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Farmers' Perception of Entrepreneurial Success: Evidence from the Greek Reality

Alexandra Pliakoura ¹, Grigorios N. Beligiannis ¹, Achilleas Kontogeorgos ² and Fotios Chatzitheodoridis ^{3,*}

- ¹ Department of Businesses Administration of Food and Agricultural Enterprises, University of Patras, 30100 Agrinio, Greece; apliakoura@upatras.gr (A.P.); gbeligia@upatras.gr (G.N.B.)
² Department of Agriculture, International Hellenic University, 57001 Thessaloniki, Greece; akontoge@ihu.gr
³ Department of Regional and Cross-Border Developments, School of Economic Sciences, University of Western Macedonia, 50100 Kozani, Greece
* Correspondence: fxtheodoridis@uowm.gr; Tel.: +30-24610-68013

Abstract: The purpose of this paper is to evaluate the perceptions of Greeks-farmers regarding success and to investigate the factors that are considered as indicators to explain, predict, and determine perceptual entrepreneurial success. This research focuses on existing agricultural enterprises as more than 400 randomly selected agricultural enterprises compose the survey's sample. The main research method is through structured questionnaires. A series of multivariate analyses were conducted to examine the data. A stepwise procedure was used to identify the relevant variable and the significant ones were identified based on the 'F' test. The results of a discriminant analysis indicate that seven predictors (internal LOC, pull motivation, push motivation, internal funding, innovativeness, entrepreneurial capacity, and educational background) have a significant impact on the dependent variable "perceived entrepreneurial success". Pull motivation is the most important variable to discriminate the groups. The value of this study lies in the fact that it is an original attempt to assess the parameters that could explain the perceived entrepreneurial success of agripreneurs; a focus that is lacking in previous studies.

Keywords: agripreneurs; perceived entrepreneurial success; discriminant analysis; Greece



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Citation: Pliakoura, A.; Beligiannis, G.N.; Kontogeorgos, A.; Chatzitheodoridis, F. Farmers' Perception of Entrepreneurial Success: Evidence from the Greek Reality. *Agriculture* **2021**, *11*, 1192. <https://doi.org/10.3390/agriculture11121192>

Academic Editor: Giuseppe Timpanaro

Received: 16 October 2021
Accepted: 23 November 2021
Published: 26 November 2021

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1. Introduction

In recent decades, the European agricultural sector has undergone rapid and significant changes. On the one hand, the rapid developments in new information and communication technologies [1,2] as well as biotechnology on the other hand, have increased consumer demand for quality products [3] and environmental protection [4] that have created a complex business framework. In Greece, the primary sector participates to a significant extent in the formation of the Greek economy and can be a key pillar in its development. Based on Eurostat data, the agricultural sector contributes 2.9% to GDP, while covering 14% of employment. At the sectoral level, the percentage of enterprises in the primary sector is strengthened to 7.9% in 2018 and new ventures in the manufacturing sector, with the relevant index reaching 24.9%. The investment intensity in the rural sector (defined as the percentage of investments in gross value added) in Greece is around 20%, a long way from the price it receives in the European Union (EU28) as a whole (31% in 2018) (European Union, 2020). Aljuwaiber [5] claims that entrepreneurship is the springboard for economic growth, opportunities discovery, employment, innovation and global political openness. At the same time, Common Agricultural Policy (CAP) was gradually released by the support of agricultural prices [6] and transitioned to become income support. European agriculture is fully governed by the rules of the CAP, which shape and control the entire framework of operation and activity of the agricultural sector. Hence, agricultural entrepreneurship may be a special case in the typical form of the entrepreneurship discipline [7] due to the existence of the CAP and their regulations. In this frame and in the Greek

reality, the secured stable income from the community subsidies was the cause in many cases for a kind of ‘entrepreneurship deficit’, that reversed the role of the subsidies from ‘supporter’ of the agricultural production to a ‘barrier’ in the agricultural entrepreneurship development in the last decades and before the economic crisis.

Nevertheless, agricultural entrepreneurship has taken a special interest in both developed and developing economies. Late studies show that agricultural entrepreneurship plays an important role in business development. [8–10]. Over the years many researchers [11–13] tried to identify the factors that affect agricultural entrepreneurship and their association with entrepreneurial success [14]. However, the factors associated with entrepreneurial success still need a further investigation [15]. Which factors, then, contribute to entrepreneurial success? To answer this question this research studied personal characteristics (e.g., locus of control, motivation), socio-demographics features (e.g., gender, educational background, initial financial capital), and external non-organizational predictors (e.g., financial crisis, competition, taxes, labor problems, etc.) to find out the relationships between selected organizational and non-organizational predictors and to conduce to the body of knowledge that identifies and examines perceived entrepreneurial success (PES). An effort was made to address a gap in the literature conceptualizing the parameters that affect success from the perspective of existing farmers entrepreneurs and to answer the question “How do farmers perceive entrepreneurial success?” offering new ideas for forming entrepreneurial culture in the agricultural sector. Furthermore, this study explains entrepreneurial success in a geographical area with little research on the operation, sustainability, and productivity of agricultural enterprises and under difficult economic conditions (economic crisis) in a rural setting in Western Greece.

Subsequently, the paper contains the theoretical background of the organizational and non-organizational factors in predicting entrepreneurial success. In the results section, the relationships between selected predictors and entrepreneurial success are subject to verification. Following is a discussion of the results in the light of existing studies and theories. Finally, the final remarks, the implications, and the limitations are mentioned, and directions are given for both the practitioners and the policy makers.

