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Entrepreneurship in rural areas – a study about correlations between entrepreneurial characteristics of rural dairy producers and its properties performance

Júlio Cesar Valandro Soares*, Vicente Celestino Pires Silveira+, Ediene Malvina Dias* Julliana Pereira da Cunha*, Wesley Aloisio Peixoto Junior*

* Engenharia de Produção, Universidade Federal de Goiás, Avenida Dr. Lamartine Pinto de Avelar nº 1120, Setor Universitário - CEP: 75.704-020 – Catalão - GO, Brasil
+ Programa de Pós-Graduação em Extensão Rural, Universidade Federal de Santa Maria - Av. Roraima, n. 1000, Faixa de Camobi, Km 09 - Campus Universitário, Centro de Ciências Rurais – Prédio 44, Santa Maria/RS – 97105-900

Email: j-cvs@hotmail.com, vcpsilveira@gmail.com, ediene_dias@hotmail.com,jullianapc@hotmail.com,wesley.aloisio02@hotmail.com

Abstract

The central objective this paper is establish possible correlations between entrepreneurial characteristics of rural properties managers which are inserted in the context of a dairy supply chain and its respective rural properties performance, taking as reference an available method proposed (structured) and validated for this context. To identify the entrepreneurial profile of respondents was applied to a scale developed and validated by Valandro Soares (2011) to a set of farmers' milk production chain a southeastern Goiás. To identify the researched rural properties performance it was sought, with a south-east of Goiás-Brasil cooperative (COACAL) data bases, statistics regarding milk deliveries from producers associated with the respective cooperative, besides COACAL itself characteristic information and of the dairy segment of Brazil's central west, of primary and secondary resources. Multiple linear regression analyze was used to relationships between rural properties managers' entrepreneurial characteristics and the respective rural properties performance. Finally, it was found statistically significant correlations between inherent attributes of entrepreneurs and performance of rural properties.

Keywords: entrepreneurship; scale; measure; rural area; performance; dairy.

1 Introduction

Entrepreneurship, as a phenomenon, is the target of a conceptualizations' myriad and inferences, which reveal a kind of conceptual stir about his conception. Similarly, many features are attributed to the entrepreneurial figure or subject, as the achievement need, propensity to risk, planning capacity, creativity, vision, leadership, motivation, self-confidence, among others. On the other hand, the effective design and validation of models to measure, quantify and make tangible such characteristics seems like a significant challenge in the literature context that discusses this topic.

In the agribusiness context, entrepreneurship is also a discussion object, including inherent approaches for small businesses, or small rural properties, typically family farms. In this sense, it is important to reference that in many agribusiness sectors, as the primary milk production, most organizations are familiar. These organizations, many of them inserted in the context of agro-industrial systems and in production chains, constitute themselves as growing complex challenges in terms of marketing relationship, innovation, the need to carry out profitable investments and to build skills systematically. These skills, which are clearly relevant to organizational management processes, also are revealed to be strongly related to characteristics deliberately assigned to the entrepreneurial subject profile.

The Brazilian milk production chain particularly underwent an important transformations range from 90s, beyond presenting some inherent peculiarities to its configuration and operation.

After those considerations, the purpose of this paper is to identify linkages between milk producers' entrepreneurial characteristics of a productive chain in the southeastern of Goiás (Brazil) and the

performance of their properties. To achieve such correlations, a scale constructed and validated by Valandro Soares (2011) was used as an analysis background.

2 Theoretical Foundations

2.1 Entrepreneurship and Entrepreneurial Characteristics

It is possible to realize clearly the literature that deals with themes linked to entrepreneurship, or to the entrepreneurial profile specifically, has produced a significant theoretical background, although the literature recognizes that this is a topic under construction and in dispute. Accordingly, authors such as Gimenez, Inácio junior and Sunsin (2001), Souza (2001), Filion (1999) and Carland et al. (1984) explain that entrepreneurship does not have a theoretical conceptual, or a universal consolidated theory yet. Souza (2001, p. 30), in turn, claims that "everything is in creation, including the conceptualization and, especially, a methodology for the development of that competence which involves far more than the knowledge acquisition, but also the learning to learn, to be, to do and, above all, to live with".

