Evaluation of the Satisfaction of the Greek Agricultural Cooperatives by the Provided Banking Services

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Abstract

The agri-food sector is one of the most important sectors of the Greek economy since it contributes to the national income growth, the increase of government revenue and the creation of new jobs. According to the Bank of Greece the agri-food sector in Greece represents 3% of GDP, compared to an average of 1.5% of EU GDP. The aim of this research was to investigate the satisfaction of agricultural cooperatives in Greece while considering the banking services received. The research results were based on the analysis of 150 questionnaires collected during the period between April 2019 and May 2019 showing that the index of the global customer supported a good performance as its value is about 82.66%. The results were analyzed with the multicriteria satisfaction analysis (MUSA) method, which is considered as an aggregation–disaggregation approach developed on the qualitative analysis regression. The results of the study showed that the most important satisfaction criteria for the agricultural cooperatives towards banks were those of products/services and branch/network. Those were considered as the competitive advantage that banks should work on.

Keywords

Agricultural Cooperatives, Banking Services, Customer Satisfaction, Multi-Criteria Analysis.

1. Introduction

Nowadays it is not straightforward under what ways the rapid developments of both global and national economic arenas in recent years have contributed to the changing financial environments in which modern businesses operate. The key factors that determine the modern financial environment they are summarized in the internationalization of markets, the integration of money with capital markets and the liberalization of the financial sector from governmental interventions (Drosos et al., 2021a, Skordoulis, et al., 2020, Drosos et al., 2020, Drosos et al., 2019a, Drosos et al., 2019b). In this highly competitive international environment, both the quality of the product and services offered by a company and the consequent satisfaction or dissatisfaction of customers, they are very important issues for the economic growth and profitability of companies (Drosos et al., 2021b, Karagianni, et al., 2017). The determining precondition of any modern business is the philosophy that the continuous improvement of business performance is directly or indirectly related to the optimal satisfaction of customers while creating added value for them.

Modern companies in today's volatile and highly competitive environment devote significant time, energy, human capital and financial resources in order to both measure their performance and to achieve their strategic goals. Modern purchasing, economic, social and technological factors, all create a highly competitive business environment, in which customers and consequently the viability of the businesses are the main goal. Within this managerial framework companies prioritize on the satisfaction of their

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customers. During the last two decades customer satisfaction has been the basis for companies, which aim to play a leading role in the modern global financial environment.
Many companies take customer satisfaction as an indicator to measure the performance of their products or services. In an increasingly competitive and dynamic environment, companies are making greater efforts not only to retain but also to increase the market share of their satisfied customers. An important field of collective entrepreneurship is the agricultural cooperatives. In the modern, economic and social reality, both nationally and internationally, agricultural cooperatives seek to play a very important role in the emergence of the primary sector as one of the key pillars of national economies recovery (Abdul-Rahaman and Abdulai, 2018, Eric et al., 2019, Hu et al.,2021, Hun et al.,2018). As part of this particularly complex endeavour agricultural cooperatives are looking for partners who will provide them with the necessary resources to continue their production process and also apply innovations and new approaches in farming (Leontopoulos et al, 2015). In this respect banking institutions have a key role of the agricultural cooperatives, offering services that cover all the productive, logistical and processing needs. Most of the service satisfaction surveys conducted by banking institutions are mainly focused on determining the dimensions of quality, creating a model for measuring it with the aim of improving the quality of services (Drosos et al., 2021, Drosos et al., 2018, Drosos et al., 2015, Drosos et al., 2014, Bick et al., 2004, Karatepe et al., 2005).

2. Research Methodology

In this research work a survey was conducted to measure the satisfaction of agricultural cooperatives with the banking services provided in Greece. An electronic questionnaire was created using Google Drive forms to make the survey more effective. The survey was conducted during the period of April - May 2020. The survey involved a total of 150 agricultural cooperatives from all over Greece. The questionnaires were answered by the presidents of the agricultural cooperatives surveyed. In order to design the appropriate questionnaire, the existing literature was examined. Based on this literature review and the specific characteristic of the natural gas market in Greece, a series of satisfaction criteria and sub-criteria emerged. A five-point Likert scale was used to measure respondents' level of satisfaction rating from totally dissatisfied to totally satisfied. The criteria emerged for conducting the customer satisfaction survey were the following: 1) Products - Services: satisfaction with bank services and products offered, 2) Stores - Branch network: a criterion that concerns the space of the branches and their network, 3) Staff: satisfaction from the staff of a bank branch, 4) Customer service: refers to customer satisfaction with the service offered.

