



## THE MEDIATING EFFECT OF PERSONAL VALUES ON THE INFLUENCE OF HUMAN CAPITAL ON THE PRODUCTION OF ARTISANAL CHEESES

Received: 03/22/2021

Accepted: 02/6/2023

**Bruna Bresolin Roldan<sup>1</sup>**

**Mario Rosique Blasco<sup>2</sup>**

**Lucas Bonacina Roldan<sup>3</sup>**

**Jean Philippe Palma Revillion<sup>4</sup>**

**Domingo Garcia Perez de Lema<sup>5</sup>**

### Abstract

This study proposed the identification of personal values and their role as mediation between human capital and the expression of quality. The relationship between these factors in artisanal food production in small companies is still little explored, so this work has the objective of bringing advances in this theme. For the analysis of the results, a quantitative method was used, structural model equations, through the partial least squares regression method (PLS) and the questionnaires were applied to 171 artisanal cheese producers in the state of Rio Grande do Sul. The sample population considered was the number of families registered in the state Program of Family Agroindustry, which has a total of 429 registrations. For the collection of responses, an online questionnaire was used, which was sent through emails and WhatsApp. The results found were satisfactory, demonstrating that investments in human capital must be the object of public policies, as their influence overlaps the influence of the personal values of each entrepreneur for the expression of quality conventions. The assumptions about the effect of mediation of values in the relationship between human capital and quality worlds are positive and significant, demonstrating that the values had a complementary partial mediation effect between human capital and quality, but with less importance than the direct impact of human capital in quality. It was possible to verify the importance of personal experience,

---

1 PhD in Agribusiness (UFRGS). Secretary of Agriculture, Livestock and Irrigation/RS. Porto Alegre – RS, Brazil. E-mail: [brunabre@gmail.com](mailto:brunabre@gmail.com)

2 PhD in Education (UPCT). Polytechnic University of Cartagena. Cartagena, Spain. E-mail: [mario.rosique@upct.es](mailto:mario.rosique@upct.es)

3 PhD in Administration (PUCRS). Professor at the Pontifical Catholic University of Rio Grande do Sul. Porto Alegre – RS, Brazil. E-mail: [lucas.roldan@pucrs.br](mailto:lucas.roldan@pucrs.br)

4 PhD in Agribusiness (UFRGS). Professor at the Federal University of Rio Grande do Sul. Porto Alegre – RS, Brazil. E-mail: [jeanppr@gmail.com](mailto:jeanppr@gmail.com)

5 PhD in Economic and Business Sciences (UM). Professor at the Polytechnic University of Cartagena. Cartagena, Spain. E-mail: [domingo.garcia@upct.es](mailto:domingo.garcia@upct.es)

combined with constant training for the development of human capital in the company. In small companies, as is the case with the production of artisanal Brazilian cheeses, in which production and handling are under the control of the family, the contribution of human capital to quality is even more evident. At the same time, personal values have a strong influence on small companies, where the characteristics, behavior, attitudes and beliefs of the entrepreneur are decisive for the results of the enterprise.

**Keywords:** Convention theory; Schwartz values, artisanal food, rural development

## Introduction

The number of consumers of food produced by alternative networks has been increasing over the years (FELDMANN; HAMM, 2015; GOODMAN, 2003). These foods recognized as artisanal or traditional are related to concepts of rooting and trust, where quality starts to evoke cultural elements, in addition to those already used (GOODMAN, 2003).

Among these foods are artisanal cheeses, most of which are manufactured on a small scale, with a predominance of manual labor, traditional recipes and without the use of industrialized additives. These foods are often considered environmentally friendly, fresher, safer, and healthier than industrialized ones (WANG; PHAM; DANG, 2020).

Artisanal cheeses are produced by small producers that process the feedstock obtained in their farms or bought from neighbors. Many governments are encouraging these small producers, through targeted public policies that promote the establishment of direct relationships between producers and consumers, increasing consumer awareness of their differentiated quality attributes (FELDMANN; HAMM, 2015).

The aim of this article is to evaluate the influence of human capital on quality conventions and the effect of mediation of personal values between human capital and quality conventions. In this research, the concept of human capital adopted involves understanding people's specific knowledge and skills (ERNST, 2011). The relationship between human capital and quality conventions is due to the fact that market relations involve social rules and regulations. Those relations are formed from characteristics of each agent involved, and for its part, the characteristics of each individual are formed by a series of factors, including, education, experience, skills, and social context (BIGGART; BEAMISH, 2003).

Personal values are guiding principles in people's lives, and therefore they will be mobilized

to mediate the relationship between human capital and quality conventions (SCHWARTZ, 1992). To assess this relationship, an empirical study was carried out based on 171 Brazilian artisanal cheese producers, who were asked about their personal values, quality practices and human capital. The Brazilian case is compelling because, due to the appreciation of artisanal production, many public policies are being developed with the aim of promoting this mode of production. This way of producing is essential for the maintenance of small rural properties and the permanence of people in the countryside. In addition, artisanal food production is a source of income for a significant number of families, which shows the social and economic importance of this type of production (Cezar et al., 2016).

This work contributes to the literature in the following aspects. Firstly, the results obtained can be useful in order to define a profile of producers favorable to the elaboration of artisanal cheeses, collaborating for the understanding of the sector, and later for the development of strategies and guidance of public policies. Secondly, this study provides empirical evidence on the relationship between human capital and the mediation of personal values - with the development of quality conventions mobilized for the production of artisanal cheeses, since the literature on this topic is scarce, as the study of mediation of values is more related to performance and profile of the manager and study of consumer behavior (SONODA et al., 2018) and few studies use quantitative methods together the use of Conventions Theory (CLIMENT-LOPEZ et al., 2014) (CLIMENT-LÓPEZ et al., 2014; SÁNCHEZ-HERNÁNDEZ et al., 2017). The use of quantitative methods allows advances in this area, where most studies that use the Conventions Theory (CT) are qualitative (FORSSELL, 2017). Thirdly, and from a methodological perspective, this work applies the concepts of CT together the modeling of structural equations, to demonstrate the confirmation of our hypotheses, configuring a robust approach to establish relationships as yet unprecedented between these factors.