2. Theoretical Background and Research Hypotheses

Entrepreneurial success research has generally focused on trying to explain the causes of success in terms of predictors related to the entrepreneur’s personality, education and characteristics, specific business resources and environmental conditions (external/non-organizational prognostic factors) faced by the enterprise [16].

2.1. Perceived Entrepreneurial Success

The term entrepreneurial success is used to refer to the success of a venture or entrepreneurial activity, and sometimes the success of the entrepreneur connected to the venture [14]. Entrepreneurial success is very subjective. The indicators of entrepreneurial success fall into at least two categories: quantitative (actual entrepreneurial success) and qualitative (perceived entrepreneurial success) [17]. Entrepreneurship therefore has different meanings, which depend on the locus of control (LOC) [18,19] or on the entrepreneur’s motivations behind starting a business or on the stated goals, which often evolve over time and change the perception of success [10,12,13]. According to Simpson et al. [20], perceptions of entrepreneurial success are based on opinion and may be related to the extent to which the goals of the business are achieved or exceeded. The same author recognizes that distinguishing success from performance has proved difficult for researchers, especially “because success can be defined in terms of certain performance elements” (p. 272). Although there is a strong academic interest in identifying factors that are vital to SME success [20], PES has been sparsely studied among entrepreneurs in agricultural sector [21]. In addressing existing empirical and theoretical gaps, the present study attempts to combine many predictors to explain farmers’ perception of success.

2.2. Predictors of Entrepreneurial Success

To study the phenomenon of entrepreneurial success in the agricultural sector, this study examines a wide set of predictors that have been discussed in previous research on entrepreneurship. Predictors that are indicators of entrepreneurial success fall into at least two categories.

2.2.1. Internal/Organizational Predictors

These predictors of entrepreneurial success include motivations [12,22], demographic and economic factors [23,24], personality traits [25,26] and management factors [14]. Entrepreneurship research should focus on and prioritize exploring the personality of entrepreneurs. Researchers [27,28] suggest four personal characteristics associated with entrepreneurial success: innovativeness, locus of control, risk-taking and entrepreneurial capacities. However, researchers have recognized that the presence of a particular personality trait is far from being a good predictor of entrepreneurial success [29,30]. In this frame the present study explains success by looking at the farmer entrepreneur's motivation, innovativeness, locus of control, initial financial capital, and entrepreneurial capacity.

Locus of control (LOC): People who believe in themselves to control their destiny have internal LOC while people who believe that their lives are dominated by random events that they do not control themselves have external LOC [25,31,32]. Shapero [33] found that entrepreneurs tend to have a higher internal control position than non-entrepreneurs and this ability to control promotes rapid business growth and therefore drives entrepreneurial success. Positive relationships between the internal LOC and the entrepreneurial process have been developed in their research projects by other researchers [18,19,34,35]. For example, we know that successful farmer entrepreneurs have internal LOC [36]. In actually, previous literature has shown that the profile of entrepreneurs has been associated with a high degree of internal LOC. In view of the above, the following hypotheses are proposed:

Hypothesis 1 (H1). *Internal Locus of control is significantly and positively associated with PES.*

Motivations: The discrimination between pull and push motivations is of great interest because motivations can affect the way an entrepreneur manages his enterprise and, therefore, can affect his success. Pull motivations attract entrepreneurs to create businesses and to seize market opportunities. Push motivations refer to the external political-economic environment that forces people to become entrepreneurs due to the lack of viable alternatives [37]. Economic crises and periods of high unemployment can attract people to self-employment due to the lack of other opportunities [38] but need-driven entrepreneurs have weak prospects for success. Many times, more than one combination of Push and Pull factors apply [22]. So, this paper suggests the hypotheses below:

Hypothesis 2a (H2a). *Pull motivations are positively related to PES.*

Hypothesis 2b (H2b). *Push motivations are negatively related PES.*

Entrepreneurial capacity: Capacity is an intuitive yet complex concept. According [39], when we refer to entrepreneurial capacity, we are alluding to the act of carrying out a project or business. In [40] authors note that capacities related to social resources, social ties, communication skills or networks are important for agricultural enterprises. In a study of farmers' skills, [41] identified six sets of abilities: managerial ability, ability to collaborate, information technology, marketing and selling, entrepreneurial qualities and values, farming skills. Farmers, who may well, be adept at managerial functions, need new and different skills and attitudes in their entrepreneurial role [42]. Capacities are not seen as a job task, but rather what allows people to do the task [43]. Sudirman [44] combined entrepreneurs' competencies with business growth (duration and size of enterprise). In the

same vein, Tehseen and Anderson [45] argue that capacities are the abilities to complete a task by utilizing resources that improve performance. Therefore, this study hypothesized:

Hypothesis 3 (H3). *Entrepreneurial capacity is positively associated with PES.*

Innovativeness: Innovation is a prerequisite for the survival and development of modern enterprise. The attitudes and behaviors of entrepreneurs make a great impact on entrepreneurial success. Innovation is a hallmark of successful entrepreneurs [32]. Innovation is a process that starts with an idea, proceeds with the development of an invention, and results in the introduction of a new product or service [46]. In addition, innovation is an integral part of entrepreneurship and is closely linked to productivity and growth. Schumpeter first came up with the idea that there is a relationship between innovation and entrepreneurship [47,48]. According to Schumpeter, “entrepreneurship creates by destroying”, that is, it innovates and modernizes and at the same time eliminates the production method and the product that is not modern. However, other related studies that have been conducted have found a positive relationship between innovation and success [49,50]. Iza and Dentoni [51] talk about understanding the institutional factors of farmers’ innovation. Farmers’ innovation was found to depend on the immediate environment surrounding the farmer [52], its wider structure and system dynamics, motivations and participation in associations and agricultural networks [53] as well as access to technical assistance and use of new technologies [52,54]. Hence, this study proposed the hypothesis:

