

Cultural aspects that influence the associative work of agricultural production chains in the Mantaro Valley of Peru

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ABSTRACT

The purpose of this research was to determine how cultural aspects or beliefs of agricultural producers such as collectivism, trust, formality in land titling and productive planning influence the associative work of agricultural productive chains. Considering that for many years productive chains have been promoted as a development alternative for small agricultural producers in the Mantaro Valley, they have received training services, technical assistance, market articulation, etc., but very few remain today. The applied and descriptive research was carried out from July 2016 to May 2017 with the participation of 383 agricultural producers from four provinces of the Mantaro Valley, Junín, Peru. The results obtained show that the factors of trust and productive planning directly influence the associative work, while the aspects of collectivism and formality do not influence.

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1. Introduction

Given the increasing boom of institutionalist views of local and regional development (Rodríguez-Pose, 2013; Pike, Rodríguez-Pose & Tomaney, 2016), local and regional development policies in Latin America have increasingly placed emphasis on variables such as governance and the construction of public-private collaboration networks, as key factors to explain why some regions have better economic performance than others do (Montero & Chapple, 2018). According to Fabián (2013, p. 21) “Associativity is a collective action through which commitments, relationships of trust, the development of permanent communication and the sharing of risks are acquired, using the stock market premise of greater risk, greater profitability. The association is aimed at increasing capital, complementing capabilities and combining experience, both competitive and technical”. Peruvian micro and small companies have little access to information, reduced capacities in business management, underdeveloped human capital, emerging technological development and limited access to financing sources. That is, in the vast majority of cases they do not have the necessary capabilities to face the challenge of growing individually in the domestic market. Much less, they are able to export competitively. In this context, different forms of associativity have emerged as an alternative to alleviate this situation. The aforementioned situation originates from the lack of use of associative mechanisms that may be available to overcome technological limitations, management, access to markets, among others (Villarán, 1998; Chacaltana, et al, 2001). The Junín Region is located in the central zone of the Peruvian Andes, with a total area of 44197 km², which represents 3.4% of the national territory. It covers two natural regions, the sierra, with 20821 km², where the Mantaro Valley, Bombón Plateau and Junín Lake (or Chinchaycocha) are located; and the eyebrow area of jungle and jungle, with 23376 km², where the valleys of Chanchamayo, Ene, Perené and Tambo are located.

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In the Junín Region, the main economic activity of its population is still agriculture with a participation of almost 20% of GDP, generating a PEA of 33% of the total. Its population is around 1 million 350 thousand inhabitants, of which 35% is settled in rural areas. Agriculture is developed in small family production units, dispersed and with an atomization of the land, with weak levels of organization and associativity, which represent approximately 97% of the total productive units in the region. The agricultural area is estimated at 390000 hectares (9% of the available land in the region) and almost 95% of the agricultural land in operation, are less than 5 hectares (MINAG, 2008). The Junín Region has 425 peasant communities, with a management of 803485.91 hectares (33.89% of the region's territory), responsible for the management and use of main natural resources: soil, water and natural pastures. The communities are important suppliers of food for the domestic market, and their participation in the regional agricultural supply ranges between 30 and 40% of the gross value of Junin's agricultural production. Within the communities, a non-legalized "land market" has been developed, allowing and legitimizing the property from inheritances, sales and leases, allowing an irreversible process of atomization, which leads to a decrease in the productivity of the land and migration of young people to the cities (MINAG, 2008). It is estimated that 50351 individual producers manage around 36241 properties, more than a dozen communal companies and two associative companies (SAIS), which are mainly engaged in agricultural, forestry and fish farming, whose production is largely destined for self-consumption, the regional market and Lima, with a small production destined for export (coffee, mango, artichoke and trout). In recent years, producer organizations have been established by product line, promoted by public institutions and development institutions, around "productive chains" with the purpose of improving the articulation between production and the market. The vast majority of these no longer work (MINAG, 2008). The small number of productive chains that remain operational after their auspicious creation, in the Mantaro Valley and the highlands of Peru, is the consequence of the difficulty that the various producer organizations have to undertake business in an associated and integrated manner; "The issue of disintegration is always latent and these associations are still weak institutionally" (PROMPYME, 2003). Small agricultural producers have poor business vision, poor access to training and technical assistance services, and organizational weakness in productive chains and associations; There is also distrust of some producers in the associations, so they show an individualistic behavior.

The purpose of the research work was to determine the cultural factors that influence the associative work of the agro-export chains in the Mantaro Valley, Junín, Peru. The results of the research will serve as base information to form new productive chains, achieve the permanence of the productive chains in the market and be sustainable over time.