The article consists of the following sections: hypotheses and model, where the relevant literature, the hypotheses, and the proposed model are presented. Subsequently, in the methodology section, the data collection model and questionnaire structure are presented, in the analysis method section the model used for the quantitative analysis of the data is presented, in

the following section the results are presented, and in the discussion and conclusion section, they are discussed with some insights and limitations.

## **Hypotheses and model**

### **Human capital and its relationship with the Conventions Theory**

Human capital involves understanding specific knowledge and skills that represent a success factor for organizational performance, such as the agents' flexibility, agility and innovation capacity (ERNST, 2011). This personal set of knowledge, experiences, and skills is a success factor for organizational performance, which requires flexibility, innovation, and speed (LUTHANS; LUTHANS; LUTHANS, 2004). Therefore, companies need to accumulate abundant human capital if they want to gather and store market intelligence and customer knowledge when developing new products, for example (CHEN; LIU; CHU, 2014).

In family businesses, as is the case with most artisanal cheese companies, there is often a joint effort to ensure that members have adequate competence to sustain the business and therefore are involved in more training than other organizations. These initiatives generally reflect the family's priorities in ensuring product quality and motivating employees to develop specific knowledge. Family members strive to provide quality offers and be transparent and receptive to their customers and suppliers while maintaining the business reputation. Thus, companies with greater human capital will produce goods with higher quality, since companies with superior human capital are better positioned to create resources and capabilities, presenting a superior performance and greater success (KHAN; QUADDUS, 2018).

In this study, quality is assessed according to the Conventions Theory (CT), which suggests that it should be done through social interaction, suggesting the existence of a direct link between understandings of quality and the social organization of production and exchange (PONTE, 2016).

One of the direct influences of CT on the agri-food literature has been the application of a framework of quality conventions to explain the dominance of certain forms of coordination or organization and specific dynamics of governance in value chains (PONTE, 2016). In the book that gives rise to the theory, the authors create six "worlds of legitimation", on which the principles of quality are based (BOLTANSKI; THÉVENOT, 2006).

In the Inspired World the product and the producer are qualified by criteria based on creativity. In food production, it makes sense to apply this category of the convention in specialized areas, such as gastronomy and gourmet products, which aim to surprise the consumer (CLIMENT-LÓPEZ et al., 2014). Companies use the concept of creativity and are based on loyalty, so companies that promote the creativity of their human capital and innovation are more likely to offer creative, differentiated products, which are a key driver for the success of the company (BOLTANSKI; THÉVENOT, 2006).

### **H1a: Human capital positively influences the Inspired World.**

The Domestic World is especially important for the production of local food. The quality of the product is assessed in terms of connection to a tradition and a specific location (CLIMENT-LÓPEZ et al., 2014). Domestic conventions help to resolve uncertainty about quality through trusts, such as long-term relationships between actors or the use of private brands that publicize the reputation for product quality.

The intimate connection between family members is especially adept at the accumulation of human capital, through transferring tacit knowledge, protecting and leveraging reputation and building strong relationships, promoting the expression of the quality conventions of the Domestic World (BRETON-MILLER, 2015).

### **H1b: Human capital positively influences the Domestic World.**

In the World of Fame, products are valued for their fame, so their brands, labels, logos are widely recognized and valued by consumers (CLIMENT-LÓPEZ et al., 2014). Besides the process of building a good reputation is closely related to the knowledge management of the intangible assets that make up its human capital, which arises from the daily management of human capital so that it can be transformed into a corporate reputation over the years. Therefore, in this study, it is believed that the greater the human capital of a company, the greater its reputation.

### **H1c: Human capital positively influences the World of Fame.**

In the Civic World category quality is assessed taking into account the social benefits products generate or what their contribution to the well-being of citizens is. Firstly, this term refers to health and food security issues and secondly, this category addresses ethical, social justice criteria, such

as the rejection of child labor and fair trade (CLIMENT-LÓPEZ et al., 2014).

The development of human capital shows a facilitating role in corporate social responsibility, sustainability and ethics in organizations, so it is believed that the greater the human capital, the greater the expression of the quality principles related to social and environmental responsibility (MUTTAKIN; KHAN; DESSALEGN, 2018).

### **H1d: Human capital positively influences the Civic World**

The Market World is also inherent to economic activity. The quality of the product will be evaluated in relation to its usefulness and price. Managers strive to improve the company's ability to provide quality products to its customers at a competitive price in the market and believe in performance and productivity management as two drivers that, if used properly, will increase the organizational capacity to be competitive in the market. However, performance and productivity management depends on human resources (SINGH; BURGESS; HEAP, 2016).

### **H1e: Human capital positively influences the Market World**

In the Industrial World the key criteria are productivity and efficiency. Industrial conventions are also used to verify that the production process is adequate, guaranteeing the properties of the food and maintaining the efficient process (BOLTANSKI; THÉVENOT, 2006; CLIMENT-LÓPEZ et al., 2014). In industrial conventions, uncertainties about the quality are resolved through the actions of an external party, which determines norms and standards - and imposes them through tests and certifications (PONTE; GIBBON, 2005).

The standardization of processes and routines enables the serial production of products, increasing productivity and consumer confidence and avoiding the occurrence of defects. In addition, it helps to minimize costs and maximize efficiency (WANG et al., 2010). Therefore, investment in human capital is critical for productivity and consequently positively influences quality conventions related to efficiency and productivity.

## **H1f: Human capital positively influences the Industrial World**

### **Personal values**

Values Theory defines values as guiding principles in people's lives. Ten motivationally distinct, broad, and basic values are defined, and they are derived from three universal requirements of the human condition: needs of individuals as biological organisms, requirements for coordinated social interaction, and needs for survival and well-being of groups. In addition, they intend to include all the fundamental values recognized in cultures around the world, allowing to treat people's value systems as coherent structures (SCHWARTZ; MELECH; LEHMANN, 2001; SCHWARTZ, 1992, 2006).

Each of the values is described according to its main motivational goal, however, people can differ substantially in the importance they attach to the values that make up the ten basic values: 1) Self-direction; 2. Stimulation; 3. Hedonism; 4. Achievement; 5. Power; 6. Security; 7. Conformity; 8. Tradition; 9. Benevolence; 10. Universalism (SCHWARTZ; MELECH; LEHMANN, 2001; SCHWARTZ, 2006).