As a consequence of this reality, a myriad of labels and perceptions sprouted of researchers' publications of this area can be perceived, producing definitions about the phenomenon called entrepreneurship and, more specifically, the entrepreneurial figure. This last one, in particular, seems to be marked by numerous stereotypes, settling a real conceptual stir about their notions. According to Carland et al. (1984, p. 357), "one of the main problems in the studies of entrepreneurship is in the definition and identification of what is "to be entrepeuneur"". The authors suggest that it occurs because, in addition to other controversies, many studies do not distinguish adequately between entrepreneurs and small business owners. Valandro Soares (2011) complements claiming that the literature is neither definitive about the origin of terminology "entrepreneur", in addition to the stir about the real notion of this subject.

Reporting the results of an empirical research in an attempt to create an entrepreneurship measurement scale and to use this scale to relate the entrepreneurial profile with the performance of a new venture, Carland and Carland (1996) believe that there is a clear need to resolve empirically the issue of entrepreneur's characteristics and their relationships with the performance of enterprises. In this way, they assume that there are contradictions within that framework, as well as the existence of demands in terms of scientific evidence, under risk of the theme become object of a folksy speech.

A panoramic reading about numerous concepts inherent to the entrepreneurship lets to identify that each author establishes assumptions and premises to justify the phenomenon. To say that one thought line is more important than another, in short, seems little prudently and pointless, aside of to contribute to a subject with relative complexity. The most important, according to Dolabella (1999), although it seems somewhat sensationalist, is to identify what each school can contribute to each structural or cyclical situation to inoculate and develop the entrepreneurial virus through the creation of a culture favorable to contamination and development of entrepreneur's syndrome.

However, notwithstanding this consideration, it cannot be denied that two main currents laid the foundations of the currently dominant positions on entrepreneurship and tend to contain elements common to most of them (FILION, 1999; BRUYAT; JULIEN, 2000). The first of these is that of economists, notably the Richard Cantillon (1680-1734) and Jean-Baptiste Say (1767-1832), and, later, Joseph A. Schumpeter (1883-1950), who associated the entrepreneur to innovation. The second is the behaviorists, whose main exponent was David C. McClelland (1917-1998), who emphasizes aspects of attitude such as creativity and intuition.

2.2 Models, tools and methods of entrepreneur profile evaluation

One of the most important studies about entrepreneurial profile emerged in the 1960 's, when David C. McClelland identified in successful entrepreneurs, a critical psychological element, called by him the achievement motivation or incentive to improve. McClelland is cited by many researchers, as Santos (2004), Longen (1997) and Cielo (2001), among others, as the author who gave the starting point to

evaluate the psychological characteristics of entrepreneurs. Longen (1997) explains that McClelland has conducted several studies about the motivation issue and he developed a theory of psychological motivation, based on the belief that the study of motivation contributes significantly to the understanding of the entrepreneur.

According to Dether (2004), over the last 20 years, no precise and prescriptive definition for the entrepreneur appeared. Neither for what would be its potential. There were several researches, but their results were quite contradictory. In other words, one becomes aware that there are numerous definitions that guide what is being an entrepreneur. Based on the above considerations, one question becomes inevitable: how and why to search the entrepreneur profile if there is no agreement between researchers, not even on the definition of what is an entrepreneur? In other words, having a great difficulty in conceptualizing the entrepreneur, to evaluate it becomes a quite complex task. Dolabella (2000) presents an alternative to these questions, when he says that it is not possible to predict the success of a person, but, in compensation, it is possible to present the features more commonly found in successful entrepreneurs, to develop and incorporate them into existential repertoires, for example, in educational and teaching terms.

Herron (1992) argues that the lack of a scales set that have been validated for the construction of entrepreneurial characteristics measuring makes particularly difficult the researches in this area. Authors such as Gartner et al. (1994) agree with Herron (1992) with the understanding that one of the main difficulties encountered by researchers which seek to understand the entrepreneur's role in the performance of a new venture is the reliable way absence to measure differences in corporate behavior. In their classic article, Carland and Carland (1996) believe that there is a clear and urgent need to establish a valid measure of entrepreneurship. The lack of such measure, according to these authors, has made the results of investigations so far confused.