Hypothesis 4 (H4). *Innovativeness of farmers is positively associated with PES.*

Initial Financial Capital: Although many empirical studies have focused research on entrepreneurial performance, there is no clear indication of how initial resources are related to subsequent performance and accordingly to entrepreneurial success. The findings in various studies are difficult to compare and often do not give clear dimensions [55]. Cooper [24] has argued in favor of the positive impact of start-up capital on growth and entrepreneurial success. The amount of start-up capital is related to the initial strategy that can be followed by the entrepreneur. Initial capital also buys time while the entrepreneur learns or overcomes problems [24]. The two main funding categories, which have additional subcategories, are internal funding and external funding [56]. The subcategories of internal funding includes personal funds from savings or from family ([57], clearance sale of assets, etc.). The subcategories of external funding include: subsidized European programs and government grants (e.g., young farmers settlement program, farmer succession, improvement plans, etc.) [58–62], bank lending and any form of financing derived from non-business sources including alternative financing methods—such as leasing, forfeiting, factoring, venture capital, business angels, and business incubators [63]. So, this paper suggests the hypotheses below:

Hypothesis 5a (H5a). *Initial Financial Capital is positively associated with PES.*

Hypothesis 5b (H5b). *Internal Financial Capital is negatively associated with PES.*

2.2.2. External/Non-Organizational Predictors

These predictors reflect the environmental conditions, mainly spatial and macroeconomic factors, in which enterprises operate, such as: labor market conditions, competition, government policies, tax policy, human and social capital. Table 1 presents the factors selected in this study and the main hypothesis is posited below:

Table 1. Chosen non-organizational predictors of entrepreneurial success.

Predictors	References
The prevailing financial situation (economic crisis)	Giotopoulos et al. (2017); Peris-Ortiz et al. (2014), Geroski et al. (2010)
The competition	Dias and Rodrigues (2019), Geroski et al. (2010)
Tax policy (changes in tax rates)	Gurley-Calvez and Bruce (2008)
Government policies (government support)	Hansen et al. (2009)
Human capital (lack of work force when needed)	Rodriguez-Gutierrez et al. (2015)
Lack of cooperative organization	Alho (2019)

Hypothesis 6 (H6). *External/non-organizational predictors are significantly (negatively or positively) associated with PES.*

3. Materials and Methods

The study in general applies a quantitative research approach based on a structured questionnaire addressed to existing agripreneurs. A total of 412 respondents provided the primary data of the survey. The research was conducted during the months of April to October 2019, in the prefecture of Aitolokarnania, located in the southwestern part of Greece, and covers an area of about 43,000 ha. The economy of the prefecture is mainly agricultural, with large production mainly in the southern areas. The area has great potential for development due to the geographical diversity with a large mountainous volume where the inhabitants are mainly engaged in the breeding of sheep and goats in the traditional way, producing quality products of geographical indication while in the south extends the highly productive plain. The selected area is depicted in Figure 1.

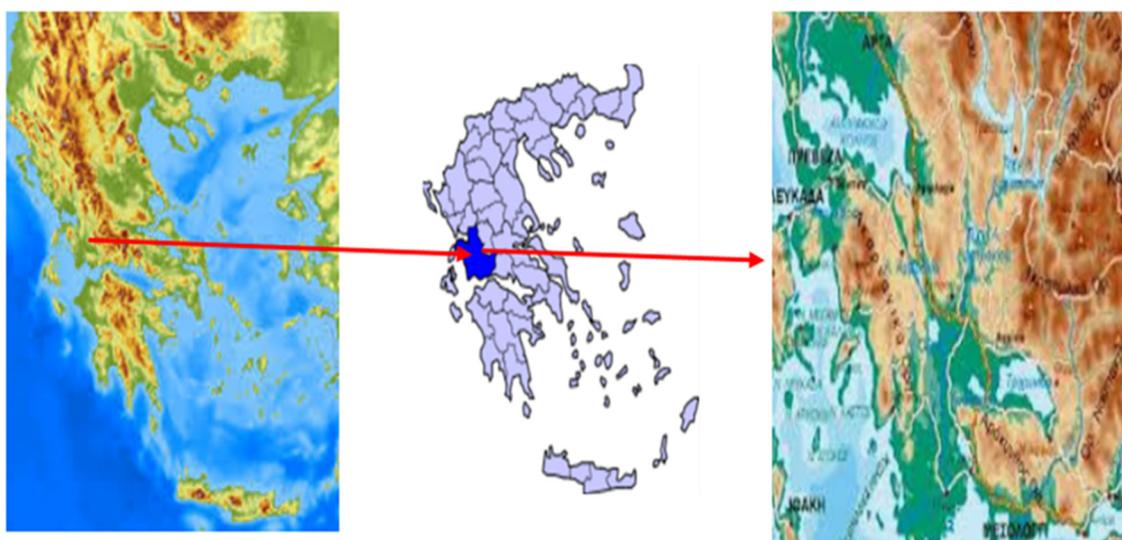


Figure 1. Maps of Greece and prefecture of Aitolokarnania.

3.1. Study Procedure and Sample

As already mentioned, agripreneurs were taken as a unit of analysis in this study. The research team personally contacted the agripreneurs based on info of the Greek state agricultural services. The participants of this study were farmers of plant and animal production. The sample is part of a population that has relatively the same characteristics and is considered to represent the population. Additionally, the farmers in the sample were also the owners of their enterprises. Table 2 shows the respondents' characteristics.