In particular, values and motivations can show a role in explaining how entrepreneurial intentions are formed. Values play an important role even in more complex decisions where there is a need to develop careful plans. The higher the priority given to a value, the more likely people will form action plans that can lead to their expression in behavior. Thus, it has been suggested that different motivations can lead to varying levels of personal attitude, subjective norm, and perceived behavioral control and, through them, to different entrepreneurial intentions (SOLESVIK, 2013).

However, the relationship between personal values and the behavior of small business owners have been less researched. Although human values are not unique and direct determinants of behavior, understanding the relationship between these values and the expression of the quality principles predicted by the Conventions Theory helps to understand the mechanisms of intraorganizational coordination in the production of artisanal cheeses.

## **H2: Values positively influence the expression of quality conventions**

### **Mediation effects**

Based on the proposed theoretical framework, this study suggests different indirect effects are mediating these relationships. Many studies have demonstrated the mediating role caused by

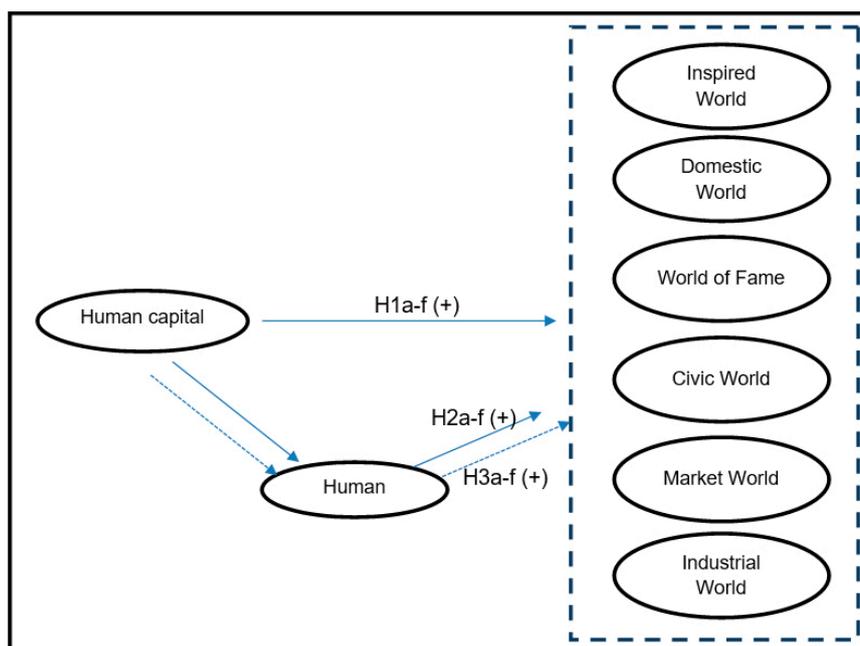
personal values on the performance of the enterprise, which most of the time is also related to the quality of the product offered, which is able to guarantee consumer loyalty, positive advertising and, consequently, the increase in sales (ASAH; FATOKI; RUNGANI, 2015).

Conventions that express themselves as habits, customs, routines and practices are models of behavior, often tacit, but also conscious, that organize and coordinate action in a predictable way. They are agreed upon, flexible, and are guides to economic interpretation and social interaction. Researchers have documented the importance of conventions in the composition and legitimacy of economic institutions, including the importance of family structure, culture, norms and professional organizations and the underlying arrangement of social groups in society (BIGGART; BEAMISH, 2003) and personal values play a role important in this context. In companies operated by owners, it seems logical to assume that the beliefs, attitudes and responses of entrepreneurs to issues such as management and work organization and, therefore, issues such as introducing changes would be influenced by their personal values (BHASKARAN, 2006).

**H3: Human capital influences the expression of quality conventions through personal values**

Based on these findings, the following hypotheses are proposed in Figure 1:

**Figure 1: Model of hypothesis.**



## **Materials and methods**

### **Sample definition and data collection**

The research was based on data collection through the use of a questionnaire. The questionnaires were applied to 171 artisanal cheese producers in the state of Rio Grande do Sul, Brazil, with the support of EMATER / RS-Ascar, a technical assistance and agricultural extension company in the state of Rio Grande do Sul. The questionnaire was applied between January and March 2019, being addressed to any member of the family involved in cheese production. The sample population considered was the number of families registered in the state Program of Family Agroindustry, which has a total of 429 registrations. The questionnaire was made available through GoogleForms and completed by providing a link, sent via email or WhatsApp.

### **Questionnaire development**

For the construction of the questionnaire, it was chosen to use, whenever possible, previously validated scales, to guarantee the validity of the content of the measures used. The questionnaire used in this research was the one suggested by (BRESOLIN ROLDAN; PALMA REVILLION, 2019). After its construction, the questionnaire was submitted to the evaluation of six specialists and a pre-test was applied to five producers, in order to verify the difficulties of understanding the questionnaire (WANG; CHEN; BENITEZ-AMADO, 2015). Respondents were informed that there were no right or wrong answers and the anonymity and strict confidentiality of the data would be guaranteed. Respondents should indicate the degree of importance of the factors, according to a 5-point Likert scale, where 1 = very low and 5 = very high. A 5-point scale was chosen to facilitate the understanding of respondents.

### **Analysis model**

#### **Analysis method**

For the statistical analysis of the results, the technique of structural equations based on variance (partial least square-PLS) was used, with the SmartPLS 3 program (RINGLE; WENDE; BECKER, 2015). The studied sample consists of 171 observations, which exceeds the suggested number of five observations per parameter, allowing us to obtain adequate statistical conclusions (HAIR et al.,

1998). The use of PLS has been recommended when theoretical knowledge about a topic is scarce, as is the case proposed in this study (HAIR et al., 1998).

This model includes a second order formative multidimensional construction, a construct that represents quality conventions. We opted for the second order formative structure since the increase in one of the Legitimation Worlds does not necessarily lead to an increase in other dimensions. This model causes identification problems in the estimation of structural equations based on covariance (WANG; CHEN; BENITEZ-AMADO, 2015).