According to the data presented in Table 1 of the total number of agricultural cooperatives surveyed, a portion of 39% export while the remaining 61% did not carry out export activities. The largest percentage of agricultural cooperatives who participated in the survey was located in Central Macedonia (14.29%), followed by cooperatives operating in Western Greece and Western Macedonia with a percentage of 12.99%. The percentage of agricultural cooperatives operating in Crete and the Peloponnese is particularly high at 11.69% and 10.39% respectively. The lowest participation rates in the survey were represented by the Epirus located cooperatives, the Ionian Islands and the North Aegean with a percentage that counts for 2.60% at each region.

Table 1
Sample Demographics

		% Percent
Exporting	Yes	39
	No	61
Region of Activity	Attica	5.19
	Central Greece	6.49
	Central Macedonia	14.29
	Epirus	2.60
	Crete	11.69
	Eastern Macedonia & Thrace	7.79
	Ionian Islands	2.60
	North Aegean	2.60
	Peloponnese	10.39
	Southern Aegean	5.19
	Thessaly	12.99
	West Greece	12.99
	West Macedonia	5.19

The Multi-criteria Satisfaction Analysis (MUSA) method was used in order to measure customer satisfaction. The method is an ordinal–regression-based approach used for the assessment of a set of collective satisfaction functions in such a way that the global satisfaction criterion becomes as consistent as possible with customers' judgments (Grigoroudis and Siskos, 2002). In particular, the method infers an additive collective value function Y* and a set of partial satisfaction (value) functions Xi*, given customers' global satisfaction Y and partial satisfaction Xi according to the i–th criterion (ordinal scaling). The main objective of the method is to achieve the maximum consistency between the value function Y*and the customers' judgments Y. Based on the modeling of preference disaggregation approach (Jacquet-Lagreze and Siskos, 1982, Siskos and Yannacopoulos, 1985) the ordinal regression equation has the following form:

$$\begin{cases} Y^* = \sum_{i=1}^{n} b_i X_i^* \\ \sum_{i=1}^{n} b_i = 1 \end{cases} \quad (1)$$

Where $\tilde{Y}^*$ represents the estimation of the global value function, n represents the number of criteria, bi is a positive weight of the i–th criterion, σ+ and σ− are the overestimation and the underestimation errors, respectively, and the value functions Y* and Xi are normalized in the interval [0,100]. The global and partial satisfaction Y* and Xi* are monotonic functions normalized in the interval [0,100]. Thus, in order to reduce the size of the mathematical program, removing the monotonicity constraints for Y* and Xi*, the following transformation equations are used:

$$\begin{cases} z_m = y^{*m+1} - y^{*m} & \text{for } m = 1,2,\ldots,a-1 \\ w_{ik} = b_i\left(x_i^{*k+1} - x_i^{*k}\right) & \text{for } k = 1,2,\ldots,a_i - 1 \text{ και } i = 1,2,\ldots,n \end{cases} \quad (2)$$

where y*m is the value of the ym satisfaction level, xi*k is the value of the xik satisfaction level, and α and αi are the number of global and partial satisfaction levels. According to the aforementioned definitions and assumptions, the basic estimation model can be written in a linear program formulation, as follows:

$$\begin{cases} [\min] F = \sum_{j=1}^{M} \sigma_j^+ + \sigma_j^- \\ \text{under the constraints:} \\ \sum_{i=1}^{n} \sum_{k=1}^{t_{ji}-1} w_{ik} - \sum_{m=1}^{t_j-1} z_m - \sigma_j^+ + \sigma_j^- = 0 \;\forall j = 1,2,\ldots,M \\ \sum_{m=1}^{a-1} z_m = 100 \\ \sum_{i=1}^{n} \sum_{k=1}^{a_j-1} w_{ik} = 100 \\ z_m, w_{ik}, \sigma_j^+, \sigma_j^- \geq 0 \;\forall m,i,k,j \end{cases} \quad (3)$$

where M is the number of customers, n is the number of criteria, and xi*j, y*j are the j–th level on which variables Xi and Y are estimated.

