FORMALIZATION AND BUSINESS PERFORMANCE: IS OPERATIONAL PERFORMANCE A RELEVANT LINK?

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Abstract - There is no consensus in the organizational literature about the relationship between formalization and firm performance. Some studies have suggested that formalization is beneficial for organization performance, but others have generated contradictory results. In this research, we try to analyze the relationships between formalization, operational performance, and business performance. To test these hypotheses, the structural equation technique was used on data from a survey carried out on organic agro-food Spanish industrial firms. The results obtained show that operational performance fully mediates the relationship between formalization and business performance. Our findings contribute to the organizational literature, providing theoretical and empirical explanations of formalization implications.

Keywords - Business Performance, Formalization, Operational Performance, Organic Agro-Food Industry.

I. INTRODUCTION

In recent years there is a growing interest in the organizational literature on the concept of formalization [1]–[3]. Formalization has been defined as the rules, procedures and instructions of an organization, such as contracts and procedures. Trying to better understand this concept, some researchers [4] have distinguished between two types of formalizations, one that facilitates workers to perform their tasks, and another that designed to coerce compliance. Different researchers have proposed that formalization must be aligned with the characteristics of the firm to achieve appropriate levels of coordination, control and organizational performance [5].

In general, well-designed rules and procedures reduce role conflict, ambiguity, and increases coordination [6], [7]. Therefore, formalization is considered a key factor for employees to carry out their activities effectively. However, despite the theoretical importance acquired for this concept, empirical evidence that support a positive effect of formalization on firm performance is scarce. Consequently, the objective of the present research is to study the impact of formalization on operational and business performance. To do this, we made a quantitative analysis of these relationships in the organic agro-food Spanish industry. This sector has shown an important growth in recent years, and the need for a high degree of formalization, on one hand to guarantee compliance with the rules of organic production, and on the other hand to achieve the high levels of quality and safety of the agro-food industry. Particularly, the agro-food Spanish industry has an important position in agro-organic food industry due to Spain has one of the highest organic surface area, an important number of organic producers and manufacturers, and high exports values [8].

In this paper, we firstly review the literature related to the concept of formalization and we set out specific hypotheses about relationships among constructs, followed by the methodology and the results from the empirical study. Finally, we discuss the results obtained and we offer some conclusions.

II. LITERATURE REVIEW AND HYPOTHESES

2.1. Formalization

Formalization has been broadly defined as those formal rules, policies, standards and written procedures that govern the decisions and activities of employees [4], [9]–[11]. Initially, the analysis of bureaucracy promoted two types of formalization, one representative and the other focused on punishment, as in [12]. However, some researchers [4] redefined the understanding of these types of formalization and explained them as enabling and coercive formalization.

On one hand, coercive formalization is specific to organization rules. It aims is to create an infallible system. The nature of this type of formalization lies in the imposition of rules and policies on organization members, using traditional control models, which focus on monitoring adherence to previously established objectives and standards [13], [14]. On the other hand, enabling formalization takes into account intelligence of the workers, it allows employees to effectively deal with unavoidable contingencies, and specifies characteristics that formal systems must have to foster efficiency and flexibility [13], [14]. Enabling formalization invites dialogue, promotes trust, and understands problems as opportunities, facilitating their resolution [4].

In general, formalization lets promote deliberations, acts as an integrating framework, provides a clear understanding of control mechanisms, and codifies best practices, allowing employees to receive

feedback. Therefore, some researchers argue that formalization facilitates organizational performance, and it is a key aspect for organizational survival [1], [15].

2.2. Impact on formalization on firm performance

Formalized rules and procedures encourage employees to effectively perform their tasks [16]. Through formalization companies can improve their relationship with their suppliers, and achieve a better internal information flow, which results in a greater knowledge to market and cost structure [17]–[19]. Formalization also influences direct transaction costs. For example, it provides checklists and support through standardized documentation [20], benefiting quality and avoiding reprocessing.

Some researchers have associated formalization with organizational performance, given that formalization reduces role conflict, ambiguity and increases coordination [6], [7], [21]. Formalized firms do their work effectively and facilitate the coordination of activities through rules and procedures [4]. Based on this, we suggest that formalization could encourage operational performance. Therefore, we propose the following hypothesis:

Hypothesis 1: Formalization is positively related to operational performance.

Operational performance refers to manufacturer competitive strength [22]. There is empirical evidence that shows a positive relationship between operational and business performance [23]–[28]. For example, as in[22] found a positive effect of delivery reliability and cost leadership on business performance (ROA, sales growth, customer satisfaction, percentage of revenues from new products). And as in[29] found empirical evidence that shows a positive effect of operational performance (process efficiency, flexibility, business synergy, quality innovation) on business performance (growth of sales, return on investment, growth in return on investment, profit margin on sales). Finally, as in [30] found empirical evidence that support the positive impact of process and cost efficiency on market and financial performance. Continuing with this vein, we propose the following hypothesis:

Hypothesis 2: Operational performance is positively related to business performance.