The questionnaire consists of composite constructs, estimated in mode B, in which the direction of causality is from the indicators to the constructs, as these items collectively define the constructs, that is, changes in the indicators lead to changes in the constructs. In addition, the indicators may not be conceptually interchangeable, since they do not need to have similar content, and the elimination of an indicator can modify the concept linked to the construct. It is also unnecessary that the indicators covariate with each other (BENITEZ-AMADO; RAY, 2012).

This model was estimated using consistent estimates in mode B, both in the first order and second order model. The two-stage approach used to contrast the measurement model, and the assumptions are explained below.

## **Measure model**

### **First order training constructs**

The preliminary analysis was carried out with the complete model, containing 8 indicators for human capital, 10 personal values and 5 or 6 indicators for each Legitimation World. The evaluation of composite models in mode B occurs at 2 levels: at the level of the construct and at the level of the indicator, therefore when analyzing the external loads of each indicator, which refer to the measure with which each indicator contributes to the formation of the construct, indicators with loads below 0.400 were discarded or those that did not have significant loads (CHIN, 2010; HAIR et al., 1998). The elimination of these indicators provides a refinement of the measure of the model, with the exclusion of two personal values (power and hedonism), one from the Inspired World (use of new ingredients), two indicators from the Domestic World (use of traditional recipes and use of manual processes) and one from the Market World (sales growth).

After selecting the indicators, a new model was proposed and evaluated. The multicollinearity test was performed, and the results showed a variance inflation factor (VIF) of all items ranging between 1,112 and 2,764, that is, condition indexes below the threshold criteria, suggesting that there is no multicollinearity in the data (DIAMANTOPOULOS; SIGUAW, 2006). Table 1 shows the descriptive statistical results.

**Table 1. Validity of formative constructs.**

|   | Outer weights | Outer loadings | VIF   |
|---|---------------|----------------|-------|
| <i>Human capital (HC)</i>                     |               |                |       |
| HC1. Experience in cheese processing          | 0,202*        | 0,619***       | 1,398 |
| HC2. Ability to adapt to changes              | 0,368**       | 0,851***       | 1,966 |
| HC3. Ability to take risks                    | 0,159**       | 0,686***       | 1,588 |
| HC4. Ability to identify market opportunities | 0,281         | 0,757***       | 1,808 |
| HC5. Ability to communicate with customers    | -0,03         | 0,694***       | 2,196 |
| HC6. Trust the people who work together       | 0,114         | 0,597***       | 2,082 |
| HC7. Communication skills with co-workers     | 0,202         | 0,701***       | 2,679 |
| HC8. Management experience                    | 0,079         | 0,658***       | 1,790 |
| <i>Personal Values (PV)</i>                   |               |                |       |
| PV2. Achievement                              | 0,095         | 0,463***       | 1,367 |
| PV4. Stimulation                              | 0,222         | 0,677***       | 1,759 |
| PV5. Self-direction                           | 0,2518*       | 0,738***       | 1,764 |
| PV6. Universalism                             | 0,286*        | 0,785***       | 1,887 |
| PV7. Benevolence                              | 0,307*        | 0,767***       | 2,117 |
| PV8. Tradition                                | 0,179         | 0,546***       | 1,890 |
| PV9. Conformity                               | -0,091        | 0,580***       | 2,262 |
| P10. Security                                 | 0,170         | 0,678***       | 1,904 |
| <i>Inspired World Conventions (IWC)</i>       |               |                |       |
| IWC1. Development of new types of cheese      | 0,212         | 0,540***       | 1,923 |
| IWC2. Inspired and experienced cheesemaker    | 0,535***      | 0,819***       | 1,509 |
| IWC3. Offer of differentiated products        | 0,383***      | 0,705***       | 1,230 |
| IWC4. Use of new processing practices         | -0,253        | 0,470***       | 2,279 |
| IWC6. Use of new equipment                    | 0,434***      | 0,681***       | 1,437 |
| <i>Domestic World Conventions (DWC)</i>       |               |                |       |
| DWC3. Sales at farmer's market                | 0,255         | 0,536***       | 1,198 |
| DWC4. Trust relationships with consumers      | 0,673***      | 0,880***       | 1,444 |

|  |          |          |       |
|--|----------|----------|-------|
| DWC5. Appreciation of geographical origin                    | 0,258    | 0,644*** |       |
| DWC3. Promotion of visits to the production site             | 0,199    | 0,529*** |       |
| <i>World of Fame Conventions (WFC)</i>                       |          |          |       |
| WFC1. Prestige with the consumer                             | 0,137    | 0,674*** | 1,751 |
| WFC2. Reputation   | 0,432*** | 0,783*** | 1,798 |
| WFC3. Participation in contests                              | 0,047    | 0,599*** | 1,884 |
| WFC4. favorable opinion of experts                           | 0,305*   | 0,780*** | 1,955 |
| WFC5. Participation in farmer's markets                      | 0,379*   | 0,758*** | 1,839 |
| WFC6. Media projection                                       | 0,026    | 0,611*** | 1,641 |
| <i>Civic World Convention (CWC)</i>                          |          |          |       |
| CWC1. Registration with the competent health agencies        | 0,081**  | 0,634*** | 1,615 |
| CWC2. Adoption of hygienic practices                         | 0,429**  | 0,860*** | 2,260 |
| CWC3. Adoption of practices to minimize environmental impact | 0,246    | 0,838*** | 2,210 |
| CWC4. Aid for local and regional development                 | 0,340*   | 0,823*** | 2,187 |
| CWC5. Development of cooperative actions with the community  | 0,142    | 0,656*** | 1,759 |
| <i>Market World Conventions (MWC)</i>                        |          |          |       |
| MWC1. Price differentiation                                  | 0,245    | 0,607*** | 1,601 |
| MWC2. Adding value   | 0,412**  | 0,759*** | 1,612 |
| MWC3. Competitiveness of the enterprise                      | 0,039    | 0,611*** | 1,795 |
| MWC5. Market leadership                                      | -0,077   | 0,507*** | 1,665 |
| MWC6. Meeting consumer needs                                 | 0,688*** | 0,830*** | 1,529 |
| <i>Industrial World Conventions (InWC)</i>                   |          |          |       |
| InWC1. Evaluation of physical-chemical and microbiological   | 0,445    | 0,866*** | 1,801 |
| InWC2. Standardization of procedures                         | 0,038*** | 0,643*** | 1,933 |
| InWC3. Pasteurization of milk                                | 0,110    | 0,453*** | 1,209 |
| InWC4. Standardization of cheese characteristics             | -0,031   | 0,621*** | 1,870 |
| InWC5. Obtaining standard quality raw material               | 0,312*   | 0,837*** | 2,764 |
| InWC6. Productivity control                                  | 0,343*   | 0,871*** | 2,426 |