3. Research Results

Figure 1 showed the agricultural cooperatives are satisfied with the offered services and the banking institutions products. The average overall satisfaction index reached a high 82.66% scoring.

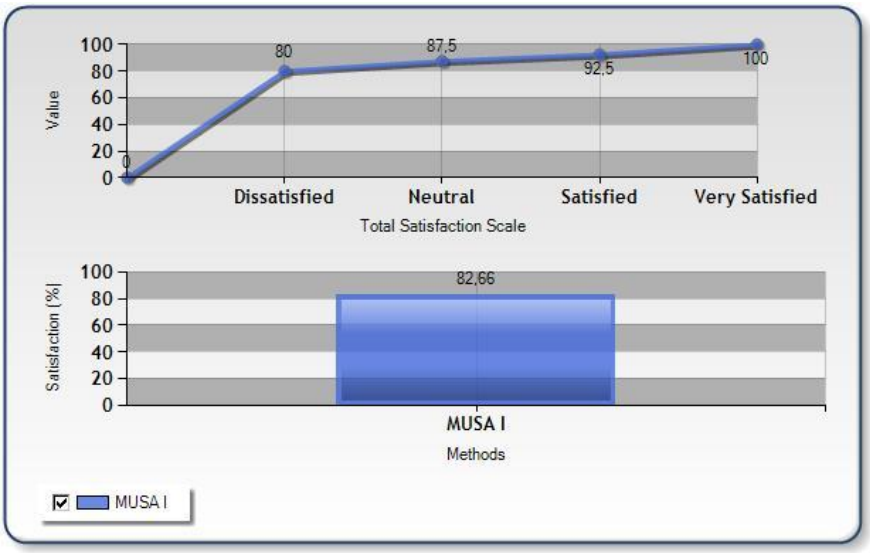

Figure 1: Satisfaction Function.

Based on Figure 2 the criterion of "Products - Services" sustained the highest weight of 40.00%, followed by the criterion of "Stores - Branch Network" with a percentage of 25.00%, while the lower weights counted for the "Human Resources" (21.03%), and the "Customer Service" (13.97%), respectively.

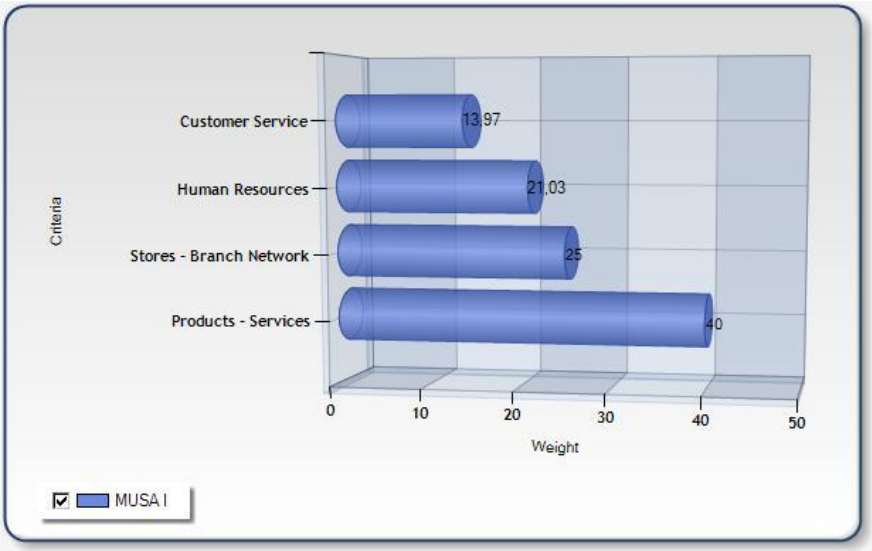

Figure 2: Satisfaction Criteria Weights (importance).