Table 2. The profile of the samples.

Item	Classification	Number of People	Percentage (%)
Gender	Male	289	70.1%
	Female	123	29.9%
Age	<24	6	1.5%
	25–34	117	28.4%
	35–44	129	31.3%
	45–54	117	28.4%
	>55	43	10.4%
Level of education	Elementary school	41	10%
	Middle school	80	19.4%
	High school	185	44.9%
	Technical Education	68	16.5%
	University graduate	38	9.2%
Types of enterprises	Plant production	239	58.0%
	Animal production	61	14.8%
	Mixed production	112	27.2%
Entrepreneurship training	Yes	130	31.6%
	No	282	68.4%

Notes: n = 412. Source: processed primary data, 2019.

3.2. Measures

As Venkatraman and Ramanujam [64] proposed, business success can be measured using different performance indicators, even though, each indicator is a multidimensional [65]. This is why three decades later the measurement of entrepreneurial performance remains an unsolved problem. Determining entrepreneurial success is still a controversial debate, as it has many different dimensions and is considered a multi-stage process [66]. For example, the type of entrepreneurship affects the success indicators used each time [14]. Entrepreneurs trying to create value or use a vision full of value to lead their businesses [67] need a personalized and diverse range of indicators to determine entrepreneurial success.

This study focuses on selected organizational and non-organizational predictors to discover the relationships between these and PES. The predictors used in this paper were selected and adjusted based on the literature review. A five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5) was used to measure them (Table 3).

Table 3. EFA and CFA analyses.

Predictors	Items/Factors	Factor Loading	Cronbach'a
Locus of control (GFI = 0.909; NFI = 0.942; AGFI = 0.911; CFI = 0.937; RMSEA = 0.060)	dependent on ability (internal LOC)	0.628	0.721
	dependent on others (external LOC-1)	0.683	0.740
	dependent on luck (external LOC-2)	0.637	0.689
KMO: 0.681, Approx. chi-Square: 959,589, d.f.: 153, sig.: 0.000			
Motivations for success (GFI = 0.881; NFI = 0.950; AGFI = 0.834; CFI = 0.793; RMSEA = 0.080)	Pull motivations	0.656	0.719
	Push motivations	0.815	0.662
	Neutral motivations	0.712	0.722
KMO:0.678, Approx. chi-Square: 474.252 d.f.:109, sig.: 0.000			
Innovativeness (GFI = 0.992; NFI = 0.948; AGFI = 0.959; CFI = 0.961; RMSEA = 0.077)	Curiosity for new investment programs	0.751	0.701
	Curiosity for new things (innovation)	0.782	
	Curiosity for new technology	0.633	
	Use of innovative views	0.748	

Table 3. Cont.

Predictors	Items/Factors	Factor Loading	Cronbach'a
Entrepreneurial capacity (GFI = 0.999; NFI = 0.993; AGFI = 0.993; CFI = 1.000; RMSEA = 0.040)	Management ability	0.720	0.747
	Ability to collaborate	0.692	
	Personal work	0.677	
	Communication skills	0.782	
External/non-organizational variables (GFI = 0.921; NFI = 0.652; AGFI = 0.817; CFI = 0.665; RMSEA = 0.062)	Competitive environment	0.775	0.786
	Government policies (government support)	0.739	
	Human resource (lack of work force when needed)	0.770	
	Tax policy (changes in tax rates)	0.877	
	Overall state of the economy (economic crisis)	0.793	
	Lack of cooperative organization	0.701	
KMO:0.717, Approx. Chi-Square: 236,730, d.f.:67, sig.: 0.000			

Source: primary and computed data.

Perceived entrepreneurial success: This paper uses the opinions of farmers and requires the respondent to answer the question “How successful do you consider yourself as a farmer?” thus evaluating perceived success as a subjective measure of entrepreneurial success.

Locus of control: Based on the work [25] as well as [68], the three-item locus of control scale was utilized i.e., (1) dependent on capability (2) dependent on others and (3) dependent on luck.

Motivations: Farmers’ opinions about entrepreneurial motivations suggested by [22] as well as [12]. The three-item motivation scale was utilized, consisting of: (1) pull motivations, (2) push motivations, and (3) neutral motivations.

Innovativeness: Based on the works [69] and [70], this study uses the opinions about innovativeness suggested by using (1) use of innovative views, (2) curiosity for new technology, (3) curiosity for new investment programs and (4) curiosity for new things to measure innovativeness.

Entrepreneurial capacity: This study follows the suggestion of [60] that uses the farmer’s perceptions of their entrepreneurial capacity including: (1) management ability (2) personal work (3) ability to collaborate and (4) communication skills (social contacts).

Initial Financial Capital: Farmers’ initial funding were identified according to [56] including two main categories (1) internal funding and (2) external funding.

External/non-organizational predictors: The study included the effect of the external factors mentioned before (Table 1) on entrepreneurial success.

Control variables: Gender and educational background are the two variables selected as control variables that can play an important role in trying to predict and explain entrepreneurial success [71].

Figure 2 represents the theoretical model for the framework suggested above. Based on the literature and previous research in this area, several variables were chosen measuring entrepreneurial success. In the first step, the model included all the statements from this part of the questionnaire. The data were analyzed using SPSS Statistics Version 20, AMOS 20 software and the results and a discussion are presented in the next section.