Santos (2004) warns that there are many instruments developed and tested around the world to try to assess the entrepreneurial profile. However, these instruments, when compared, do not present the same results, and often the tests that seek to correlate them fail. On the other hand, Oliveira et al. (2006) suggest that the lack of congruence in the results must not be configured as a hindrance to continue the search for ways to identify personality traits in entrepreneurs and to use the knowledge they already have for identifying entrepreneurial potential.

Authors such as Veit and Gonçalves Filho (2007), Nascimento Júnior et al. (2007), Kristiansen and Indarti (2004), among others, complement this discussion noting that despite of these efforts and the growing interest on the subject, there is a gap with regard to the existence of valid instruments, able to measure quantitatively this profile in its various dimensions. The authors suggest that many studies are conducted in order to identify aspects related to the results and the performance of enterprises in managerial context, but few or almost none are structured into bases that match the potential of entrepreneurial profile with business performance, seeking to explain how this integration impacts on the success and business results, and that these searches do not occur with empirical evidence that relate these characteristics to successful or failed entrepreneurs, in Brazil specifically.

With the goal of guiding training policies and the future entrepreneurs' development, results of many studies show that the intentions differ in degree when various cultures or countries or even different environments within the same region context are compared. This is the case of comparisons between Indonesian and Norwegian students (KRISTIANSEN; INDARTI, 2004), and German and Austrian academics with Americans (FRANKE; LÜTHJE, 2004). It is added and suggested that different lessons can be obtained from studies conducted in rural environments, for example, when compared to typical urban realities.

Considering this renewed interest by identifying characteristics or personality traits, associated with potential entrepreneur, already widely validated instruments are used or developed. In the Brazilian context, in particular, the Serviço de Apoio às Micro e Pequenas Empresas (SEBRAE), as well as researchers, make use of standard questionnaire Auto-Avaliação das Características de Comportamento Empreendedor, developed by the Management Systems International (MSI), along with the McBeer &

Company (AYRES, 2003; PINTER; SANTOS, 2001/2002; VIDAL; SANTOS FILHO, 2003). One can cite other instruments, translated and used by Brazilian academics such as Carland Entrepreneurship Index (CEI), the Team Factors Inventory (TFI) (GIMENEZ; INÁCIO JÚNIOR., 2006) and the Cuestionario Grande Esteban (SANTOS; DANTAS; MILITO, 2003).

However, Santos (2008) mentions that, despite the existence of those instruments, it can be noted the lack of one locally developed, identifying the potential to undertake, and which had been built using psychometrics criteria and that is easily applicable. The author points out that a scale that meets the ease of application conditions, and which is validated and do not suffer restrictions on their free use was not found yet in the Brazilian productions. In this sense, a scale with this profile, considering the national context, can make possible the identification of potential entrepreneur in students, entrepreneurs in training, or candidates for the entrance in business incubators. Santos (2008) trumpets that a scale with these characteristics can be developed in Brazil and, therefore, can be appropriate to the Brazilian reality, unlike other existing and arising from translations or adaptations of foreign scales to identify personality traits. Finally, and with this in mind, one can reference the method developed by Valandro Soares (2011) and used in this work, which proved to be valid as to its ability to establish relationships between entrepreneurial characteristics of milk rural properties managers inserted in the context of a determined production chain and the performance of these rural properties.

3 Methodological Procedures

The data collection for this work explored primary and secondary nature sources. In the secondary nature sources, it was sought to explore bibliographies relating to the thematic linked to this article, more specifically about entrepreneurship. Other explored secondary sources were the cooperative documents, whose producers searched are linked (COACAL), especially statistics of milk deliveries by producers associated with this cooperative.