The applied evaluation criteria showed a relatively high satisfaction index and range at the level of total satisfaction. The criterion of "Customer Service" was the lowest satisfaction criterion (73.75%). Customers are more satisfied with the above criterion than the criterion of "Stores - Branch Network", which counted for 90%. The customers from the "Human Resources" criterion seemed to be particularly satisfied, which showed a high satisfaction percentage of 82.98%. Finally, regarding the criterion of "Products - Services", the agricultural cooperatives were very satisfied, reaching a 88.56% score.

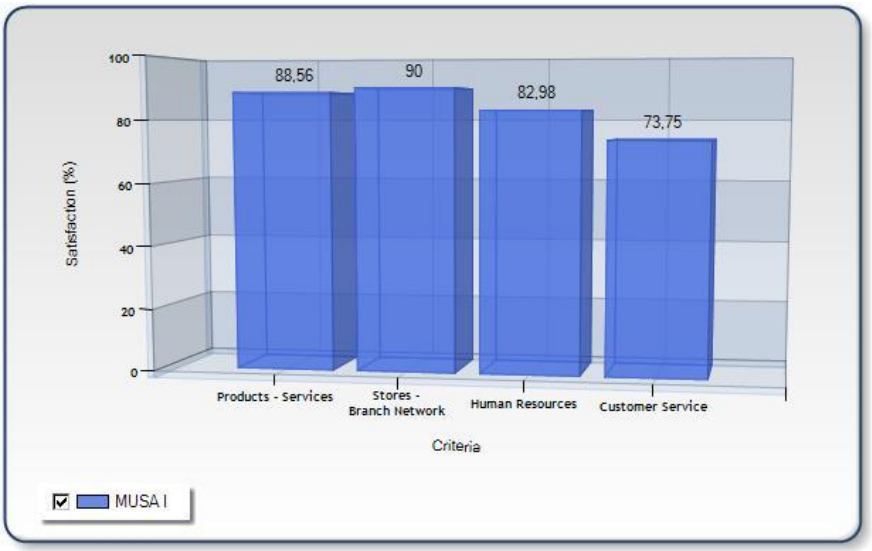

Figure 3: Customer Satisfaction with the Main Criteria (Performance).

The significance of the "Products - Services" and "Customer Service" criteria, Figures 2 and 3, was also verified and validated at the relevant literature (Okpala and Korzeniowska, 2021). Indeed, the contemporary interest of good practices referring to the implementation of Hazard Analysis and Critical Control Points (HACCP) it is an utmost importance and priority factor for food hygiene quality safety that steadily thrive in the agri-food industry. This is also a measure of improving agri-food product quality management (QM), while considering ethical quality issues, food quality safety standards, HACCP fundamentals/implementation, QA control systems, other quality standards associated with agri-food industry, altogether with supplementary essentials associated with quality. However, the QM system foundation within a given agri-food product or enterprise is not the real very-end itself, since what matters most is how to maintain and sustain it (Okpala and Korzeniowska, 2021). Figure 4 showed the strong-positive and weak-negative points of the bank's providers examined. The criteria of

"Customer Service" and "Human Resources" were located in the so-called "status quo area" of the action diagram. The "Products - Services" criterion was located in the leverage opportunity area of the action diagram, inferring that this criterion is of high performance and importance; thus, the greatest attention should be paid on it.