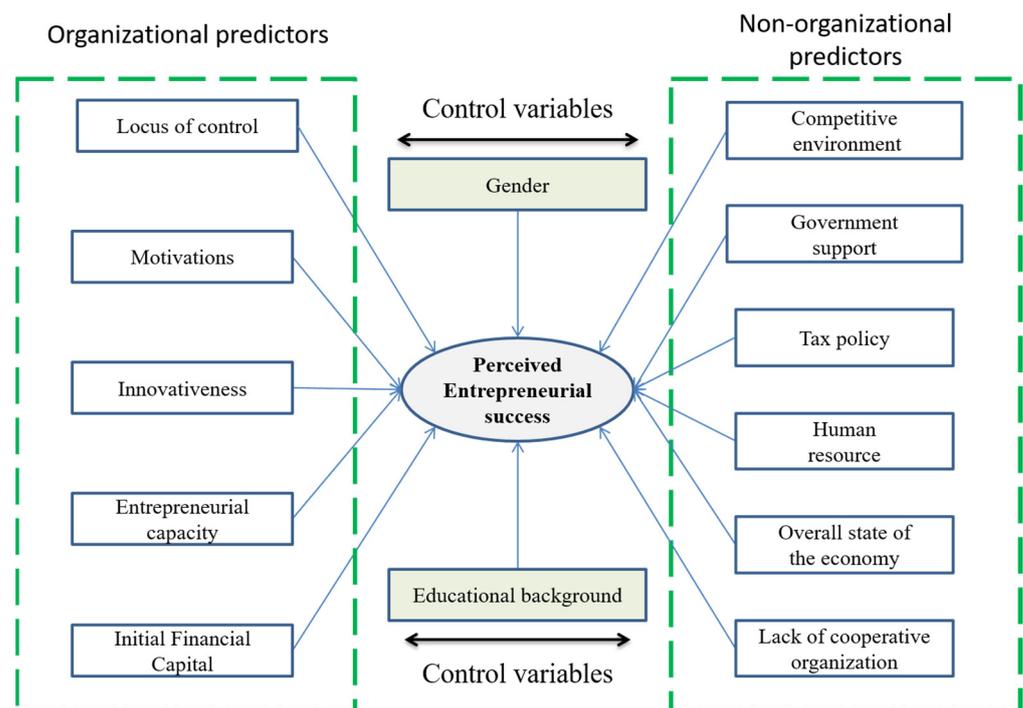


Figure 2. The research framework of study. Source: processed by researchers.

4. Results

The answers we received from the respondents showed that 70.1% were men and 29.9 women. The largest percentage (31.3%) belonged to the age group 35–44, followed by the age groups 25–34 and 45–54 with a percentage of 28.4% each. The majority of the participants were high school graduates (44.9%), and only 9.2% were University graduates. Only one third of the sample has received education of entrepreneurship. Analytically the demographic results are shown in Table 2.

4.1. Analysis of Model

4.1.1. Preliminary Analysis

An exploratory factor analysis (EFA) was performed to investigate the factor structure of scale of LOC, motivation, and predictors of entrepreneurial success (innovativeness, entrepreneurial capacity, external/non-organizational predictors). Using principal component analysis and reliability analysis (Cronbach's alpha), the results of the factor analysis are presented in Table 3. The reliability test used Cronbach's alpha method, a reliable instrument if the value of $\alpha > 0.6$ [72]. The results meet the needs of the research and make it reliable. Then, a confirmatory factor analysis (CFA) using structural equation modeling was conducted to further validate the factor structure derived from EFA [73]. The results of the confirmatory factor model are presented in Table 3. This study employed five goodness-fit indexes: Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Normal Fit Index (NFI) and root mean square error of approximation (RMSEA). The models derived from EFA is acceptable in CFA.

In general, adjustment statistics greater than or equal to 0.9 for GFI, NFI, RFI, CFI and 0.8 for AGFI show good data fit [74]. The same authors also suggest that RMSEA values ranging from 0.05 to 0.08 are acceptable. Therefore, RMSEA results show the examined models are acceptable.

Hair [74] determines that the χ^2 (chi-Square) index is suitable for a sample size of 100 to 200, with the index being considered insignificant for sizes outside this space. So, although the χ^2 index is not the main indicator for the analysis and selection of the models of this research, its value is recorded and presented for the sake of the complete statistical research.

For the hypotheses testing was used the multivariate data analysis technique known as discriminant analysis. All multivariate methods manage to summarize the data, to reveal basic dimensions and correlations. In the literature are also called data reduction techniques as well classification methods, but not all of them are intended for the prior identification of independent and dependent variables [75]. Discriminant analysis allows such a determination and is therefore optimal for our purposes.

4.1.2. The Discriminant Analysis

In this section, the hypotheses on how indicators (organizational and non-organizational predictors) affect farmers' PES will be examined. Such an analysis attempts to assess the proportionality of the independent variables in the classification of the dependent variable [76,77], that is, the PES. The key categorical variable chosen for discriminant analysis was "How successful do you consider yourself as a farmer?" with four possible answers: unsuccessful, probably successful, successful, highly successful.

Discriminant analysis was used in this study because (1) it is suitable for reducing or grouping data (i.e., to reject variables that are least closely related to group distinctions) and (2) it is the appropriate statistical classification technique when groups (two or more) are separated in advance, i.e., the dependent variable is a categorical variable, and the independent variables are metric variables [75]. With this multifactorial analysis, it is sought to observe which predictors influence the opinion of 412 farmers, regarding their perception of entrepreneurship success.

