged in dairy processing and collection activities has been reached by benefiting from the data of İzmir Provincial Directorate of Agriculture (Ministry of Agriculture and Forestry, 2018). It was found out that there were 15 actively operating cooperatives and 4 of those cooperatives were engaged in both milk collection and dairy processing, 11 of the cooperatives were only engaged in milk collection activity. The

Figure 1 - Research area.



number of the cooperative members composed the study population and the number of the members to be interviewed was determined by proportional sampling method (Newbold, 1995).

$$n = \frac{Np(1-p)}{(N-1)\sigma_{\hat{p}_x}^2 + p \ (1-p)}$$

n = Sample size

N = The number of the dairy cooperative members in Izmir

 $\sigma_{\hat{p}_x}^2$ = ratio variant

By using the proportional sampling method 95% for confidence interval and 9% for margin of error, maximum sample size has been determined as 116 taking p=0.5. The sample size which was determined as 116, was distributed proportionately among the cooperatives according to the member number. It was planned to meet with 71 members from Agricultural Development Cooperatives who were engaged in dairy processing and collection activities, and with 45 members from Agricultural Development Cooperatives who were only engaged in milk collection activities. Nevertheless, for the comparisons to be clear, the number of members to be interviewed from collector dairy cooperatives was increased to 71 the study was completed by conducting survey with sum of 142 members.

Basic descriptive statistics, mean and percentages was used while evaluating the study data. Kolmogorov-Smirnov test was applied to determine the normal distribution of the data, analysis of variance was applied for the data which was found to be normally distributed, and Mann-Whitney U test was applied for the data which was found not to be normally distributed. By this way, it has been examined whether there is an otherness between collector dairy cooperatives and processor dairy cooperatives.

The questionnaire consists of three parts. The sociodemographic characteristics of the members were given in the first part. After, members' participation status in the management and questions about their willingness to participate were given in the second part. And in the last part, we focused on the organizational trust inventory. Trust is conceptualized in a variety of ways. However, it is most often associated with situations involving personal conflict, outcome uncertainty, and problem solving (Nyhan and Marlowe, 1997). Luhmann (1979) states that systems trust is latent and stands beyond the day-to-day experiences that influence personal trust. Therefore, we used the organizational trust inventory (OTI) was designed to reflect the assumed differentiation of systems and personal trust in Luhmann's theory.

The organizational trust inventory which was developed by Nyhan and Marlowe in 1997 was used to determine the organizational trust levels of the members. The scale was tested in different organizations with many people. It has reliability, validity, and factor analytic data. The scale is psychometrically adequate and stable. It is claimed that the organizational trust inventory is usable in both academic research and applied settings (Nyhan and Marlowe, 1997).

The inventory consists of two dimensions and 12 questions. Dimensions were called trust in supervisor and trust in organization in originally. Trust in supervisor dimension has 4 items, trust in organization has 8 items in the inventory. The level of trust in the inventory (for all items) has been taken with Likert-type scale (1: Near-zero; 2: Very low; 3: Low; 4: Medium; 5: High; 6: Very high; 7: Close to %100).

Exploratory factor analysis (with the varimax rotation method) was used to determine the dimensions of the inventory. Exploratory factor analysis is used to discover the number of factors influencing variables and to analyze which variables 'go together'. Large datasets that consist of several variables can be reduced by observing 'groups' of variables (Yong and Pearce, 2013).

Factor analysis is one of the commonly used multivariate statistics techniques which transforms a vast number of interrelated variables into a small number of significant and independent factors (Kleinbaum *et al.*, 1998; Kalaycı, 2005).

Reliability analysis was estimated by calculating Cronbach's alpha coefficient (Cronbach, 1951). It was used in order to test whether the inventory and its dimensions were reliable according to the results of the factor analysis.

Hierarchical cluster analysis was applied to classify the members according to their trust levels by using the results of the factor analysis. Cluster analysis aims to divide the units into homogeneous groups by using some measures which are calculated based on the similarities or differences between the variables (Özdamar, 2004). Cluster analysis is a method that is used in order to gather up the objects into groups or clusters (Malhotra, 2010). This analysis is used a variety of topics and studies (Öz et al., 2009; Sergo et al., 2010; Vecchio and Annunziata, 2013; Celik, 2013; Kangallı et al., 2014; Callieris et al., 2016; Forleo et al., 2017; Yalçın and Ayyıldız, 2018; Gazel and Akel, 2018; Tekin, 2018; Allahverdi and Alagöz, 2019; Çolakoğlu, 2020).

We chose to use the ward method which is the most common method of hierarchical cluster method (Fırat, 1997; Yaz, 2014). The Ward method is based on optimization of the clusters' homogeneity according to some criterion, which is the minimizing of increase in the error sums of squares of deviations from the points of the cluster centroid (Majerova and Nevima, 2017). It aims to classify the objects as homogenous clusters as possible based on the variations which were considered. Exploratory factor analysis and hierarchical cluster analysis were performed using the RStudio software program. SPSS 20.0 was used for all other statistical analysis.