To identify the entrepreneurial profile of the surveyed, it was applied the scale developed and validated by Valandro Soares (2011) to a rural producers set of a production chain from Southeast of Goiás (COACAL), between February and September 2011. The gathering took place in the COACAL installations on the milk payment days, and in producers' properties, it means, in the countryside. Figure 1 shows the scale developed by Valandro Soares (2011), which was designed considering a Likert scale of 5 points, as the McClelland seminal proposal, being 1 strongly disagree and 5 totally agree.

With the purpose to characterize the sampling performed, first, it is important to report the way such sampling was structured and effective. In this perspective, a variable used as a decisive criterion in the process was the "volume of milk delivered by each producer to COACAL". To this end, using documents of this organization, it was obtained data from monthly deliveries of milk from farmers. The criterion was deliberately chosen because it is a variable that is meant to be an indicator of property performance, especially when evaluated in a longitudinal perspective, as it illustrates the performance of property, in terms of the developments in revenue gained from the activity.

ATTRIBUTES

1. I create and implement new ideas, changing the way to "play the deal", with the aim of improving the performance of my business.
2. I establish goals for my business future.
3. My personal goals revolve around this business, being one of the most important things in my life.
4. I prefer to be the owner of the business than be an employed in a company/organization.
5. I see the failure as a learning source for I not to commit the same mistake again.
6. I feel I am able to identify business opportunities and to profit with this.
7. I act (I anticipate) before being pressed by new requirements and new situations.

8. I create and implement new ideas, changing the way to "play the deal", with the aim of improving the performance of my business.
9. I establish goals for my business future.
10. My personal goals revolve around this business, being one of the most important things in my life.
11. I prefer to be the owner of the business than be an employed in a company/organization.
12. I see the failure as a learning source for I not to commit the same mistake again.
13. I feel I am able to identify business opportunities and to profit with this.
14. I act (I anticipate) before being pressed by new requirements and new situations.
15. I keep myself informed about my business to assist me in making decisions.
16. I adopt procedures to ensure that my products meet the required quality standards.
17. I take risks to expand my business (to increase the production).
18. I calculate the risks before new investments.
19. I use personal contacts to achieve my goals.
20. I take the responsibility for the completion of the work within the deadlines established.
21. I consider myself the main responsible for the performance of my business.
22. I believe that commitment and hard work usually lead to success.

Figure 1: Scale development by Valandro Soares (2011).

In the searched documents, it was identified a historical series which starts in 1993 and extends to the date of this work with regard to the volume of milk delivered by producers cooperated partners to COACAL. In this sense, having the codes of the cooperative members, the permanence time and the annual production for each member, the average monthly volume of milk delivered was calculated, for each year, from 1993. Another considered aspect was the rotation of members, that is, it was noted that, since 1993, many producers have left this productive chain and many have joined it. Given this reality, it was opted to proceed with a snip in time in the context of historical series beginning in 1993. The cut took as initial reference the year 2009. From this, it was verified year to year (from 2009 to before), how many producers remained delivering milk to the COACAL, in other words, it was done a sort of regression in time, year after year. This option was stimulated by the supposed accessibility of the producers covered by temporal clipping, which was confirmed after. Thus, there was a population of 235 producers, of which 102 were interviewed, meaning a sampling error of 7.4%, as Barros (2002).

From this definition, it was determined, considering the period 2002-2009, the producer quartiles relating to the volumes of milk deliveries, i.e. 25% of producers with lower monthly averages delivery – quartile 1- q1, 25% of producers with monthly averages above 25% smallest and more below than the 50% with biggest monthly average delivery - quartile 2 -q2, 25% of producers with monthly averages above 50% with smallest averages and under 25% with largest averages of monthly delivery - quartile 3 - q3, and, finally, the producer with the largest 25% monthly average milk delivery - quartile 4- q4. Having these quartiles, and from them, it was chosen randomly producers to be interviewed. In other words, considering the producers in each quartile, random samples of producers to be interviewed were extracted. That said, examining the report and the assumptions of the research, as well as the established literary references, one can characterize this sampling as relative "stratified random".