2. Literary review

2.1 Organizational culture

Organizational culture represents a pattern of exchange of beliefs and values that guide firm behavior (Cadden, Marshall & Cao, 2013), between the group that learned and used it to solve their problems due to internal integration and external adaptation, which has been designed and worked competently to be considered valid and, therefore, to be taught to new members in the correct way that they can perceive, think and feel about these problems. Organizational culture has a significant impact on determining organizational success and the tendency to innovate (Schein & Schein, 2016). Van Muijen et al. (1992) consider organizational culture as the "core values, rules of conduct, artifacts, and patterns of activity that govern the way in which people in an organization interact with others and invest energy in their work and in the organization in general". According to Alonso (1999), cultural elements are categorized by culture researchers into two groups: a) the nucleus of culture, which corresponds to what the authors call values, beliefs, common understandings, presuppositions, ideologies, philosophies and b) Cultural forms, which are the expressive aspect of human actions and would correspond to what most authors call rites, rituals, stories, legends, specialized language, behavior patterns and, in general, can be applied to all expressions of human action. The difference between cultural forms and the nucleus of culture lies, according to Alonso (1999), in the nature of the elements. The core elements are shared belief systems, while cultural forms are the result of human actions that, in addition to fulfilling certain technical and practical purposes, express a set of cultural meanings.

2.2 Associativity

The associativity is a strategy aimed at promoting the achievement of a competitive advantage by a company through cooperation or the establishment of agreements with other companies, to carry out a series of activities within the chain of value of the product or service, leading to a greater presence of the company in one or more markets. Associations are important spaces that can foster the development and competitiveness of local companies in a territory thanks to collaborative processes, cost savings and knowledge transfer. However, not just any association automatically translates into a generator of development or benefits for the majority of the inhabitants of a territory (Montero-Muñoz & Calderón-Gómez, 2019). Productive alliances involve different actors in production processes. These actors voluntarily join forces to exchange resources, generating commitments to achieve a common objective, the main virtue of which is to add value. Productive alliances are defined as: "agreements or links – formal or informal – of cooperation between two or more productive agents to coordinate resources, efforts and skills that have a common strategic objective for mutual benefit". These links allow to share visions, capacities and abilities, so that the synergies of the interaction and complementarity of the strengths and weaknesses of the productive agents and of diverse sectors are exploited (Piñones, Acosta & Tartanac, 2006). Associativity not only benefits small and medium-sized companies, but also an entire country. This is because by associating different companies to face the market and meet their common objectives, they also end up benefiting the region where they are located, which creates sustainable development. Another of the great benefits that associativity brings is that, as companies grow thanks to this, new jobs will be generated that will give people a higher quality of life, through training, access to health, public services and, in general, a decent life. In addition to this, the State offers help and many benefits to associations. These benefits can range from training

to financial aid (Santa, Hernández & Pabón, 2019)

2.3 Cultural factors of the Association

According to Guerra (2016), cultural management seeks to enable access and enjoyment of culture, through the development of actions and processes that make this purpose possible, as well as the efficient administration of cultural goods and services; On the other hand, as a sector, it includes various actors and institutions from the public and private spheres and civil society, this diversity and its thematic universe being one of its distinctive features. Culture is recognized in human relationships and the continuous movement of people, their environment and their works, which make each of their lives a story, part of a culture. This is then written with the existence of individuals and social groups; it is in society that distinctive aspects, symbols, values, traditions and cultural manifestations are recognized. Based on studies carried out, cultural factors such as collectivism, trust, formality in land titling and commitments, productive planning of agricultural producers were identified and synthesized (Scott, 2011; La Serna, 2010; Scott & Zelada, 2011; De Althaus, 2007; Piñones, Acosta, et al, 2006; López & Calderón, 2005).

2.4 Agricultural production chains in Peru

The production chain is a system made up of interrelated actors and a succession of production, transformation and marketing operations for a product or group of products in a given environment. The production chain is defined as the set of agents and economic activities that intervene in a production process from the supply of inputs and raw materials, its transformation and production of intermediate and final goods, to commercialization in internal and external markets, including suppliers of services, public sector, technical assistance institutions and financing agencies (Altamirano, Zepeda & Ceja, 2016). In Latin American countries the focus of production chains is relatively new, and since 2000 studies of production chains have been carried out in countries such as Colombia, Peru, Bolivia, Costa Rica, Brazil, Argentina, Venezuela and Mexico, where through their Government and educational postgraduate and research institutions have shown that the production chain approach is relevant in the current context of the evolution of the world economy, competitiveness, productivity, globalization, technological innovation and complex agri-food systems, which is why the approach allows for a systematic look at productive activities (Carbajal, Tovar & Zimmerman, 2017). According to Yapias (2016), the promotion of the productive chain in Peru is established within the framework of the agricultural policy of the Andean countries; In this way, integrated groups of agricultural producers, agribusiness and the government of each of the member countries were formed for the development of the following chains: rice, sugar, fodder cereals, balanced foods, poultry, cereals, coffee, artichoke, dairy, potato, among others.