3. Results and discussion

3.1. Organizational trust inventory factor analysis

One of the main problems with cooperatives in Turkey is trust problems. Social scientists have classically studied trust, conceptualized as a mental state and measured as such, because they assume that high levels of trust reflect a social reality in which people are more trustworthy and tend to cooperate more frequently (Sztompka, 1999; Bauer et al., 2019). Entering a cooperative relationship normally requires a certain level of trust, and the same is necessary to sustain that relationship (Bauer et al., 2019). Some researchers claim that the trust of the members in the managers has a substantial impact on cooperative members' loyalty and cooperatives' success (Bilgin et al., 2005; Ozalp, 2019).

In this part of the research, in the first place, the results of the factor analysis which were applied to determine the dimension of organizational trust were mentioned. The levels or organizational trust which were acquired by using factor analysis were used as variables in cluster analysis. A variance representing each dimension has been utilized to group the members.

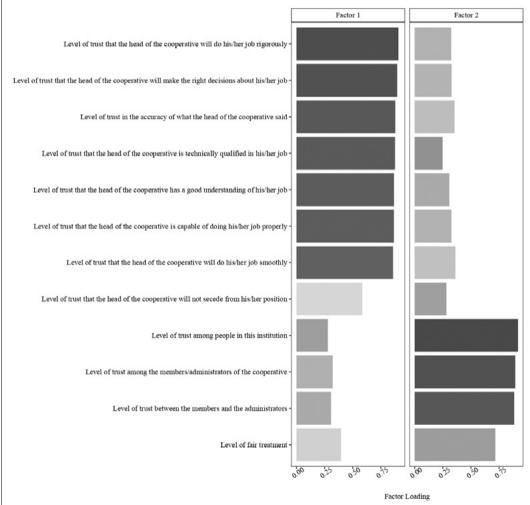
The general characteristics of the members and their participation in the management have been examined separately according to the farmer groups which were obtained as a result of the cluster analysis.

Trust in cooperatives is crucial. For this reason, firstly, the organizational trust inventory was used with the intention of determining the status of the organizational trust of the members.

As a result of the factor analysis, the inventory was divided into two dimensions. The results of factor loading according to items were given in Graph 1.



Graph 1 - The results of factor loading.



	Mean*	Std. Deviation	Factor Loading
Organizational Trust Inventory (α= 0.955)	·		
Trust in Managers (α = 0.956)			
Level of trust that the head of the cooperative will do his/her job rigorously	6.1197	1.06180	0.906
Level of trust that the head of the cooperative will make the right decisions about his/her job	5.9789	1.25742	0.895
Level of trust in the accuracy of what the head of the cooperative said	6.0352	1.19343	0.878
Level of trust that the head of the cooperative is technically qualified in his/her job	5.7465	1.47045	0.876
Level of trust that the head of the cooperative has a good understanding of his/her job	6.0070	1.24055	0.866
Level of trust that the head of the cooperative is capable of doing his/her job properly	6.0070	1.32887	0.866
Level of trust that the head of the cooperative will do his/her job smoothly	6.0775	1.12404	0.858
Level of trust that the head of the cooperative will not secede from his/her position	5.4437	1.82389	0.584
Trust in Cooperative (α = 0.931)			
Level of trust among people in this institution	6.1690	1.08485	0.918
Level of trust among the members/administrators of the cooperative	6.0845	1.17596	0.894
Level of trust between the members and the administrators	6.0070	1.24055	0.884
Level of fair treatment	6.1056	1.29214	0.717

Table 1	- Factor	analysis	results	for	organizational	trust inventory.

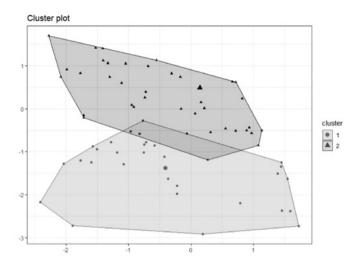
Note: *1: Near-zero; 2: Very low; 3: Low; 4: Medium; 5: High; 6: Very high; 7: Close to %100. Source: Nyhan and Marlowe, 1997.

Table 2 - Kmo-Bartlett's test findings for organizational trust inventory.