Considering the proposal of this work of correlating behavioral and attitudinal variables of farmers to their properties performance, it was adopted as the dependent variables to be explained the following performance indicators: average volume of milk production in the period 2002-2009, the growth in milk production in each property (%) considering clipping 2002-2009, the growth in milk production (%) from 2002 until the peak of production, considering the limit of 2009, milk production growth of property (%), since the producer's entrance in the searched chain until the peak of production, considering the limit of 2009. With regard to the adoption of the variables related to the production growth, the idea was to explain the property evolution regarding the ability to increment (increase) in terms of revenue and income aggregate, that is, how much the deal actually grew under the management of the producer.

Relating to the independent variables (explanatory) used at this work, it is import to mention the fifteen behavioural/attitudinal attributes pertaining to entrepreneurial profile producers searched, obtained from the survey instrument developed in the search.

In the case of the searched producer sample, for the purpose of this correlating process in analysis, it was decided to separate the quartiles into two groups with relative homogeneity of behavior already identified earlier, namely, the quartile 4 and the remaining quartiles. Given these considerations, it should be noted that it was sought, by the multiple regression analysis, to build models that explain the dependent variables already cited (performance), from the independent variables also already mentioned. In this sense, one of the discussed parameters concerns the explanatory power of the proposed regression models, in this case, the index R^2. Another analysis that was done in this regression process context refers to the level of significance of the found model (p-value < 0.05) and its explanatory variables.

4 Results and Discussion

As prescribed in the methodological procedures, it was sought to investigate the relationship between the entrepreneur profile of respondents and their properties performance, considering the segmentation between the fourth quartile and the other quartiles. Given that, to achieve this purpose, linear regression analyses were used. The analyses logic is depicted in Table 1.

Table 1 - Logical analysis of correlations entrepreneur profile x performance

Correlation	Quartile 4		Other quartiles	
	Explanatory power of the model (%)	Attributes with significance	Explanatory power of the model (%)	Attributes with significance
A - Entrepreneurial characteristics x monthly average volume of milk production in the period 2002-2009	60,3	3, 13 e 14	20,9	11, 6
B - Entrepreneurial characteristics x monthly milk production growth in the period 2002-2009	60,1	3, 13, 9 e 5	20,8	11, 3
C - Entrepreneurial characteristics x monthly milk production growth, considering the beginning in 2002 until it reaches the maximum value of production (peak)	63,8	3, 7 e 9	-	-
D - Entrepreneurial characteristics x monthly milk production growth, since the producer's entrance year until it reaches the maximum value of production (peak)	45,8	8, 14 e 2	18,0	15

For the correlations presented above, the coefficients were calculated referring to each of the attributes and quartiles, and which are demonstrated in Table 2. Some of them have not achieved statistical significance in terms of correlation with the attribute, and, because of this, they are not presented in the table. It is the case of the correlation C and the quartiles 1, 2 and 3, for which there is no one with statistical significance. In addition, the coefficients with acceptable statistical significances, it means, lower than 0,05, were provision indicated in the hatched cells.

Table 2 - Correlations coefficients A, B, C and D, referring to the quartile 4 (q4) and to the other quartiles (q1 q2 q3).

Correlation, quartiles	**Attributes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
A, q4	,131	-	**-,567**	-,088	-	**,257**	-,314	,296	-,119	-,093	-	-	**-,421**	*,437*	-,377
A, q1 q2 q3	-	-	-	-	-,204	**-,252**	-	-	-,131	-	**,460**	-	-,126	-,123	-
B, q4	-,322	-	**,566**	,262	**-,719**	,282	,287	-,208	**,532**	-	-	-	**,368**	-	-
B, q1 q2 q3	-	-	**-,259**	-	-	-,220	-,178	-	-,173	-,218	**,353**	-	-	-,077	
C, q4	-,336	-,106	**,498**	,297	-,486	-,165	**,533**	-,421	**,822**	-	,112	-,260	,373	-,094	,081
D, q4	-	**-,568**	,133	-	-	,331	-	**,462**	-	-,187	-,235	-	-	**,580**	-,475
D, q1 q2 q3,	-,153	-	-,136	-,170	-	-,106	-	-	-	,170	-	-	-	-	**,276**

Primary, concerning to the correlation A – quartile 4, although the negative correlation between the average volume of milk production and the attributes 3 and 13 in the period 2002-2009 might seem paradoxical, this phenomenon may be linked to the fact that, exactly the producers with smallest production scales of this quartile, when compared to the larger ones, submit more themselves to the property operational activities than the others, since these attributes have this connotation. On the other hand, positive association of this performance parameter with the attribute 14 shows that those producers who believe that the effective responsibility for the enterprise success should be starring by themselves, in spite of other external factors, experienced the largest average volumes of milk production in the period 2002-2009.