Notes: \*:  $p < 0,05$ , \*\*:  $p < 0,01$ , \*\*\*:  $p < 0,001$

**Table 2.** Descriptive statistics.

|                  | Mín   | Máx  | Mean                    | Standard deviation |
|------------------|-------|------|-------------------------|--------------------|
| Human Capital    | -4,10 | 1,42 | 0,00005421              | 1,00309            |
| Personal Values  | -5,08 | 1,10 | 6,02.10 <sup>-6</sup>   | 1,00287            |
| Inspired World   | -3,26 | 1,49 | -0,00004216             | 1,00304            |
| Domestic World   | -5,47 | 1,07 | 0,00003614              | 1,00306            |
| Fame World       | -4,80 | 1,18 | 0,00008433              | 1,00310            |
| Civic World      | -5,66 | 0,92 | -0,00008433             | 1,00302            |
| Market World     | -3-42 | 1,45 | -7,43.10 <sup>-18</sup> | 1,00299            |
| Industrial World | -4,63 | 1,19 | 0,00001204              | 1,00293            |

## Results

### Evaluation of the structural model

The result of the hypothesis contrast using PLS is shown in Table 1. The values of the relationships, their level of significance, and the value of  $R^2$  are individual measures of the explanatory power of the model in the PLS analysis.  $R^2$  coefficients close to 0.2 are considered economically relevant, and values above 0.3 indicate good explanatory power for the independent variables of the model (CHIN, 2010). Table 3 presents the values of  $R^2$  that indicate a good explanatory power regarding the proposed model.

**Table 3.**  $R^2$  values.

| Worlds of legitimation | $R^2$ |
|------------------------|-------|
| Inspired World         | 0,340 |
| Domestic World         | 0,249 |
| Fame World             | 0,383 |
| Civic World            | 0,405 |
| Market World           | 0,347 |
| Industrial World       | 0,368 |

To analyze the significance of the relationships proposed in each hypothesis, a bootstrapping analysis was performed on 5000 subsamples. Student's  $t$  values with values close to 0.2 are significant. In this study, according to table 4, all the hypotheses are significant.

Finally, the SRMR, (Standardized Root Mean Square Residual), which is the difference between the observed and the predicted correlation, allowing the evaluation of the average magnitude of the

discrepancies between the observed and expected correlations is 0.093 in this model. Therefore, the model's SRMR is below 0.10, showing signs of a good fit (WILLIAMS; VANDENBERG; EDWARDS, 2009).

### **Mediation effects**

First, it was analyzed whether human capital and personal values influence the expression of quality conventions. Subsequently, the mediating effect caused by personal values in the relationship between human capital and the expression of quality conventions was analyzed.

To carry out this analysis, the methodology for the analysis of indirect effects was used. The mediation analysis was performed using a bootstrap confidence interval test, which allows the measurement of the specific total and indirect effect of the intermediate variables included in the model. Table 4 (Panel B) shows that the contrasting relationships are maintained, and the results show that the indirect effects are significant.

### **Hypothesis results**

Table 4 presents the results for the structural equation model analyzed with PLS. From this analysis, empirical support was found for the hypotheses proposed in the model, with a direct effect of human capital on quality conventions (H1a, H1b, H1c, H1d, H1e and H1f) and personal values on quality conventions (H2a, H2b, H2c, H2d, H2e, H2f). The results for the effects of mediation of values in the relationship between human capital and quality conventions were also significant (H3a, H3b, H3c, H3d, H3e, H3f).

At the same time, the results demonstrate that the mediation of values on the effect of human capital on quality conventions is positive and significant for all Worlds. However, the values of path coefficients are lower than those obtained for the direct effect, varying between 0.211 and 0.238, indicating that there is a complementary partial mediation effect and that the direct relationship between human capital and quality is more important.

**Table 4.** Results of hypothesis tests.

| Path  | Hypothesis |        | PLS Estimation                      |                        | Results                |
|---|------------|--------|-------------------------------------|------------------------|------------------------|
|   | N°         | Signal | Path coefficients                   | T-student              |                        |
| <b>PANEL A</b>  |            |        |                                     |                        |                        |
| Human capital positively influences the Inspired World                | 1a         | +      | 0,449                               | 3,925***               | Supported hypothesis   |
| Human capital positively influences the Domestic World Capital co     | 1b         | +      | 0,239                               | 2,666*                 | Supported hypothesis   |
| Human capital positively influences the World of fame World Capital h | 1c         | +      | 0,425                               | 5,124***               | Supported hypothesis   |
| Human capital positively influences the Civic World                   | 1d         | +      | 0,326                               | 3,925***               | Supported hypothesis   |
| Human capital positively influences the Market World                  | 1e         | +      | 0,428                               | 4,709***               | Supported hypothesis   |
| Human capital positively influences the Industrial World              | 1f         | +      | 0,352                               | 4,113***               | Supported hypothesis   |
| Personal values positively influence Inspiration World                | 2a         | +      | 0,192                               | 2,236**                | Supported hypothesis   |
| Personal values positively influence Domestic World                   | 2b         | +      | 0,313                               | 2,610**                | Supported hypothesis   |
| Personal values positively influence Fame World                       | 2c         | +      | 0,256                               | 2,328**                | Supported hypothesis   |
| Personal values positively influence Civic World                      | 2d         | +      | 0,379                               | 4,071***               | Supported hypothesis   |
| Personal values positively influence Market World                     | 2e         | +      | 0,209                               | 2,067*                 | Supported hypothesis   |
| Personal values positively influence Industrial World                 | 2f         | +      | 0,320                               | 3,209***               | Supported hypothesis   |
| <b>PANEL B: Indirect effects</b>                                      |            |        | <b>Path Coefficient (t-Student)</b> | <b>Lower Threshold</b> | <b>Upper Threshold</b> |
| Human capital influences the Inspired World through personal values   | 3a         |        | 0,121(2,079)***                     | 0,027                  | 0,215                  |
| Human capital influences the Domestic World through personal values   | 3b         |        | 0,197(2,288)*                       | 0,056                  | 0,331                  |
| Human capital influences the World of Fame through personal values    | 3c         |        | 0,161(2,064)*                       | 0,029                  | 0,286                  |
| Human capital influences the Civic World through personal values      | 3d         |        | 0,238(3,265)*                       | 0,125                  | 0,365                  |
| Human capital influences the Market World through personal values     | 3e         |        | 0,132(1,958)**                      | 0,012                  | 0,233                  |
| Human capital influences the Industrial World through personal values | 3f         |        | 0,201(2,827)**                      | 0,079                  | 0,311                  |