KMO and Bartlett's Test					
Kaiser-Meyer-Olkin Measure	0.901				
of Sampling Adequacy	0.901				
Approx. Chi-Square	2359.693				
df	66				
Sig.	0.000				

The dimensions of the organizational trust inventory, factor loadings of the items, means and standard deviations were given in Table 1. The factor loads of the items and the original of the inventory were taken into consideration while naming the dimensions of the inventory which is divided into 2 dimensions. In consequence of the reliability analysis of the organizational trust inventory and the dimensions it was determined that its reliability was quite high (α = 0.955). In general, it was found out that the level of reliability was high. It was seen that the trust in cooperative was higher than the trust in managers (Table 1). It has been seen in the interview that members believe in the power of cooperatives and collaboration, but managers are subject to change and can manage the cooperative successfully or poorly. For example, this item "Level of trust that the head of the cooperative will not secede from his/her position" received the lowest score. So, some managers fail the cooperative management and are often thanked, good ones are welcomed.

Kaiser-Meyer-Olkin test was applied to test the convenience of the dataset for the factor analysis. The exceeding of KMO test above 0.700 shows that the dataset is convenient for analysis (Kalaycı, 2005). The result of the



KMO-Bartlett's test of the factor analysis which was applied to the organizational trust inventory was given in Table 2. Accordingly, it was determined that the dataset was convenient for analysis (KMO = 0.901) (Table 2).

3.2. Organizational trust inventory cluster analysis

Cluster analysis is calculated based on the resemblance among the variants and aims to attain homogenous groups (Özdamar, 2013).

The farmers were classified with cluster analysis by using the result of the organizational trust inventory factor analysis. In reference to the result of the cluster analysis it was seen that the farmers were divided into 2 groups (Graph 2). The factor loads of the organizational trust dimensions were noted while naming the farmer groups. Thereafter, first group was named as those who do not trust, second group was named as those who trust. %26.1 of the farmers took part in the group of those who do not trust, while 73.9% of them took part in the group of those who trust. It could be said that the level of trust in agricultural development cooperatives which were examined was high in general (Table 3). A similar study was carried out by Kılıç (2011) with the agricultural development cooperative members in Samsun and the trust level of the members in the administrators was determined as 80%.

The Man Whitney U test was used to deter-

Graph 2 - Farmer groups to results of cluster analysis.

mine whether there was a statistically significant difference between the trust levels of the farmers according to the farmer groups. Consequently, a statistically significant difference was found between the groups. After examining the distribution of the farmers which were divided into groups based on the cooperatives that they were a member of, %61 of the farmers who were in the group those who trust were members of the processor dairy cooperatives and %81 of the farmers who were in the group those who do not trust were members of the collector dairy cooperatives. It is seen that the trust in processor dairy cooperatives appears to be higher (Table 3). This is an expected result because of the difference of

Table 3 - Cluster analysis findings for organizational trust inventory.

	Farmer Group.	
	First	Second
	Group	Group
	Mean	Mean
Trust in Managers	-0.40627	0.14316
Trust in Cooperative	-1.37579	0.48480
The number of farmers	37	105
Percentage (%)	26.1	73.9
Trust in managers (mean)*	4.95	6.27
Trust in Cooperative (mean)*	4.81	6.40
Collector dairy cooperatives (%)	81.1	39.0
Processor dairy cooperatives (%)	18.9	61.0

Note: * *Significant at* $p \le 0.05$ *.*

	Trusting	Non-Trusting	General
Age (Years)	47.30	45.62	46.85
Education level (Years)	6.72	6.97	6.78
Household size (people)	4.49	4.49	4.48
Farming experience (Years)	24.65	22.24	24.02
Animal husbandry experience (Years)	22.07	20.73	21.71
Total Monthly income (Turkish Lira)*	10065.62	7828.54	9482.71

Table 4 - General characteristics of the members who were grouped by level of trust.

Note: * *Significant at* $p \le 0.05$ *.*

Table 5 - General characteristics of the farms which were grouped by level of trust.

	Trusting	Non-Trusting	General
Number of dairy cows*	15.68	13.51	15.11
Milk Production Per Day (liter)	305.98	269.62	296.51
Amount of Milk sold to the Cooperative (liter)*	306.63	201.49	279.23
Raw milk price paid to members by cooperatives (Turkish Lira)*	1.08	1.10	1.00

Note: * *Significant at* $p \le 0.05$ *.*

cooperatives scale. Processor dairy cooperatives are larger in scale. They have modern processors, a packing plant, and their own brand. They offer more services to members, like supply of inputs, veterinary services, etc. And they have better commercial organization. This increases the trust of the members in the cooperative and the managers. On the other hand, collector dairy cooperatives are smaller in scale, and they offer fewer services to members.

The general characteristics of the members who were classified as regards the level of trust as a result of the cluster analysis and the characteristics of their farms were given in Tables 4 and 5. Trusting members are older and less education than non-trusting members. The average age of the members who were interviewed is 46.85 years, and their average of education is 6.78 years. It can be said that the population is low for the rural region when the household size is examined (4.48).