The effect of the formalization on business performance is not clear. Some researchers argue that formalization can reduce performance given that it decreases the creation of new knowledge [31], [32], limiting firm adaptation and innovation processes [33], [34], which are recognized as important factors to increase market and financial performance. We argue that formalization indirectly improve business performance through operational performance. We think that formalization help employees to perform their job better, improving firm competitive strength, which increases business performance. We therefore put forward the following hypothesis:

Hypothesis 3: The relationship between formalization and business performance is mediated by operational performance.

Having explained the previous hypotheses, our research model is illustrated in Fig. 1.

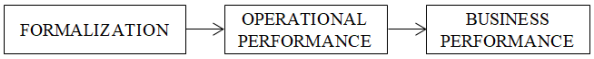


Fig. 1. Theoretical model

III. RESEARCH METHODOLOGY

To analyze the model shown in Fig. 1, we have chosen the organic agro-food Spanish industry, which has experienced continuous and exponential growth and has an important position worldwide. In the world ranking this Spanish industry has the following positions: Fifth position in organic surface area, second position in number of organic producers, fifth position in number of manufacturers, and fourth position in exports values [35]. Furthermore, the organic agro-food industry has a strong competition with the conventional agro-food industry, requiring reducing costs and competing in price; be open to new markets, technological changes and product innovation; and a high degree of formalization to guarantee high levels of quality and safety [8].

To obtain the data for the study we look at the MAPAMA (Ministry of Agriculture, Fisheries, Food and the Environment) the list of companies that are part of this sector. Then we carry out an exhaustive search of the telephone numbers and contact emails of each one of the companies. Finally, we sent to the general manager and the quality manager of each organization the questionnaire with a presentation letter describing the objective of our research and underlining the confidentiality of the responses. We offered a feedback report on the results to the participating firms so as to encourage them to answer. Prior to the submission of the questionnaire, it was tested by managers and academics to ensure that the items included were understandable to the recipients. In addition, telephone and e-mail reminders were made to achieve an increase in the response rate. The empirical study was based on a population of 2.548 organic agro-food Spanish industries, and a total of 218 valid questionnaires with two respondents per company were available for this study (8,6%).

To develop the measures, we adapted the items on a seven-point scale ranging for 1 (strongly disagree) to 7 (strongly agree) by carefully examining the literature to ensure content validity.

Based on the researchers referenced in[36] and [37] six items were adapted to measure formalization: (1)

Whatever situation arises, written procedures are available and helpful for dealing with it, (2) There are formally established channels which facilitate communication, (3) Written documents, such as plans, and schedules, make it much easier for us to work in the firm, (4) Employees in our organization are hardly checked for rule violations, (5) There are written and compulsory procedures and guidelines for most of the activities, and (6) Duties and accountability of personnel are documented and they are of forced compliance.

Based on [38] five items were adapted to measure operational performance: (1) Our company can quickly modify the products to meet the requirements of our main customers, (2) Our company can quickly introduce new products in the market, (3) Our company can respond quickly to changes in market demand, (4) Our company has an outstanding on-time delivery record to our major customer, and (5) The time between the receipt of the customer's order and the delivery of the products is short. Since items 1 to 3 focus on flexibility performance and items 4 to 5 focus on delivery performance, we operationalize operational performance as a second order construct. Finally, to evaluate business performance,

Based on the researchers referenced in[30], [39], [40], we considered three items: (1) Our current sales have increased compared to previous years, (2) Our market share has increased in relation to previous years, and (3) Our returns on investment has increased compared to previous years.

It is important to highlight that formalization and operational performance items were answered by quality manager, and items related to business performance were answered by general managers. Therefore, the study was made with two responders per company avoiding common method variance.

IV. RESULTS

The analysis and interpretation of the SEM model was carried out in two stages. In the first stage, we assess the measurement model, which analyses whether the theoretical concepts are measured correctly through the observed variables. In the second stage, we assess the structural model, estimating the weight and magnitude of the relationships among the different variables.

4.1. Measurement Model

The CFA results showed a good model fit $\chi2(71)$ =162.04, NFI= 0.94, TLI= 0.95, CFI =0.96, RMSEA = 0.06, indicating a good model fit [41]. To test reliability, we calculate composite reliability (CR). The values of the composite reliabilities ranged from 0.68 to 0.93, which were all above the recommended threshold value of 0.60[42]. Convergent validity was assessed using average variance extracted (AVE). All of the AVE values were above the threshold value of 0.5, which demonstrate adequate convergent validity.

To assess discriminant validity, we compare that AVE of each pair of factors was greater that their squared correlation. The results indicate that AVE values for all construct were higher than the square correlation among constructs [43], [44].

Table 1 shows the composite reliability, and average variance explain (AVE) of each construct.

	CR	AVE	BP	FOR	OP
BP	0,932	0,823	**0,907**		
FOR	0,914	0,645	0,186	**0,803**	
OP	0,682	0,518	0,288	0,690	**0,719**

Table 1.Scales reliability and validity

The square root of AVE is show on the diagonal of each matrix in bold.