Notes: \*:  $p < 0,05$ , \*\*:  $p < 0,01$ , \*\*\*:  $p < 0,001$

## Discussion of Results and Conclusion

The study of the psychosocial characteristics of small business owners has attracted the attention of researchers, especially artisanal producers, whose production has gained prominence in recent years, in line with the so-called “quality turn” and other movements for valuing local production and consumption (BIGGART; BEAMISH, 2003; MURDOCH; MIELE, 1999). This study proposed the identification of personal values and their role as mediation between human capital and the expression of quality. The relationship between these factors in artisanal food production in small companies is still little explored, so this work has the objective of bringing advances in this theme, as scholars of personal values have already demonstrated that values can influence people’s behavior (SONODA et al., 2018).

Conhecer melhor as dimensões que compreendem o comportamento do agricultor de queijos artesanais pode ser um vetor do desenvolvimento regional, pois traz insumos para fomentar as políticas sociais de agricultura familiar que focam na segurança alimentar e sustentabilidade ambiental (GRISA; SCHNEIDER, 2014). Essas iniciativas fomentam estratégias produtivas que criam mercados viáveis para diferentes grupos de agricultores e stakeholders, assim como a possibilidade de articulação de políticas públicas para o setor (SOUZA e BERALDO, 2022). A principal característica dessas agroindústrias é o seu poder de agregação de valor ou multiplicador do valor da produção agrícola (DEPONTI, 2022), gerando maior renda ao agricultor.

Gaining insight into the factors that go into the behavior of artisanal cheese producers can help drive regional development since it can be used to create social policies for small-scale family farms that prioritize environmental sustainability and food security (GRISA; SCHNEIDER, 2014). These efforts support profitable business models that develop sustainable markets for various farmer and stakeholder groups and open the door to the development of sector-specific governmental policies (SOUZA; BERALDO, 2023). The primary attribute of these agroindustries is their capacity to add value to or multiply the value of agricultural products (DEPONTI, 2022), hence increasing farmer income.

It was possible to verify the importance of personal experience, combined with constant training for the development of human capital in the company. In small companies, as is the case with the production of artisanal Brazilian cheeses, in which production and handling are under the control of

the family, the contribution of human capital to quality is even more evident. The connection between family members and the transfer of existing tacit knowledge through formulations and processing technologies promote the accumulation of human capital, which contributes to the success of these ventures (BRETON-MILLER, 2015). At the same time, personal values have a strong influence on small companies, where the characteristics, behavior, attitudes and beliefs of the entrepreneur are decisive for the results of the enterprise.

It was also possible to verify that the personal values with greater expression among artisanal cheese producers were self-direction, benevolence and universalism, that is, these values serve as guiding principles in people's lives, being able to characterize artisanal cheese producers as creative and exploratory people, with independent thoughts and actions, concerned with the well-being of close people, society in general and nature (SCHWARTZ, 1992; SONODA et al., 2018).

This study brings important contributions to the development of public policies aimed at the dairy sector. The results obtained help to draw a profile of the artisanal producers of Brazilian cheeses and demonstrate the importance of investing in training for this group, with the objective of fostering human capital. This is because investment in human capital is related to the offer of products with higher quality and the creation of resources and capacities within the company, which will later influence performance (KHAN; QUADDUS, 2018).

Knowing more about the profile of producers and the importance of factors such as those related to human capital for the expression of quality conventions can assist in promoting the technical and economic viability of these enterprises, which in addition to representing the population's culture and food tradition, they are income alternatives and promote permanence in rural areas, which promotes local and regional development.

This work is not without limitations and these provide guidance for future lines of research. First, the sample analyzed is made by artisanal Brazilian cheese producers, prone to an economic, social and cultural environment different from other countries, so the results found may not be applicable to other locations. Other studies on different types of artisanal foods can be developed in order to assist in the development of public policies aimed at this public, through the influence of personal and social norms in the formation of attitudes and behaviors .

## Acknowledgments

We would like to express our gratitude to the cheese producers, to EMATER/RS-Ascar, and the Coordination for the Improvement of Higher Education Personnel (Coordenação do Aperfeiçoamento do Pessoal do Ensino Superior - CAPES).

## REFERENCES

ASAH, Francis; FATOKI, Olawale Olufunso; RUNGANI, Ellen. The impact of motivations, personal values and management skills on the performance of SMEs in South Africa. **African Journal of Economic and Management Studies**, [S. l.], v. 6, n. 3, p. 308–322, 2015. DOI: 10.1108/AJEMS-01-2013-0009.

BENITEZ-AMADO, Jose; RAY, Gautam. Introducing IT-enabled business flexibility and IT integration in the Acquirer's M&A performance equation. **Thirty Third International Conference on Information Systems**, [S. l.], p. 1–21, 2012. Disponível em: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.864.3220&rep=rep1&type=pdf>.

BHASKARAN, Suku. Incremental Innovation and Business Performance : Small and Medium-Size Food Enterprises in a Concentrated. **Journal of Small Business Management**, [S. l.], v. 44, n. 1, p. 64–80, 2006.