The fact that the farming and animal husbandry experience periods of the members are close to each other could be an indication that the members commenced farming activity with animal husbandry. It is seen that the age, education level, household size, years of experience in farming, and animal husbandry of the members who were in the trusting and non-trusting groups were quite close to each other. When the total monthly incomes of the members were examined, it was seen that the monthly income of the members in the trusting group was higher than the members who were in the non-trusting group. There is also a statistically significant difference between the groups $(p \le 0.05)$ (Table 4). The majority of the farmers in the trusting group are members of dairy processing cooperatives. Processor dairy cooperatives provide higher compensation, better technical management, better quality control, and so on to its members. As a result, the revenue of the members grows. Collector dairy cooperatives, on the other hand, pay their members a lower price per milk liter since they are not processors.

When the characteristics of the farms which were classified in reference to the level of trust were examined it had been determined that the size of the farms (number of dairy cows) of the members in the trusting groups were higher and correspondingly, daily produced milk amount and the milk which was sold to the cooperative was higher as well (Table 5).

Criteria		Trusting		Non-Trusting		General	
		%	N	%	Ν	%	
Those who are on duty	7	6,7	3	8,1	10	7.0	
Those who are not on duty	98	93,3	34	91,9	132	93.0	
Those who want to participate in the management		32,6	13	44,8	43	35.5	
Those who do not want to participate in the management	62	67,4	16	55,2	78	64.5	

Table 6 - Members' participation status in the management.

3.3 Cooperative members' participation in management activities

Cooperatives are organizations that are managed by members. Cooperative management, tries to achieve more effective and equitable systems of resource management. The effective management of cooperatives depends on the involvement of members in governance. Unfortunately, despite the large number of the cooperative is not the dominant organization form, and we observe a lot of cooperative failures in Turkey. Therefore, the active involvement of members in managing is very important for cooperatives success.

Compared to other members the members who participate in the cooperative management involve closely with the problems of the cooperative and put more effort further the development of the cooperative. Since therefore, the status and desire of the members to take part in the management of the cooperative gives information about the adherence and sense of ownership of the cooperative. Some studies in the literature have noted a decrease in members' participation in the democratic life of cooperatives even if these are indeed their "own" (Harte, 1997; Holmström, 1999; Levi and Davis, 2008; Siebert and Park, 2010).

In this part of the study, it has been examined whether their duties like board membership, representation, or supervisory exist at the present time or exist in the past in order to determine the status of participation of the cooperative members in the cooperative management. Moreover, the willingness to get involved in management-related tasks in the future has been questioned.

The status of cooperative members' participation in management and their eagerness to take part has been given in Table 6. Currently, it has been observed that only 7% of the members have a task in the management (management board members), while 93% do not. When the members who do not have a duty in the management were asked whether they had such duties in the past, it was seen that 92% of them did not have a duty in the past either (Table 6). It

	Those who want	Those who do not want
	to take part	to take part
Age**	40.09	51.21
Education level (Years)*	8.30	5.65
Household size (people)	4.44	4.46
Farming experience (Years)*	16.65	29.05
Animal husbandry experience (Years)*	15.74	25.55
Total Monthly Income (Turkish Lira)	9898.98	8992.18
Number of dairy cows	14.74	14.91
Milk Production Per Day (liter)*	304.21	283.44
Amount of milk sold to the cooperative per day (liter)*	303.47	251.15
Organizational Trust level*	5.09	6.24

Table 7 - Factors affecting the willingness to participate in cooperative management.

Notes: **Significant at* $p \le 0.05$ *.* ***Significant at* $p \le 0.10$ *.*

can be thought that the members do not want to participate in management for various reasons. In a similar study it was determined that 76% of the members of the agricultural development cooperative in Samsun did not take part in management (Kiliç, 2011). In a study which was conducted with the members of Gülbirlik the ratio of the members in management was found to be 3.3% (Ertan and Turan, 2001). Another study was determined that 11.8% of members served in dairy cooperative management (Gray and Kraenzle, 1998). Although the ratio of the members who have duties in the management is quiet low, it has been determined that 35.5% of them want to participate in the future. This situation can be seen as the indicator for that the relation of the members with the cooperative will continue. After examining the studies made in the literature, it was seen that the willingness to participate in the management in different cooperatives was low. In a study conducted with the members of agricultural credit cooperatives, it was determined that 79.38% of the members (Everest, 2015) and in another

study carried out on the members of the agricultural sales cooperative, 87.5% of the partners (Özdemir, 1996) did not want to take part in the management.

When the members are examined in reference to their willingness to participate in the cooperative management in the future, it has been determined that age, education, farming and animal husbandry experience, the amount of milk that is sold to the cooperative, and organizational trust are efficient factors. Younger, more educated, less experienced members and the members who sell more milk to the cooperative are more eager to participate in the management. When the desire to participate in the management is examined conforming to the organizational trust level, the members with high level of trust do not want to participate in the management. Those members do not request to take part by reason of they already trust in the management (Table 7).