4.2. Structural Model

The general fit of the structural model is good. The result support H1 and H2, Formalization is positively and significantly related with operational performance ($p<0.01$). Similarly, operational performance is positively and significantly related with business performance ($p<0.01$).

4.3. Mediation effect

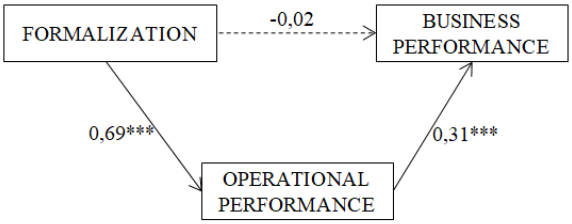
In order to test hypothesis H3, which indicates that the relationship between formalization and business performance is mediated by operational performance, we followed the procedures recommended by the researchers referenced in[45] and [46]. Mediation occurs when a dependent variable is regressed on both independent and mediating variables, and the direct effect of the independent variable on the dependent variable decreases or disappears [47]. Table 2, shows the path loadings relevant for testing H3.

Relationships			Stand. pathcoef.	p-value
Mediated model				
OP	<---	FOR	0,69	Significant
BP	<---	OP	0,31	Significant
BP	<---	FOR	-0.02	Non-Significant
$\chi2(71)$ =162.03, NFI= 0.94, TLI= 0.95, CFI =0.96, RMSEA = 0.07				
Direct model				
OP	<---	FOR	0,69	Significant
BP	<---	FOR	0,19	Significant
$\chi2(72)$ =166.71, NFI= 0.94, TLI= 0.95, CFI =0.96, RMSEA = 0.07				

Table 2. Path loadings

The mediation model's overall fit shows that it is consistent with the data. We also tested the chi-square different between these two models. The chi-squared difference is 4.77 with 1 degree of freedom, which confirm that the mediated model has a better fit. The results indicate operational performance fully mediate

the relationship between formalization and business performance. Fig. 2 shows the structural representation of hypothesized relationships.



***p<0.001; n.s. not significant

Fig. 2. Structural model with path coefficient estimates

DISCUSSION AND CONCLUSION

Formalization has been recognized as an important factor for companies because it helps employees to do their job better [4]. According tosome researches[6] formalization serves to articulate the congruence between the organization mission and professional objectives, reducing tensions between organizational and employee's needs. Formalization facilitates access to resources base and knowledge, and promotes collaboration. Therefore, formalization provides a common framework between employees and companies that contributes to the fulfillment of organizational goals. However, despite the important role that has formalization in the firm, empirical evidences that support it positive effect on firm performance is scarce. In this research, we have explored the connection between formalization, operational and business performance.

Based on an initial sample of organic agro-food Spanish industrial firms, we found empirical evidence that support a positive relationship between formalization and operational performance. Formalization facilitates that employees can perform their tasks better because it provides rules and procedures that avoid role conflict, ambiguity and increases coordination [6], [7], [21], which increase quality, delivery, and flexibility. Additionally, formalization also has a positive effect on business performance, but we found that this effect is mediated by operational performance. This finding offers theoretical explanation to our understanding of the relationship between formalization, operational performance and business performance. Consistent with previous research, our results show that formalization help companies to improve operational performance. Nevertheless, there is not an agreement in the organizational literature about the relationship between formalization and business performance. Some studies suggest potential negative effects of formalization in the organization [31], [32], [48]. This research provides empirical evidence about how formalization improves business performance, through operational performance.

With regard to managerial implications, our findings offer practical guideline to manager to understand the implications of formalization. Companies belonging to agro organic-food industry are subject to regulations and procedures that are fundamental to adequately guarantee the levels of quality and safety required. Therefore, formalization has an important role in this industry since it is inseparable for quality management programs, especially regarding the establishment of procedures. Furthermore, this sector has a strong competition with the conventional agro-food industry, which requires improving competitive strength to achieve business performance. Thus, companies can implement formalization, developing rules and procedures, encourage dialogue, and take into account employees' knowledge, in order to increase operational and business performance.

The findings of this study make significant and practical contributions, but they have limitations that encourage for future research. First, this study only focuses on formalization consequences. It will be interesting for future research to examine the effect of organizational context attributes on formalization. Second, we believe it would be interesting to develop an in depth understanding of the relationship between formalization and firm performance. Future research could examine separately the effects of enabling and coercive formalization on operational and business performance. Third, this study uses a cross-sectional design; in order to overcome this limitation, future research should use longitudinal data that could allow more relevant findings. Finally, we use an initial sample collected from organic agro-food Spanish firms, future research could completely validate the model with the total sample when it would available and expand it to other countries and industries.

ACKNOWLEDGMENTS

This research is part of the Project ECO2015-71380-R funded by the Spanish Ministry of Economy, Industry and Competitiveness and the State Research Agency. Co-financed by the European Regional Development Fund (ERDF).

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