BIGGART, Nicole Woolsey; BEAMISH, Thomas D. The Economic Sociology of Conventions: Habit, Custom, Practice, and Routine in Market Order. **Annual Review of Sociology**, [S. l.], 2003. DOI: 10.1146/annurev.soc.29.010202.100051.

BOLTANSKI, Luc; THÉVENOT, Laurent. **On justification: Economies of worth**. NJ: Princeton University Press, 2006.

BRESOLIN ROLDAN, Bruna; PALMA REVILLION, Jean Philippe. Uma Estrutura De Abordagem Da Qualidade De Queijos Artesanais a Partir Da Teoria Das Convenções. **Organizações Rurais & Agroindustriais**, [S. l.], v. 21, n. 1–3, p. 105–114, 2019. DOI: 10.48142/2238-68902019v21n1-3p105114.

BRETON-MILLER, Isabelle Le. The Arts and Family Business : Linking Family Business Resources and Performance to Industry Characteristics. **Entrepreneurship Theory and Practice**, [S. l.], p. 1349–1370, 2015. DOI: 10.1111/etap.12177.

CEZAR, Renata D. S.; LUCENA-SILVA, Norma; BORGES, Jonas M.; SANTANA, Vania L. A.; PINHEIRO JUNIOR, José W. Detection of Mycobacterium bovis in artisanal cheese in the state of Pernambuco, Brazil. **International Journal of Mycobacteriology**, [S. l.], v. 5, n. 3, p. 269–272, 2016. DOI: 10.1016/j.ijmyco.2016.04.007.

CHEN, Chung-jen; LIU, Tsung-chi; CHU, Mo-an. Intellectual capital and new product development. **Journal of Engineering and Technology Management**, [S. l.], v. 33, p. 154–173, 2014. DOI: 10.1016/j.jengtecman.2014.06.003. Disponível em: <http://dx.doi.org/10.1016/j.jengtecman.2014.06.003>.

CHIN, W. W. **Handbook of Partial Least Squares**. Berlin: Springer Berlin Heidelberg, 2010. DOI: 10.1007/978-

3-540-32827-8.

CLIMENT-LÓPEZ, E.; SÁNCHEZ-HERNÁNDEZ, J. L.; CANTO-FRESNO, C.; ALONSO-SANTOS, J. L.; RAMÍREZ-GARCÍA, S. Measuring quality conventions in the food industry : Applications to the wine sector in Spain. **Geoforum**, [S. l.], v. 56, p. 148–160, 2014. DOI: 10.1016/j.geoforum.2014.07.004.

CLIMENT-LOPEZ, E.; SANCHEZ-HERNANDEZ, J. L.; CANTO-FRESNO, C.; ALONSO-SANTOS, J. L.; RAMIREZ-GARCIA, S.; RODERO-GONZALEZ, V.; RUIZ-BUDRIA, E. Measuring quality conventions in the food industry: Applications to the wine sector in Spain. **Geoforum**, [Climent-Lopez, E. Ruiz-Budria, E.] Univ Zaragoza, Dept Geog & Ordenac Terr, E-50009 Zaragoza, Spain. [Sanchez-Hernandez, J. L. Alonso-Santos, J. L. Rodero-Gonzalez, V.] Univ Salamanca, Dept Geog, Salamanca 37002, Spain. [Canto-Fresno, C. Ramirez-Garcia, , v. 56, p. 148–160, 2014. DOI: 10.1016/j.geoforum.2014.07.004.

DEPONTI, Cidonea Machado. Perfil e localização das agroindústrias familiares rurais nas regiões funcionais (RFS) de planejamento do Rio Grande do Sul. **Revista Brasileira de Gestão e Desenvolvimento Regional**, [S. l.], v. 18, n. 3, p. 17–30, 2022.

DIAMANTOPOULOS, Adamantios; SIGUAW, Judy A. Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. **British Journal of Management**, [S. l.], v. 17, n. 4, p. 263–282, 2006. DOI: 10.1111/j.1467-8551.2006.00500.x.

DJEKIC, Ilija; DIMITRIJEVIC, Bojan; TOMIC, Nikola. Quality Dimensions of Intellectual Capital in Serbian Fruit Industry. **EMJ - Engineering Management Journal**, [S. l.], v. 29, n. 3, p. 154–164, 2017. DOI: 10.1080/10429247.2017.1339582. Disponível em: <https://doi.org/10.1080/10429247.2017.1339582>.

EMATER/RS-ASCAR. **Relatório socioeconômico da cadeia produtiva do leite no Rio Grande do Sul**. Porto Alegre: Emater/RS-Ascar, 2017. Disponível em: [www.emater.tche.br](http://www.emater.tche.br).

ERNST, Kati. **Heart over mind – An empirical analysis of social entrepreneurial intention formation on the basis of the theory of planned behaviour** . 2011. [S. l.], 2011. DOI: 10.1111/j.1365-2761.1989.tb00281.x. Disponível em: <http://nbn-resolving.de/urn/resolver.pl?urn=urn:nbn:de:hbz:468-20120327-142543-6>.

FELDMANN, Corinna; HAMM, Ulrich. Consumers' perceptions and preferences for local food: A review. **Food Quality and Preference**, [S. l.], v. 40, n. PA, p. 152–164, 2015. DOI: 10.1016/j.foodqual.2014.09.014. Disponível em: <http://dx.doi.org/10.1016/j.foodqual.2014.09.014>.

FORSSELL, Sini. Navigating the tensions and agreements in alternative food and sustainability : a convention theoretical perspective on alternative food retail. **Agriculture and Human Values**, [S. l.], v. 34, n. 3, p. 513–527, 2017. DOI: 10.1007/s10460-016-9741-0.

GOODMAN, David. The quality 'turn' and alternative food practices: reflections and agenda. **Journal of Rural Studies**, [S. l.], v. 19, p. 1–7, 2003.

GRISA, Catia; SCHNEIDER, Sergio. Três Gerações de Políticas Públicas para a Agricultura Familiar e Formas

de Interação entre Sociedade e Estado no Brasil. **Revista de Economia e Sociologia Rural**, [S. l.], v. 52, p. S125–S146, 2014.

HAIR, J. F.; TATHAM, R. L.; ANDERSON, R. E.; BLACK, W. **Multivariate data analysis**. 50. ed. [s.l.] : Prentice Hall, 1998.