In cooperatives, each member has the right to a single vote, and each member has the right to check over the activities of the cooperative and express his/her views. General assembly meet-

Criteria	Trusting		Non-Th	rusting	General		
Criteria	Ν	%	N	%	Ν	%	
Participating	79	75,2	30	81,1	109	76.8	
Nonparticipating	26	24,8	7	18,9	33	23.2	
Total	105	100.0	37	100.0	142	100.0	

Table 8 - Members' participation status in the general assembly meeting.

Table 9 - Factors	affecting the	participation	in the general	assembly meeting.
		r · · · r · · ·		

	Participating	Nonparticipating
Age	47.46	44.88
Education level (Years)	6.78	6.82
Household size (people)*	4.36	4.91
Farming experience (Years)	23.99	24.12
Animal husbandry experience (Years)	22.06	20.61
Total Monthly Income (Turkish Lira)*	10696.39	5473.94
Number of dairy cows*	17.24	8.09
Milk Production Per Day (liter)*	336.37	164.85
Amount of milk sold to the cooperative per day (liter)*	313.88	164.79
Organizational Trust level*	5.34	6.39

Note: * *Significant at* $p \le 0.05$ *.*

ings are held open to all members in cooperatives every year. Members' participation in general assembly meetings can be accepted as a substantial indicator that the cooperatives are managed democratically (Karlı and Çelik, 2003).

The fact that the members follow the cooperative meetings and participate actively in the meetings is seen as another indicator of participation in the management. Members' participation status at the last general assembly meeting that was held in their cooperatives was given in Table 8. It was observed that the level of participation in the general assembly meeting of all the members, who were categorized into two groups as trusting and non-trusting were very high (Table 8). The high rate of participation in general assembly meetings is fundamental for cooperatives. In a study which was conducted with the members of the agricultural credit cooperatives it has been determined that nearly 55% of the members do not attend the meetings (Everest, 2015). It can be said that the level of participation in the meetings varies by the types of cooperatives.

The factors affect the status of the cooperative members' participation in the general assembly meetings are household population, monthly income, the number of dairy cows, the amount of produced milk and sold to the cooperative. The members with high monthly income keep up to date by attending the meetings. Nonetheless, the participation of the members who have more dairy cows and sell more milk to the cooperative is more additional. The members with a lower level of trust show more participation in the meetings than the members with a higher level of trust (Table 9).

4. Conclusion

In cooperatives which the members were represented by the administrator and board of management, members' trust in their cooperatives based on actions taken by the administrators in good faith that will develop the sense of trust in members and taking the right decisions by acting in the interests of the members while making important decisions.

The cooperative members who attend the general assembly meeting and executive meetings have the opportunity to have a direct effect on the politics of the cooperatives and their decisions about future projects (Cechin *et al.*, 2013).

In this study, which was conducted on the dairy cooperative members, the members of the cooperatives were divided into two categories as "trusting" and "non-trusting" members as reference to their level of organizational trust. The trust of the members categorized in the "trusting" group to the cooperative is higher than their trust in the administrators. Such circumstances can be evaluated as a factor that enhances the willingness of the members to participate in the management. The trust in the cooperative union will increase the urge to persist in the cooperative structure without deterioration. Individuals with a sense of trust will make a contribution to the sustainability of cooperatives by having a voice in the management. Since it is difficult to determine the reliability of individuals, the supervision of the cooperative management gains importance here. Unfortunately, due to the damage done by some malicious managers to the cooperative, the trust of the farmers in the cooperatives is decreasing. To avoid this, the government, in particular, must inspect the practices of cooperatives and give punishment for irregularities.

When the condition is examined in terms of the types of cooperative, it has been found that the trust in processor dairy cooperatives is higher than the trust in collector dairy cooperatives. The fact that processor dairy cooperatives function on a larger scale than collector dairy cooperatives and that they are managed professionally results in a high level of trust in these cooperatives.

It has been revealed that the daily amount of milk and the milk sold to the cooperative affect the willingness to take part in management positively, while age, education, household size, years of farming and animal husbandry experience, and level of trust affect it negatively. It is a foregone conclusion that the members who make a living from animal husbandry and sell all the milk that is obtained to the cooperative, desire to have a voice in the management. Consequently, they will be influential in the decisions taken in the cooperative and they will have precognition in the plans they will make about the future of their farms. The cooperative members' cooperation with the cooperative should be considered in the selection of the cooperative management. Furthermore, persons who look after the interests of members and can protect their interests should be involved in management.