The concept of productive alliances corresponds to the capacity of the different actors in the chain to coordinate efforts, resources and skills, to jointly solve problems and take advantage of opportunities. Productive alliances are defined as the agreements or links between two or more actors, which come together to achieve common objectives in an efficient way. This type of cooperation may involve exchange of knowledge, technology, trust, capabilities; share risks and benefits (Piñones, Vázquez, et al, 2006).

3. Research Model and Hypotheses

The following cultural factors are considered as the independent variables:

Collectivism considered the following indicators: attitude towards productive chains (pgta_01), participation in chain meetings (pgta_02), importance of training in associativity, and joint work or joint action with neighbors (pgta_03).

Confidence considered the following indicators: communication, how much he contributed in a production chain, how much he would be willing to contribute in a new production chain (pgta_04), degree of trust in the articulating company (pgta_05), and trust in fellow producers (pgta_06).

Formality in land titling considered: property title (pgta_07), benefits of having property title, land ownership for the agro-export chain (pgta_08).

Productive planning, considered the following indicators: decision to sow (pgta_09), results of productive planning (pgta_10), improvement of productivity (pgta_11)

The associative work of the agro-export chains was considered as a dependent variable, with the indicators: achievement of goals (Satisf), participation in productive planning (Participate).

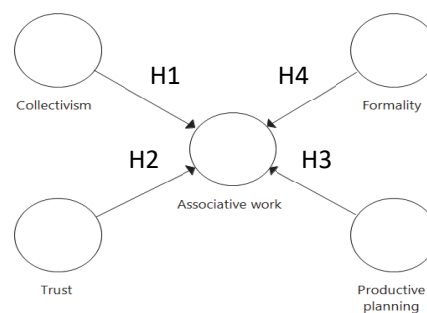


Fig. 1. Conceptual model and hypotheses

- H1: Collectivism as a cultural factor of associativity, has a positive impact on associative work.
- H2: Trust as a cultural factor of associativity has a positive impact on associative work.
- H3: Productive planning as a cultural factor of associativity, has a positive impact on associative work.
- H4: Formality in land titling as a cultural factor of associativity has a positive impact on associative work.

4. Method

A correlational cross-sectional deductive study was conducted between July 2016 and May 2017.

4.1 Population and sample

The study population was made up of the group of agricultural producers, men and women within the range of 18 to 65 years of age, who are the subject of study and who are found in the rural population of the Mantaro Valley of 91078 inhabitants (National Institute of Statistics and Informatics [INEI], 2007 National Censuses; XI Population and Housing); distributed in the four provinces that make up the Mantaro Valley: Huancayo, Concepción, Jauja and Chupaca. The sample size was obtained (383 agricultural producers in the Mantaro Valley) with a permitted margin of error of 5%, a factor "p" of 0.5 and "q" of 0.5, confidence level of 95%.

4.2 Data collection instrument

A directed questionnaire was developed based on, 11 questions for the cultural factors of associativity variable (3 for collectivism, 3 for trust, 2 for formality and 3 for productive planning) and 2 questions for the variable associative work. The Delphi methodology was followed for the validation of the instrument, through the in-depth validation by 3 experts in Administration and Agribusiness, as well as the validation of the form was carried out by applying the survey to 50 agricultural producers, who participated simultaneously in carrying out the pilot . For the background and form validation, the verification of the questions was considered on a five-point scale (1 was deficient and 5 was very good), then the comprehension of the questions was verified, gaps were identified in the items and they were eliminated poor questions.

5. Results

5.1 Assessment of the Measurement Model

The reliability and validity of the measurement scales are shown in Table 1. The internal consistency of reliability was performed using the Cronbach Alpha (0.720 to 0.861) and the composite reliability (0.797 to 0.915). Regarding convergent validity, it was measured using factorial loads (greater than 0.700). Likewise, percentages of average variance extracted (AVE) greater than 50% are obtained for all scales (Vicente-Ramos et al., 2020).

Table 1
Results of the model measurement analysis

Variables	Cronbach alpha	Composite reliability	Factor loads (range)	Average variance extracted (AVE)	Discriminant Validity
Collectivism	0.720	0.811	0.629 – 0.819	0.604	0.777
Formality	0.928	0.960	0.829 – 0.998	0.841	0.917
Productive planning	0.848	0.849	0.859 – 0.897	0.767	0.876
Trust	0.796	0.978	0.605 – 0.926	0.690	0.830
Associative Work	0.897	0.904	0.947 – 0.957	0.907	0.952

As shown in Fig. 2, an R2 of 0.866 was obtained, which determines a value greater than 0.100, which is very significant, showing that the model explains 86.6% of the variance of the Associative work variable.