KHAN, Eijaz Ahmed; QUADDUS, Mohammed. Dimensions of human capital and firm performance: Micro-firm context. **IIMB Management Review**, [S. l.], p. 229–241, 2018. DOI: 10.1016/j.iimb.2018.05.004.

LUTHANS, Fred; LUTHANS, Kyle W.; LUTHANS, Brett C. Positive psychological capital: Beyond human and social capital. **Business Horizons**, [S. l.], v. 47, n. 1, p. 45–50, 2004. DOI: 10.1080/03091928608245897.

MURDOCH, Jonathan; MIELE, Mara. `Back to Nature´: Chaning `Worlds of Production´ in the Food Sector. **Sociologia Ruralis**, [S. l.], v. 39, n. 4, p. 465–483, 1999. DOI: 10.1111/1467-9523.00119.

MUTTAKIN, Mohammad Badrul; KHAN, Arifur; DESSALEGN, Getie Mihret. The Effect of Board Capital and CEO Power on Corporate Social Responsibility Disclosures. **Journal of Business Ethics**, [S. l.], v. 150, n. 1, p. 41–56, 2018. DOI: 10.1007/s10551-016-3105-y.

PONTE, S. Convention theory in the Anglophone agro-food literature: Past, present and future. **Journal of Rural Studies**, [Ponte, Stefano] Copenhagen Business Sch, Dept Business & Polit, Steen Blichers Vej 22, DK-2000 Frederiksberg, Denmark. Ponte, S (reprint author), Copenhagen Business Sch, Dept Business & Polit, Steen Blichers Vej 22, DK-2000 Frederiksberg, Denmark. sp.db, v. 44, p. 12–23, 2016. DOI: 10.1016/j.jrurstud.2015.12.019.

PONTE, Stefano; GIBBON, Peter. Quality standards, conventions and the governance of global value chains. **Economy and Society**, [S. l.], v. 34, n. 1, p. 1–31, 2005. DOI: 10.1080/0308514042000329315.

RINGLE, C. M.; WENDE, S.; BECKER, J. M. **SmartPLS 3**. Hamburg, Germany University of Hamburg, , 2015. Disponível em: [www.smartpls.com](http://www.smartpls.com).

SÁNCHEZ-HERNÁNDEZ, José Luis; CLIMENT-LOPEZ, E.; GARCÍA, S. R.; GONZÁLEZ, V. R.; PALOMAR, B. L.; FRESNO, C. del Canto. Clasificación de las Denominaciones de Origen vinícolas en la tipología de los mundos de producción : una aplicación al caso español. **Cuadernos Geográficos**, [S. l.], v. 56, n. 2, p. 263–282, 2017.

SCHWARTZ, SH; MELECH, G.; LEHMANN, A. Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. **Journal of cross-cultural psychology**, [S. l.], v. 32, n. 5, p. 519–542, 2001.

SCHWARTZ, Shalom H. Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. **Advances in Experimental Social Psychology**, [S. l.], v. 25, n. C, p. 1–65, 1992. DOI: 10.1016/S0065-2601(08)60281-6.

SCHWARTZ, Shalom H. Basic human values: An overview. **Jerusalem Hebrew University**, [S. l.], v. 48, p. 49–71,

2006. DOI: 10.1080/026999499377664.

SINGH, Sanjay Kumar; BURGESS, Thomas F.; HEAP, John. Managing performance and productivity for organizational competitiveness. **International Journal of Productivity and Performance Management**, [S. l.], v. 65, n. 6, 2016. DOI: <https://doi.org/10.1108/IJPPM-05-2016-0090>.

SOLESVIK, Marina Z. Entrepreneurial motivations and intentions : investigating the role of education major. **Education and Training**, [S. l.], v. 55, n. 3, p. 253–271, 2013. DOI: 10.1108/00400911311309314.

SONODA, Yuta; OISHI, Kazato; CHOMEI, Yosuke; HIROOKA, Hiroyuki. How do human values influence the beef preferences of consumer segments regarding animal welfare and environmentally friendly production ? **Meat Science**, [S. l.], v. 146, p. 75–86, 2018. DOI: 10.1016/j.meatsci.2018.07.030. Disponível em: <https://doi.org/10.1016/j.meatsci.2018.07.030>.

SOUSA, Diego Neves De; BERALDO, Keile Aparecida. POLÍTICAS PÚBLICAS DE ALIMENTAÇÃO : A CONTRIBUIÇÃO DAS COMPRAS GOVERNAMENTAIS PARA A INCLUSÃO PRODUTIVA DE AGRICULTORES FAMILIARES NO ESTADO DO TOCANTINS PUBLIC FOOD POLICIES : THE CONTRIBUTION OF GOVERNMENT PROCUREMENT TO THE PRODUCTIVE INCLUSION OF FAMI. [S. l.], p. 69–84, 2023.

WANG, Guangping; WANG, Jianling; MA, Xiaoqin; QIU, Robin G. The effect of standardization and customization on service satisfaction. **Journal of Service Science**, [S. l.], v. 2, n. 1, p. 1–23, 2010. DOI: 10.1007/s12927-010-0001-3.

WANG, Jianming; PHAM, Thuy Linh; DANG, Van Thac. Environmental Consciousness and Organic Food Purchase Intention : A Moderated Mediation Model of Perceived Food Quality and Price Sensitivity. [S. l.], p. 1–18, 2020.

WANG, Yi; CHEN, Yang; BENITEZ-AMADO, Jose. How information technology influences environmental performance : Empirical evidence from China. **International Journal of Information Management**, [S. l.], v. 35, n. 2, p. 160–170, 2015. DOI: 10.1016/j.ijinfomgt.2014.11.005. Disponível em: <http://dx.doi.org/10.1016/j.ijinfomgt.2014.11.005>.

WILLIAMS, Larry J.; VANDENBERG, Robert J.; EDWARDS, Jeffrey R. Structural Equation Modeling in Management Research: A Guide for Improved Analysis. **Academy of Management Annals**, [S. l.], v. 3, n. 1, p. 543–604, 2009. DOI: 10.5465/19416520903065683.