Age factor has a negative effect on the willingness to participate in the management and as the members age, their desire to take part in the management declines. The members, who describe themselves as "aged", stated that they want young people to be prevalent in decisions made in the management. By reason of the fact that the years of experience in farming and animal husbandry are also parallel to age, it is anticipated that the outcome is going to be the same. It is a remarkable result that as the educational level increases, the desire to participate in management reduces. While it is anticipated that the members with higher educational levels to be operative in decisions taken in management, the exact opposite outcome has been obtained. When examining the educational level overall, the fact that the level is primary school makes that outcome meaningful. The members with a high level of trust do not want to partake in the management of the cooperative given that they think that the cooperative is already well-run.

Although the members' participation level in the general assembly meetings is high at large, the participation of the members with a high level of organizational trust in the last general assembly meeting is less. Accordingly, members' trust in cooperatives and the managers, diminishes the rate of participation in the meetings. Although this situation seems positive, it may have unfavorable outcomes for both members and cooperatives in the long term. After considering the principles of cooperatives the significance of democratic administration is seen for one more time.

It is argued that the education of cooperative is substantial for every individual from a sociological point of view. Particularly, cooperative education to be offered to individuals, beginning from primary school, will facilitate the development of consciousness and collective behavior. Regarding cooperative education, the government agencies and cooperative executives should invest in education for the maintainability of cooperatives. Similar implementations can be made by examining the illustrations in other countries where cooperatives are successfully managed. Since the trust in the cooperatives administrators will increase members' participation in the cooperative activities, the adoption of a professional administration style will benefit members both economically and socially. The cooperative management should communicate with the members, attach value to the views of its members and adopt a management style based on cooperation.

Acknowledgements

This study is supported by Ege University Scientific Research Projects Coordination Unit (Project Number: 2016-ZRF-056).

References

- Alçiçek G., 2016. Evaluation of Co-operative-Associate Relations in Agricultural Co-operatives of Burdur Province. MSc Thesis, Süleyman Demirel University Graduate School of Applied and Natural Sciences Department of Agricultural Economy, Isparta, 126 pp.
- Allahverdi M., Alagöz A., 2019. Use of Clustering Analysis in Classification of Provinces in Terms of Tax Revenues. *Maliye Dergisi*, 176: 441-473.
- Barraud-Didier V., Henninger M.C., Akremi A.E., 2012. The Relationship Between Members' Trust and Participation in the Governance of Cooperatives: The Role of Organizational Commitment. *International Food and Agribusiness Management Review*, 15(1): 1-24.
- Bauer P.C., Keusch F., Kreuter F., 2019. Trust and cooperative behavior: Evidence from the realm of data-sharing. *PLoS ONE*, 14(8): e0220115. https:// doi.org/10.1371/journal.pone.0220115.
- Bilgin N., Ergun E., Aydınlı H., 2005. The Effects of Ethical and Trustful Partners on the Performance of Agricultural Cooperatives. *Üçüncü Sektör Kooperatifçilik Dergisi (Third sector cooperatives)*, 148: 66-86.
- Callieris R., Brahim S., Roma R., 2016. Different consumer behaviours for organic food in Tunisia. A cluster analysis application. *New Medit*, 15(2): 53-62.
- Cechin A., Bjman J., Pascucci S., 2013. Drivers of Pro-Active Member Participation in Agricultural Cooperatives: Evidence From Brazil. *Annals of Public and Cooperative Economics*, 84(4): 443-468.
- Celik S., 2013. Classification of Provinces in Turkey

According to Health Indicators by Cluster Analysis. *Doğuş Üniversitesi Dergisi*, 14(2): 175-194.