Firstly, the hypotheses supporting the discriminant analysis were verified by observing the normal distribution of the explanatory variables and the equality of the correlation tables between the groups. Thus, the first hypothesis was confirmed by the Kolmogorov–Smirnov and Shapiro–Wilk tests among the variables and was statistically significant, while Box M's test for the equality of the covariate tables with p -value = 0.00 < 0.005 showed that the hypothesis of equality of covariate tables was violated, thus rejecting the null hypothesis (in the discrimination analysis, the null hypothesis is that there is no variance in the sample collected). It is noted, however, that when the sample is large (which is the case for this study) then small deviations from the tables are considered quite significant, for this reason, the Log Determinants table is given (Table 4). If in this table, the values in the Log Determinant column are close then in reality the variances-covariance's tables are equal. In this case the values are close enough, so it is concluded that the null hypothesis holds.

Table 4. Log Determinants.

How Successful Do You Consider Yourself as a Farmer?	Rank	Log Determinant
Unsuccessful	14	5.838
Probably successful	14	4.767
Successful	14	2.515
High Successful	14	3.415
Pooled within-groups	14	1.879

Note: The ranks and log determinants printed are those of the group covariate tables.

Nevertheless, it is worth mentioning that in real data it is rare to find that the hypothesis of regularity is met, let alone the hypothesis of the equality of the variance-covariance tables. For this reason, researchers apply discriminant analysis even when the hypotheses are not valid [78].

In the discriminant analysis, a stepwise method was applied in order to include only the most significant variables in the model. Such a procedure allows the use of only the "best" variables in the model. The selection procedure is based on the value F. This method describes what happens if a variable is omitted from the current model (since the other variables remain). In other words, the F value "cuts" the variables that show an F value lower than the elimination value at 2.71. Following the pruning procedure,

seven prognostic factors were identified (Table 5). Moreover, Table 5 shows the means and standard deviations of the variables.

Table 5. Variables in the model (selected via stepwise procedures).

Predictors	Wilks' Lambda	F	Std. Deviation	Means	Sig.
X1 Internal LOC	0.178	33.087	0.55822	3.3807	0.027
X2 Positive Motivation	0.257	16.084	0.46900	4.0563	0.000
X3 Negative Motivation	0.991	2.764	1.22814	2.9256	0.049
X4 Internal funding	0.981	2.883	8.03853	17.0000	0.046
X5 Innovativeness	0.361	25.440	0.65561	3.5701	0.001
X6 Entrepreneurial capacity	0.181	3.643	0.65430	3.9195	0.049
X7 Educational background	0.292	3.035	0.46590	1.6829	0.007

Table 5 shows that some "F" values are relatively low, indicating that when independent variables are individually considered they do not differentiate the groups. In addition, some values of "Wilks Lambda" are approximately equal to 1, indicating that the average of groups is identical.

Furthermore, a pooled within-groups matrices test was computed (Table 6) to examine multicollinearity problems. The findings suggested that multicollinearity was not an issue as the correlation between the variables is low.

Table 6. Pooled within-groups matrices.

	Internal LOC	Pull Motivation	Push Motivation	Internal Funding	Innovativeness	Entrepreneurial Capacity	Educational Background
Internal LOC	1.000						
Pull Motivation	0.087	1.000					
Push Motivation	−0.106	0.101	1.000				
Internal funding	0.072	0.034	0.047	1.000			
Innovativeness	0.017	0.020	0.001	−0.009	1.000		
Entrepreneurial capacity	0.153	0.054	−0.134	0.067	0.020	1.000	
Educational background	0.094	0.084	−0.056	0.056	0.030	0.038	1.000

The Eigenvalues and Wilks's Λ of the three canonical discriminant functions are shown in Table 7. The maximum number of discriminant functions produced is the number of groups reduced by 1. The normal correlation is the multiple correlations between the variables used for prediction and the discriminant function [79]. Looking at Table 7, it is obvious that the higher the Eigenvalue, the more the variance in the dependent variable is explained by this function. Almost 70% (69.3%) of the variance explained by the model is due to the first discriminant function.

Table 7. Synopsis of canonical discriminant functions (chi-square, Eigenvalues and Wilks's Λ).

Function	Eigenvalues			Canonical Correlation
	Eigenvalue	% of Variance	Cumulative %	
1	1.167 ^a	69.3	69.3	0.778
2	0.147 ^a	19.4	88.7	0.211
3	0.127 ^a	11.3	100.0	0.162
Test of Function(s)	Wilks' Λ	Wilks' Lambda Chi-Square	df	Sig.
1 through 3	0.395	90.612	42	0.000
2 through 3	0.930	28.947	26	0.314
3	0.974	10.702	12	0.555

^a First two canonical discriminant functions were used in the analysis.

The amount of Wilks' Λ gives the significance of the discriminant function. Taken together, these tests identified the best discriminant function [80]. The canonical correlation coefficient, which measures the relationship between discriminant factorial coordinates and the grouping variable, shows that 60.52, i.e., $(0.778)^2$ of the total variance, represents the differences between the four groups of farmers through the first discriminant function.

Function 1 had an Eigenvalue of 1.167, a higher score than those for Functions 2 and 3 (0.147 and 0.127, respectively). In Table 7, Wilks's Λ indicates how well each function separates cases into groups. Lower Wilks's Λ values indicate a greater discriminatory ability of the function. Function 1 presents a lower value of Wilks's Λ (0.395) than Functions 2 and 3 (0.930 and 0.974, respectively). The associated chi-square (X^2) statistic helps to test the hypothesis that the means of the functions listed are equal across groups. A small significance value indicates that the discriminant function does better than pure chance at separating the groups. Nevertheless, the results showed that Function 1 maximizes the percentage of variance explained in the dependent variable and maximizes the difference between the values of the dependent variables because it has the highest Eigenvalue and the lowest Wilks's Λ . Overall, Function 1 had the highest predictive power of PES and comprises seven predictors, given below (Table 8). Based on the above considerations the study has used the following discriminant model that mathematically specified as follows:

$$\text{PES} = 0.333 \times X_1 + 0.512X_2 - 0.036X_3 - 0.173X_4 + 0.079X_5 + 0.219X_6 - 0.261X_7$$

Table 8. Classification results—canonical discriminant function coefficients.