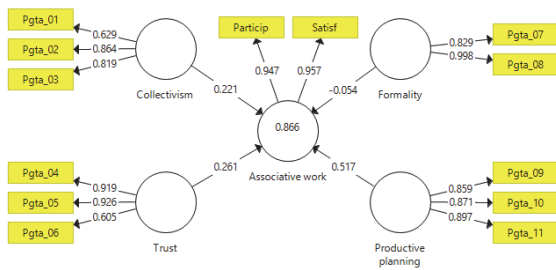


Fig. 2. Results for the hypothesized model with structural equations

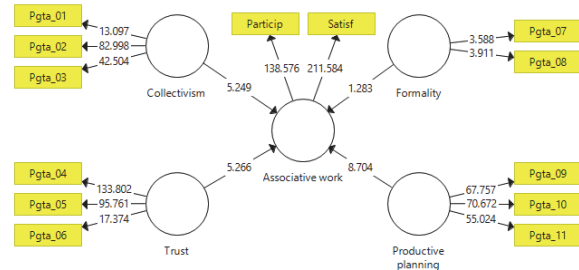


Fig. 3. Modeling of cultural aspects that influence the associative work

5.2 Assessment of the Structural Model

The hypotheses were tested by examining the correlation coefficients and their significance levels, for which a bootstrapping with 5000 subsamples was performed. Fig. 3 shows the estimated trajectory of the PLS analysis. Considering that 3 specific relationships have $p < 0.05$, the hypotheses proposed H1, H2, H3 are accepted as shown in Table 2.

Table 2
Results of the model structure analysis

Hypotheses	Mean sample	Standard deviation	Beta	p value	Decision
Collectivism → Associative work	0.215	0.042	5.249	0.000	Accept H1
Trust → Associative work	0.262	0.050	5.266	0.000	Accept H2
Productive planning → Associative work	0.522	0.059	8.704	0.000	Accept H3
Formality → Associative work	-0.043	0.042	1.283	0.200	Denies H4

5. Discussion and conclusions

Regarding the impact of collectivism as a cultural factor of associativity, in associative work

The collectivism of agricultural producers in the Mantaro Valley is significantly related to the associative work of agricultural production chains, 75% of agricultural producers have a positive attitude towards production chains, 90% are willing to participate in work meetings, 93% consider teamwork training important and 90% consider that it is good to work together with their neighbors. It is deduced that 84% of agricultural producers have the trait of collectivism, similar to what Robbins and Judge (2013) states in the cultural values by Hofstede nation, ranks Peru with an individuality index of 16 out of 100 and rating 45, indicating the national cultural trend towards collectivism.

However, there are factors that limit the celebration of alliances through productive chains such as organizational schemes imposed from outside, without considering the peasant logic linked to cultures and traditions (Scott, 2011, p.46) social, cultural and ethnic particularities of small producers, especially their economic logics based on traditions and customs, which do not always coincide with the logics of the organizations or institutions with which they interact and the attitude of the economic agents; not only the individualism of the producers, packers, or agricultural industrialists, but the distrust and lack of a spirit of coordination among the agents (Piñones, Acosta & Tartanac, 2006).

Regarding the impact of trust as a cultural factor of associativity, in associative work

The confidence of agricultural producers in the Mantaro Valley is significantly related to the associative work of agricultural production chains. 61% of producers if they trust their producer colleagues and the like in an agro-export company as long as it offers guarantee, responsibility, a safe market and clear proposals, 53% indicate that, if there is good communication, they would be willing to contribute between 50% to 100% of production costs, confirming that trust is a fundamental element in the success of production chains (Antezana et al., 2008).

Regarding the impact of productive planning as a cultural factor of associativity, in associative work

The productive planning of the agricultural producers of the Mantaro Valley is significantly related to the associative work of the agricultural production chains, based on the achievement of goals and better productivity results. Producers make their decisions about which crop to plant according to the best market price and knowledge of the crop; Furthermore, production planning must be done between the producers and the articulating company in order to have clear technical, economic, and market aspects and the levels of risks that will be taken.

Much of the decision about which value chains to focus on has to do with who is the promoter of these initiatives, a company, an NGO or a research center and typically the promoters decide the products and places where they will work and establish the parameters of the interaction terms (Scott, 2011).

Regarding the impact of the formality of land titling as a cultural factor of associativity, in associative work

The formality in the land titling of agricultural producers in the Mantaro Valley is not significantly related to the associative work of agricultural production chains; evidencing that associative work in the production chain is only related to the knowledge of the benefits of having property title. This behavior is explained because in recent years the articulating companies of productive chains have been financing 100% of the production costs and no credits are required for the producers, despite the fact that this solution increases the level of risk for the company, and as a consequence they carry out more demanding production control systems that are not to the liking of the producers. Furthermore, the risks are increased by the weak participation and little involvement of producers.

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