- Çıkın A., Karacan A.R., 1994. *Genel Kooperatifçilik*. Ege University Faculty of Agriculture Publications, n. 511, İzmir (Turkey).
- Çolakoğlu A.A., 2020. European Airports Analysis Using Machine Learning Algorithms. MSc Thesis, Pamukkale University, Denizli, 146 pp.
- Cronbach L.F., 1951. Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3): 297-334.
- Eken M., 2010. Tüketim Kooperatiflerinde Ortak-Kooperatif İlişkisi: Damla Tüketim Kooperatifi Örneği. MSc Thesis, Gazi University, Ankara.
- Ertan A., Kaya M.S., 2012. Analysis of Cooperative-Member Relations in Çünür Irrigation Cooperative. *Journal of Süleyman Demirel University Institute of Social Sciences*, 16(2): 117-129.
- Ertan A., Turan A., 2001. Gülbirlik Ortaklarının Kooperatif Ortak İlişkisi Yönünden Analizi, *SDÜ İ.İ.B.F. Journal*, 6(2): 29-43.
- Everest B., 2015. A Research on the Perception of Cooperative Principles and Analysis of Factors Affecting Member Participation in the Cooperative Management of Agricultural Credit Cooperatives: Case of Regional Union of Agricultural Credit Cooperative in Balikesir. Ph.D. Thesis, Department of Agricultural Economics Institute of Natural and Applied Sciences, University of Ege, İzmir, 174 pp.
- Everest B., Yercan M., 2016. Cooperative Members' Participation Status and Trends to Cooperative Management: Case of Regional Union of Agricultural Credit Cooperative in Balıkesir. Paper presented at the International Conference on Eurasian Economies, SESSION 5C: Çevre ve Tarım Ekonomisi, pp. 519-526.
- Fırat S.Ü., 1997. Kümeleme analizi istihdamın sektörel yapısı açısından Avrupa ülkelerinin karşılaştırılması. *İ.Ü.Sosyal Bilimler Journal*, 3: 50-59.
- Forleo M.B., Tamburro M., Mastronardi L., Giaccio V., Ripabelli G., 2017. Food consumption and eating habits: a segmentation of university students from Central-South Italy. *New Medit*, 16(4): 56-65.
- Gazel S., Akel V., 2018. The Determination of Sector Classification using Cluster Analysis in Borsa Istanbul. *The Journal of Accounting and Finance*, 77: 147-164. DOI: 10.25095/mufad.401472.
- Gray T., Kraenzle C.A., 1998. *Member Participation in Agricultural Cooperatives: A Regression and Scale Analysis.* RBS Research Report 165. USDA, Rural Development, Rural Business-Cooperative Service, 30 pp.
- Hakelius K., Karantininis K., Feng L., 2013. The re-

silience of the cooperative form: cooperative beehiving by Swedish cooperatives. Network governance, alliances, cooperatives and franchise chains. Berlin: Springer Verlag.

- Harte L.N., 1997. Creeping privatisation of Irish co-operatives. A transaction cost explanation. In: Nilsson J., Van Dijk G. (eds.), *Strategies and structures in the agro-food industries*. Assen, Netherlands: Van Gorcum, pp. 31-53.
- Holmström B., 1999. The future of cooperatives: a corporate perspective. *Finnish Journal of Business Economics*, 48(4): 404-417.
- ICA International Cooperative Alliance, 2019. *What is a cooperative*? https://www.ica.coop/en/cooperatives/what-is-a-cooperative.
- Kalaycı Ş., 2005. Spss Uygulamalı Çok Değişkenli İstatistik Teknikleri. Asil Yayınevi, Ankara.
- Kangalli S.G., Uyar U., Buyrukoğlu S., 2014. Economic Freedom in OECD Countries: A Cluster Analysis. *International Journal of Alanya Faculty* of Business, 6(3): 95-109.
- Karlı B., Çelik Y., 2003. GAP Alanında Tarım Kooperatifleri ve Diğer Çiftçi Örgütlerinin Bölge Kalkınmasındaki Etkinliği. T.E.A.E. Yayın n. 97, Ankara.
- Kılıç B., 2011. Analysis of Member-Cooperative Relationships in The Agricultural Development Cooperatives in Samsun Province of Turkey. MSc Thesis, Ondokuz Mayıs University, Samsun.
- Kleinbaum D.G., Kupper L.L., Muller K.E., Nizam A., 1998. Applied Regression Analysis and Other Multivariable Methods, 3rd ed. Pacific Grove, CA: Duxbury Press.
- Köroğlu S., 2003. Avrupa Birliğinde ve Türkiye'de Tarımsal Örgütlenme. Tarım ve Köyişleri Bakanlığı, Dış İlişkiler ve Avrupa Topluluğu Koordinasyon Dairesi Başkanlığı, AT Uzmanlık Tezi, Ankara.
- Kubaş A., 1992. Anamur Pamuk, Yerfistiği ve Yağlı Tohumlar Tarım Satış Kooperatifinin Ekonomik Yapısı ve Kooperatif Ortak İlişkileri. MSc Thesis, Trakya University, Edirne.
- Lerman Z., 2013. *Cooperative development in Central Asia*. FAO Regional Office for Europe and Central Asia, Policy Studies on Rural Transition n. 2013-4.
- Levi Y., Davis P., 2008. Cooperatives as the "Enfants Terribles" of Economics: Some Implications for the Social Economy. *The Journal of Socio-Economics*, 37(6): 2178-2188.
- Luhmann N., 1979. *Trust and power*. New York: John Wiley.
- Majerova I., Nevima J., 2017. The measurement of human development using the Ward method of cluster analysis. *Journal of International Studies*, 10(2): 239-257. doi:10.14254/2071-8330.2017/10-2/17.

- Malhotra N.K., 2010. *Marketing Research, An Applied Orientation*, 6th ed. Upper Saddle River: Pearson.
- Ministry of Agriculture and Forestry, 2018. *Milk and Meat Sector Report*. Republic of Turkey, Ministry of Agriculture and Forestry.

Miran B., 2010. Temel İstatistik. İzmir, 142 pp.