In the case of quartiles 1, 2 and 3, correlation A, the explanatory power of the model obtained with statistical significance is 20.9% of the performance variable behavior under discussion, what is below to the quartile 4 case. In this case, just one attribute was positively identified with acceptable statistical significance. This is item "11 - I calculate the risks before new investments". In other words, for this group of producers, it was realized a positive association in terms of a more restrained and careful stance on investments in the property and the largest average volumes of milk production in e period 2002-2009.

The item related to the ability to identify new business (6- I feel I am able to identify business opportunities and to profit with this), with acceptable statistical significance and correlated negatively with the performance in vogue, shows the intangible perceived for the producer about himself. It seems that the producers with smaller production scales reveal a self perception more effective when asked about this aspect, which refers to the fact that the producers of the largest scales of the group are more restrained in its self-evaluation.

Regarding quartile 4, in the context of correlation B, the statistically significant obtained model explains 60.1% of the variable performance behavior – milk production growth in the period 2002-2009. That said, the attributes with acceptable statistical significance and positively correlated to the dependent variable in analysis are the "3- My personal goals revolve around this business, being one of the most important things in my life", "13- I take the responsibility for the completion of the work within the deadlines established" and "9- I adopt procedures to ensure that my products meet the required quality standards".

The attributes 3 and 13 have been identified as correlated to the average monthly production volume of milk during the period 2002-2009, but negatively, unlike this situation which deals with the performance relative to the growth. Here, therefore, the producer's abnegation to the property operational activities is positively correlated to the property growth in terms of revenue and income aggregate. Similarly, it was aggregated to these attributes an attitudinal nature element, which is relative to the search for quality in the productive processes.

On the other hand, the variable "5- I see the failure as a learning source for I not to commit the same mistake again", with acceptable statistical significance, was negatively correlated to the performance assessed in this topic, which seems paradoxical in relation to entrepreneurship theories, specifically the construct "need to achieve", of McClelland (1961). In other words, the fact that the producer search and analyze the whys of their mistakes impacted negatively in the performance in discussion. That is, the producer's relationship with mistakes in terms of performance, according to this finding, point in the

direction that the producer should not hold much in his failure, he should forget it and ignore it, so look for another alternative. This attitude was perceived as more fruitful if compared to the previous one.

Examining the explanatory power of the model obtained with statistical significance in the case of the quartiles 1, 2 and 3, correlation B, it is encountered a value of 20.8% relative to the variable performance behavior in discussion, a value smaller than the one found in the quartile 4. One of the attributes was identified with acceptable statistical significance and it was positively correlated to the performance variable, "11- I calculate the risks before new investments". Thus, it was realized that this is the same attribute when it was assessed, for this group of producers, the correlation between behavioral and attitudinal characteristics of entrepreneurs and the average volume of milk production in the period 2002-2009, corroborating the importance of a meticulous and cautious attitude to investment in the property.

Repeating the already established negative correlation between the attribute 3 and the average volume of milk production in the period 2002-2009, to the fourth quartile producers, in the quartiles 1, 2 and 3, it can be perceived the same phenomenon, i.e. a negative association between the abnegation of the producer to the property operational activities and the monthly milk production growth in the period 2002-2009. From this perspective, it seems to fit to the same justification cited earlier.

In terms of the correlation and quartile 4, it was identified a statistically significant model which explains 63.8% of milk production growth behavior variability in the period since 2002 until it reaches the peak of production. The attributes positively correlated and statistically significant found are the "3- My personal goals revolve around this business, being one of the most important things in my life", the "7- I act (I anticipate) before being pressed by new requirements and new situations", and the "9- I adopt procedures to ensure that my products meet the required quality standards".