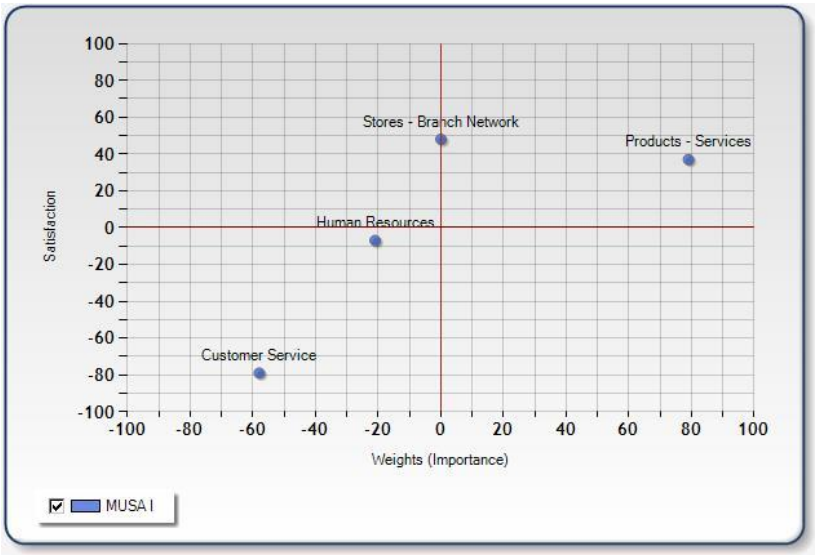

Figure 4: Action Diagram.

Figure 5 profiled the customer satisfaction with the main criteria (of performance), confirming the initial results regarding the demanding level of customers on the basis of the form of the global satisfaction function and the degree of the average total demand index. In particular, customers were less demanding regarding the criteria of "Products – Services" and "Stores Branch - Networks"; being the criteria with the highest level of importance.

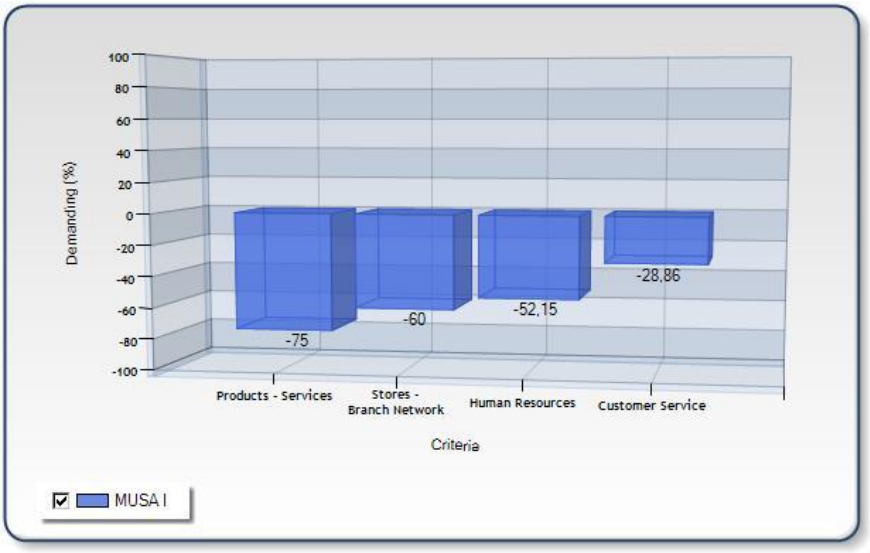

Figure 5: Customer satisfaction with the main criteria (performance).

The adoption importance of customer-focused culture at the agri-food industry, inferring in Figure 5, it was also confirmed by Sotirelis and Grigoroudis (2021) who denoted that the agri-food industry can be characterized as a low-tech sector with high demands for quality standards and food safety systems, thus, developing linkages of total quality management and innovation to improve firms' performance. It was also proven that for the agri-food industry access to current and new markets is a highly important motive and outcome of the quality-innovation nexus, revealing the importance of adopting customer-focused culture (Sotirelis and Grigoroudis, 2021).

4. Conclusions

Customer satisfaction can be a core determinant of the performance of any organization. In the case of agricultural cooperatives, satisfaction can be of even greater importance due to the fact that such customers are key-players for supporting the national economic targets especially in rural areas. The aim of this research study was to measure agricultural cooperatives satisfaction with the provided bank services.

The results of the satisfaction measurement survey showed a number of advantages which are the strong points of the banking institutions in Greece in terms of their cooperation with agricultural cooperatives.

The most important satisfaction criteria (according to MUSA method) were found to be those of a) products/services and b) branch/network. Therefore, banks should prioritize in planning the above services to further improve the satisfaction of agricultural cooperatives. Products and services include the variety of offered products, the provision of unique/user customized products and the reliability of the products. Branch/network include the accessibility of banking services, the number of ATM's, the personnel adequacy.

At the same time a number of characteristics were identified which, although considered important by the participants in the research study, they were proven of low satisfaction index, therefore, they should be immediately improved.

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