- Msimango B., Oladele O.I., 2013. Factors Influencing Farmers' Participation in Agricultural Cooperatives in Ngaka Modiri Molema District. *Journal of Human Ecology*, 44(2): 113-119.
- Newbold P., 1995. *Statistics for Business and Economics*. Upper Saddle River, NJ: Prentice Hall.
- Nyhan R.C., Marlowe H.A., 1997. Development and psychometric properties of the organizational trust inventory. *Evaluation Review*, 21(5): 614-635.
- Österberg P., Nilsson J., 2009. Members' perception of their participation in the governance of cooperatives: the key to trust and commitment in agricultural cooperatives. *Agribusiness*, 25(2): 181-197.
- Öz B., Kar S., Taban S., Kar M., 2009. A Comparison of Turkey with the Eu in Terms of Human Capital Indicators through Cluster Analysis. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*, 10(1): 1-29.
- Ozalp A., 2019. Financial Analysis of Agricultural Development Cooperatives: A Case of Western Mediterranean Region, Turkey. *New Medit*, 18(2): 119-132. http://dx.doi.org/10.30682/nm1902h.
- Özdamar K., 2004. *Statistical Data Analysis with Package Programs*. Eskisehir, Turkey: Kaan Publishing House.
- Özdamar K., 2013. Paket Programlar İle İstatistiksel Veri Analizi. Eskişehir: Kaan Kitabevi.
- Özdemir G., 1996. *Membership Relations in Agricultural Cooperatives in Tekirdağ*. MSc Thesis, Department of Agricultural Economics Institute of Natural and Applied Sciences, University of Ankara University, Ankara, 233 pp.
- Özdemir G., 2005. Cooperative–shareholder relations in agricultural cooperatives in Turkey. *Journal of Asian Economics*, 16(2): 315-325.
- Rousseau D.M., Sim B., Sitkin R.S., Colin C., 1998. Not so different after all: a cross-discipline view of trust. *Academy of Management Review*, 23(3): 393-404.
- Sabuncuoğlu Z., Tüz M., 2003. Örgütsel Psikoloji. Bursa: Furkan Ofset.
- Sahin A., Cankurt M., Gunden C., Miran B., Meral Y., 2013. Agricultural Development Cooperatives in Turkey; Member-Cooperative Relations. *Kahramanmaras Sutcu Imam University Journal of Natural Sciences*, 16(2): 21-33.

- Sergo Z., Tezak A., Poropat A., 2010. Tourists' attitudes and opinions on the features of coastal agritourisms – the case of Istria County, Croatia. *New Medit*, 9(2): 56-64.
- Siebert J.W., Park J.L., 2010. Maintaining a Healthy Equity Structure: A Policy Change at Producers Cooperative Association. *International Food and Agribusiness Management Review*, 13(3): 87-96.
- Sztompka P., 1999. *Trust: A sociological theory*. Cambridge: Cambridge University Press.
- Talas C., 1997. Toplumsal Ekonomi, Çalışma Ekonomisi. Ankara: İmge Kitabevi.
- Tekin B., 2018. The Stock Selection with Ward, K-Means and Two-Steps Clustering Analysis Methods Based on the Financial Indicators, Balıkesir University. *The Journal of Social Sciences Institute*, 21(40): 401-436.
- TurkStat Turkish Statistical Institute, 2022. Regional Statistics. https://biruni.tuik.gov.tr/bolgeselistatistik/ degiskenlerUzerindenSorgula.do (accessed: 25 January 2022).
- Vanhala M., Heilmann P., Salminen H., 2016. Organizational trust dimensions as antecedents of organizational commitment. *Knowledge and Process Management*, 23(1): 46-61. https://doi.org/10.1002/ kpm.1497.
- Vecchio R., Annunziata A., 2013. Consumers' attitudes towards sustainable food: a cluster analysis of Italian university students. *New Medit*, 12(2): 47-56.
- Yacob Y., Ali J.K., Roslin R., Ting H., 2018. The Relationships between Member Participation, Trust, Behavioural Loyalty, and the Moderating Effect of Ethnicity: An Explanatory Study of Value Co-Creation among Cooperative Members in Sarawak. *International Journal of Business and Society*, 19(2): 505-522.
- Yalcın S., Ayyildiz E., 2018. Analysis of airports using clustering methods: case study in Turkey. *Journal of Management, Marketing and Logistics* (*JMML*), 5(3): 194-205.
- Yaz H.F., 2014. *Çok Değişkenli İstatistiksel Tekniklerden Kümeleme Analizi; Spss İle Bir Uygulama.* https://avys.omu.edu.tr/storage/app/public/hbozoglu/120495/Cok_Degiskenli_Istatistiksel_Yontemlerde.pdf (accessed: 25 January 2022).
- Yong A.G., Pearce S., 2013. A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2): 79-94.