Predictors	Function 1
X1 Internal LOC	0.333
X2 Pull Motivation	0.512
X3 Push Motivation	−0.036
X4 Internal funding	−0.173
X5 Innovativeness	0.279
X6 Entrepreneurial capacity	0.219
X7 Educational background	−0.261

The classification results are shown in Table 8 where 69.3% of cases are correctly grouped, confirmed by cross-validation. The coefficients of the discriminant function show the partial contribution of each predictor to the discriminant function by controlling all the variables in the equation and therefore give information about the significance of each variable.

It is clear from the findings that the predictors such as internal LOC (X1), pull motivation (X2), push motivation (X3), internal funding (X4), innovativeness (X5), entrepreneurial capacity (X6) and educational background (X7) were the predictors which can influence the perceived entrepreneurial success the most.

Among those predictors only four of them (internal LOC, pull motivation, innovativeness, and entrepreneurial capacity) have positive impact on dependent variable, whereas the remaining three predictors (internal funding, push motivation and educational background) have a negative impact on the “perceived entrepreneurial success”. Fisher's linear function indicates that pull motivation (0.512) and internal LOC (0.333) are the most important predictors discriminating the farmers' groups. This leads to the conclusion that there is a significant difference in the level of internal LOC and motivations among perception of high successful and less successful farmers. Successful farmers need to believe that their own abilities can determine the outcome and not the actions of others or luck. In addition to internal LOCs, motivations are what follow entrepreneurs throughout their entrepreneurial process and greatly shape their perception of success. Additionally, the success of agripreneurs is reflected in the innovative views and the corresponding entrepreneurial capacities. The ability of cooperation and communication as

well as personal work are characteristics of the agripreneurs who easily succeed in the entrepreneurial process.

Further, the predictors like X4 (−0.173), X5 (0.279), X6 (0.219) and X7 (−0.261) were found to be the key influencing predictors for PES of agripreneurs.

Hence, these organizational predictors need to be strengthened through appropriate capacity building interventions. What is needed is the “translation” of the individual findings into specific actions and programs of parallel and simultaneous development and improvement focusing on the personality of the farmer. The presented evidence in this paper is believed to be valuable for understanding the heterogeneity of entrepreneurship in the agricultural sector. Programs implementers should realize the value of critical perceptions (motivations, innovation, etc.) held by farmers to behave entrepreneurially.

Therefore, it is necessary to have additional information, related to the estimation of the centroids of each group. The centroid is the average value of the discriminant results for a given group. Table 9 shows the values of the four centroids for each of the three functions.

Table 9. Classification results: functions at group centroids.

How Successful Do You Consider Yourself as a Farmer?	Function		
	1	2	3
Category 1: Unsuccessful	0.689	1.268	−0.736
Category 2: Probably Successful	12.219	−0.475	−0.031
Category 3: Successful	0.118	0.104	0.076
Category 4: High Successful	0.934	−0.011	−0.108

Notes: Unstandardized canonical discriminant functions evaluated at group means. Italic shows the highest value in each function.

For the purposes of prediction and classification, the degree of separation in each case is compared with the centroids of each group and the probability of being a member of that group is calculated.

The group centroids table (Table 9) proposes function 1, which represents the “probably successful” farmers. The group centroids imply that function 2 explains the group participation of farmers in category 1, those who consider themselves “unsuccessful”. In contrast, the category that includes the “high successful” has the lowest value in this function. These results suggest that the first function separated the category 2 from other categories, while the second function discriminated category 1 from the others. Function 3 has only limited explanatory power. This function is not significant in explaining differences between categories, but farmers in category 3 (successful) have the highest price in this function. That said, it is very important to have successful farmers who are able to turn their existing holdings into sustainable enterprises capable of withstanding the current international competition. The sustainability of agricultural enterprises is a necessary challenge in this context. Although this study sheds some light on the differences between existing rural agripreneurs, further research is needed to provide more information on the PES phenomenon.

5. Discussion

The results of the analysis show a positive relationship between PES and internal LOC, pull motivation, innovativeness, and entrepreneurial capacity. The results also show a negative relationship between PES versus push motivations, internal funding, and educational background. However, it is not easily discriminated whether the success of an entrepreneur creates certain perceptions about specific characteristics, or these characteristics lead to entrepreneurial success. Most likely, there is a retrospective relationship so that some features lead to perceived success, which in turn reinforces these same features.

Confirming the research hypotheses (H1, H2 (a, b), H3, H4, H5 (a, b)), the most successful farmers received significant positive scores on entrepreneurial capacity, pull motivations, internal LOC, and innovativeness. The literature argued that skills and moti-

vation influence entrepreneurs' decision to manage and develop their business [81]. Additionally, intrinsic motive determines the reasons why people become entrepreneurs [82]. Entrepreneurs who are attracted to positive motivations and enjoy the rewards of doing so (independence, freedom, job satisfaction and profit) indicate "success" [83]. It has also been argued that small business entrepreneurs have a different set of entrepreneurial goals, such as satisfaction and control at work [84].