Forward to this finding, and considering the analysis period and the interviewed producers group, it is possible to realize that the importance of the producer's abnegation on operational activities (need for achievement) repeats as a behavioral element that impacts positively on the revenue and income aggregation growth in the property. It is allied to this attribute an element linked to the construct "planning", i.e. to anticipate to new situations and contingencies and, another element, coupled to the "need for achievement", specifically with the search for quality, repeating, therefore, the construct of the attribute 3, already commented above.

Referencing the quartiles 1, 2 and 3, the explanatory power of the model obtained with statistical significance has revealed to be much lower if compared to the fourth quartile, whose value has performed very little expressive, beyond that the statistical significance does not be properly. These checks revealed the non-existence of correlations between these variables. Most likely this inference appeared in the role of the behavior heterogeneity of the searched group, what reflected quantitatively in the values calculated in terms of variability, which inhibited any possibility of correlation.

Regarding the fourth quartile, correlation D, the explanatory power model obtained with statistical significance is 45.8%. The attributes identified with statistical significance and positively correlated with the dependent variable are "8- I keep myself informed about my business to assist me in making decisions" and "14- I consider myself the main responsible for the performance of my business". Therefore, in this case, in which it was assessed the production growth in the temporal clipping already cited, to the quartile 4 group of producers, the deliberate demand for information, and the subjective affirmation and conviction in terms of the responsibility for the business performance are attitudes that, to this group, showed positive effects in terms of performance of rural properties

On the other hand, the variable "2- I establish goals for my business future" is showed negatively correlated to the variable performance. Such revelation balances the logic of approaches about entrepreneurship. However, looking at the average and variability of this attribute, it can be perceived, respectively, relatively low and high values, which point out that, in the sample group searched, such characteristic is infrequent, in terms of exerting little influence on the variable performance under study. A more meticulous analysis in data generated reveals that other characteristics, whose behaviors resemble this item 2, in terms of average and variability, were summarily deleted of the model or they were not

shown statistically significant, corroborating the low statistical significance of the variable, what refutes the negative correlation referenced.

In the case of quartiles 1, 2 and 3, correlation D, the explanatory power model obtained with statistical significance is 18.0% of the performance variable behavior under discussion. This value is substantively lower than the one of quartile 4. That said, just one attribute was positively identified with acceptable statistical significance. This is the item "15- I believe that commitment and hard work usually lead to success" In other words, for this producers group, it was realized a positive association between the variable performance and an element linked to internal locus of control, more specifically, to a typical positive and motivational belief tied to the fact that the abnegation and the dedication to business (work) will lead the subject to success fatally.

5 Conclusions

In the perspective to identify possible correlations between the entrepreneurial profile of respondents and their properties performance, multiple linear regression was used, considering the segmentation between the fourth quartile and the other quartiles.

The multiple regression analyses cited above indicate statistically significant correlations between attributes inherent to entrepreneurial profiles and performance, with the greater explanatory powers of the models were obtained in the fourth quartile analysis, whose R^2 values reach 60%. In the other group of quartiles 1, 2 and 3, the values were around 20%.

In the context of these models, the largest relative sums refer to the attributes that are bound to the theoretical construct “need for achievement” ("3- My personal goals revolve around this business, being one of the most important things in my life", "5- I see the failure as a learning source for I not to commit the same mistake again " and "9- I adopt procedures to ensure that my products meet the required quality standards").

Finally, it was possible to realize that, precisely, from the 15 attributes that make up the survey instrument (scale) used in this work, eight are correlated, positively or negatively, with performance indicators for milk productions of the researched properties, being predominantly positive.

It is important to draw attention that this paper is limited to the context of a cooperative from the south-east of Goiás-Brasil (COACAL). In addition, it is suggested that others dairy chains are analyzed, in another regions and contexts, verifying the correlations of their performance properties with the entrepreneur behavior attributes of the instrument presented.

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