In addition, it should be noted that LOC scales developed in non-agricultural sectors are correlated with several variables. In agriculture, Kaine [85] found that LOC correlated with farmers' tendency to innovate, engage in expansion activities and their economic performance, and Ndirangu and Bwisa [36] found that LOC correlated with farmers' perceived entrepreneurial success (as in this study).

The ratings for push motivations, educational background and internal funding were negative. Based on the negative values in the coefficients of the discriminant analysis, we can make three conclusions: (1) the relationship between education and the personal success of agripreneurs is negative, which means that the higher the level of education, the less he perceives his own success. Even though factor such as educational background [71], education in entrepreneurship [86] are fundamental individual features that contribute to achieving entrepreneurial success, higher education has a significant negative effect on perceived entrepreneurial success. Evans and Leighton as well as Cassar [87–89] believe that entrepreneurs with higher education are more likely to break up their companies or find other higher-paying jobs. (2) When the initial funding comes from the family or from money that already exists the farmers feel that they have not succeeded enough on their own to feel very successful. While initial capital buys time and the entrepreneur learns or overcomes problems [24], entrepreneurs who have and those who seek their capital have been found to have different perceptions of entrepreneurial success [90]. (3) Farmers who are driven by negative incentives due to the need to be active in the agricultural sector are not satisfied with what they do and do not experience success. Devece [37] agree with the findings of this study, emphasizing that entrepreneurs motivated by necessity have weak growth prospects.

Contrary to expectations, external/non-organizational predictors did not appear to play a significant role in farmers' perception of success, thus rejecting the H5 hypothesis. After the stepwise method all external/non-organizational predictors moved away from the measurement model thus emphasizing that the perception of existing agripreneurs about success is not significantly influenced by factors such as competition, financial crisis, employment problems. This result shows that external/non-organizational predictors as a measure of success have nothing to do with perceptual scripts. The literature on measures of success is contradictory. In contrast to several studies [82,91] that support the influence of external factors as a measure of entrepreneurial success, our study shows that this criterion has little to do with the perceptual characteristics of agripreneurs. This result makes sense if we consider that the dominant feature of agricultural enterprises is that they operate exclusively by the farmer-entrepreneur. With every reservation we present results like a study of Al-Tit [92], which recommended that the external business environment have no impact on the success of SMEs.

The results of the present study have implications for both research and practice. On one hand, it extends the existing literature by developing a measurement model of PES and on the other hand, it contributes to the existing literature by introducing new ideas for forming entrepreneurial culture in how farmers perceive entrepreneurial success.

Considering the results that show that internal/organizational predictors clearly relate to PES can be useful for organizations that provide funding to start or grow a business. In addition, knowledge of the type of individual who can achieve entrepreneurial success may have important implications for efficient resource allocation and minimizing the costs of entrepreneurial failure [93].

A further implication for practice is that these findings can be used in the design of training programs aimed at enhancing entrepreneurship. The results suggest that such

training programs should include a component that provides instructions on how to enhance certain attitudes related to perceived entrepreneurial success. For example, [94] suggested that only when the capabilities that people acquire are in line with the traits of the entrepreneur, entrepreneurial activities will succeed.

Finally, the present study contributes to entrepreneurial practice in that it provides guidelines regarding precisely which predictors are *positively* associated with PES, which predictors are *negatively* associated with PES, and which ones are *unrelated* to PES.

6. Conclusions

The main object of this survey was to illustrate the influence of different organizational as well as non-organizational predictors on the PES a subjective measure consistent with the literature [95]. The findings of previous research [96] suggest the significance of numerous variables determining PES. The results of this study suggest that internal LOC, innovativeness, capacities and need for independence (pull motives) are the most significant (and statistically significant) predictors influencing PES. At the same time, the non-organizational predictors included in the model proved to statistically insignificant to discriminate farmers as successful and unsuccessful.

It is important to note that this study is the result of some choices regarding the approach, design, and method, and therefore, it faces some disadvantages and limitations which should be mentioned and considered in future research. In particular, it not based on the actual existence of entrepreneurial success that is, based on performance indicators (e.g., firm size, profitability) but on the subjective view of farmers on how they perceive success. This represents a limitation of this paper insofar as it does not investigate the actual phenomenon, but, in a different sense, provides information on the predictors that shape and explain PES among farmers. Secondly, the present work is cross-sectional and focuses on the investigation of the phenomena under consideration at a “statistical” time. Therefore, the investigation of long-term interdependencies may provide important information about the nature of the relationships and effects studied.

Furthermore, the study area is limited to Western Greece, an area with many development opportunities, but with the disadvantage of not comparing the results with data from other areas with different geomorphology, different culture, and different growth rates. The application of the methodological framework to other groups of farmers/stockbreeders, and in areas outside Western Greece can achieve comparative results. However, as a suggestion for further research, comparing the actual existence of entrepreneurial success with PES could provide useful insights that would allow investigating in which cases farmers underestimate their ability to effectively manage their agribusiness and in which they overestimate these skills. Such research could lead to valuable conclusions, through the triangulation of results.

Author Contributions: Conceptualization, A.P. and G.N.B.; methodology, A.P., A.K. and F.C.; validation, A.P. and A.K.; formal analysis, A.P.; investigation, A.P. and G.N.B.; resources, A.P.; data curation, A.P. and A.K.; writing—original draft preparation, A.P., G.N.B. and F.C.; writing—review and editing, G.N.B. and F.C.; visualization, A.K. and A.P.; supervision, G.N.B. and F.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and according to the guidelines of the Ethics Committee of University of Patras.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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