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## MAPPING OF ORGANIZATIONAL MODELS IN PORTUGUESE COMPANIES

**Abstract:** *Researchers have focused on the influence of organizational models in the actions, and subsequent outcomes of organizations and the results support the view that there is indeed an association between certain features of organizational models and organizational performance outcomes. The purpose of this paper is to map the organizational models used by Portuguese companies to identify possible dominant patterns and search for differences across several dimensions (sector, size, number of customers; internal/external market). The results show a level of organizational hybridism with several models applied simultaneously and with smaller firms showing a higher emphasis on dialogue, flexibility, and response capability. There is also a general preference among Portuguese companies for the bureaucratic organizational model. The results also indicate that organizations that adopt the bureaucratic model seem to be able to implement systematic processes innovation making compatible the rules and procedures with the ability to learn and adapt.*

**Keywords:** *Organizational theories; Organizational models; Portuguese companies; Performance; Competitive advantage.*

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### 1. Introduction

Most managers nowadays are focused on defining the vision, mission, strategy and business model of their organizations, and often forget about the importance of clearly defining how the activities will be organized and which tasks will be allocated to the available personnel. In fact, the organizational model is one of the main factors which affect organizational performance, and if chosen without clear deliberation it can lead organizations to extremely negative results. Managers need to understand the fact that organizational models evolve as the business grows and that successful organizations are those which have learned how to adapt their structure to both

internal and external environmental changes. According to Mintzberg (1979), organizational models result from the dynamic interactions between organizational strategies, environmental factors and the structure of the organization. Thus, there is a variety of organizational models which can be successfully applied in order for the organization to be able to respond to the environmental forces that impact its activity and to its own characteristics (Ghinea & Ghinea, 2015). Specific organizational models will be more frequently employed in certain historical periods and certain economic periods, and there will always be a place for rational decision-making, but contemporary managers have to master the art of managing in conditions of extreme

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information uncertainty and ambiguity (Bavec, 2001). Learning about different organizational theories and the associated organizational models could draw managers' attention to different solutions for their organizational issues. The main argument of the current research is that managers need to be aware of the existence of other organizational theories besides those inspired by the scientific management tradition and that these newer theories might help them push their organizations to higher performance in environmental conditions characterized by ambiguity and chaos.

This investigation aims to bring additional knowledge to the field of organizational theories and their application in Portuguese companies. In a knowledge, global, fast-paced, digital, and interconnected society, organizations can be challenged by technology leaps, changing values, increased competition, and globalization. Both incremental and disruptive innovation and thinking are required coupled with self-disciplined, agile and timely action in response to challenges. Organizational theories have stressed the relevance of both the internal and external contexts and organizational strategies and models for success. However, overconfidence on past success and extreme self-satisfaction can be a severe organizational disease. These lead to a lack of concern for challenging entrenched beliefs, difficulties in recognizing and responding to changing environments, poor performance and inadequate culture models and structures.

The present research focuses on organizational models and searches for possible correlations between the organizational models used in Portuguese businesses and the characteristics of the organizations. Is there a predominant organizational model? Do organizations choose their models based on their characteristics? Are Portuguese companies employing more than one organizational model at a time? After the literature review, quantitative research based on an online

survey was carried and the results were statistically analyzed. Several conclusions were formulated pointing to a level of organizational hybridism with several models applied simultaneously. Smaller firms demonstrate a higher emphasis on dialogue, flexibility and response capability when compared to bigger ones.

## 2. Literature Review

Organizational theory aims to identify patterns and structures that can help organizations to avoid and solve problems, maximize effectiveness and efficiency and meet stakeholders' expectations. Part of organizational theory research focuses on the identification of conceptual models which reflect the way in which organizations behave, on the analysis of the impact that different patterns of organizational behaviors have on specific organizational objectives, and on the formulation of recommendations for organizations interested in improving their chances for success.

Organizational models, also known as organizational structures, map the ways in which roles and responsibilities are allocated in a organization and the way in which processes are coordinated and supervised to ensure the achievement of the organization's objectives. A review of the theoretical underpinnings of the organizational models developed until now revealed that there are three main organizational theories which have been used to understand the way in which organizations behave: rational system theories, natural system theories, and open system theories (Onday, 2016; Scott, 2003; Scott, 1981).

Rational organizational theories have as foundation Taylor's principles for scientific management, Weber's characterization of bureaucracy and Fayol's administrative theory. These theories place emphasis on the degree to which rules and procedures are formalized and the extent to which all organizational processes are oriented towards

the achievement of very specific goals. As a result, organizational models inspired by rational system theories are usually focused on two specific aspects: formal structures and goal specificity.

In contrast, natural organizational theories reject the notion that all organizational behaviors are governed by rational decision making and instead aim to understand the configuration of the informal structures found in organizations. In fact, natural system theories investigate the way in which the plurality of the organizational members' goals impacts organizational growth and survival, as well as the ways in which informal social networks that naturally appear inside organizations influence decision making. As a result, organizational models inspired by natural system theories are mostly focused on goal complexity and informal structures.

Lastly, open system organizational theories opened new research avenues by breaking the organizational boundaries within which rational and natural organizational theories were confined. These theories which started to appear during the 1960s are focused on the ways in which organizations interact with their external environments to attract or mobilize resources for their own objectives (resource dependency theory) or the ways in which stakeholders' expectations and existing regulations affect the way in which organizations configure their activities (institutional theories). Thus, organizational models inspired by open system theories usually emphasize the influence of external factors on how both roles and objectives are established.

Scott (2003) pointed out that current trends in the field of organizational studies are oriented, on the one hand, towards the integration of the three perspectives (e.g., contingency theory, bounded rationality theory, etc.) and, on the other hand, on criticizing the view of organizations as rational systems with predictable behaviors and on introducing new organizational

models with take into account the complexity and unpredictability of social systems (i.e., organizational anarchy theory, organizational learning theory etc.).

The main observation that any brief review of the literature on organizational theories and models leads to is that each strand of organizational theories has imposed its own ways of looking at what organizations are doing, and, consequently, created different models and classifications for organizational structures and behaviors. For this research, it is important to understand the differences between five types of organizational models: the rational model, the bureaucratic model, the coalition model, the organizational anarchy model, and the organizational learning model. The main characteristics of these models are presented in Table 1.

There are also researchers that consider that the bureaucratic/rational approach can be problematic in volatile environments and that such organizations may not be able to change as quickly as would be required, losing competitive edge to more agile and innovative competitors (Brown, 1995). A high performance might lead to the creation of a 'strong' corporate culture (cultural homogeneity), with little incentive or encouragement to question 'ways of doing things' leading to passivity and conformism (Ghinea, 2015). This successful culture may contribute to status quo and lack of flexibility to respond to situations that might require radical change.

Depending on their age, size, and environment, organizations function in diverse and complex ways, due to different flows of authority, work material, information, and decision processes (Mintzberg, 1979). Stakeholders management and satisfaction is also relevant for the way organizations operate and their outcomes (Fonseca et al., 2016). There are authors who consider that organization size is a relevant dimension for success since large organizations have more valuable resources than smaller ones (Gustafsson et al., 2001;

Ismyrlis & Moschidis, 2015). However, for other researchers' size is not relevant, since SMEs are more flexible and open to change than larger ones (Briscoe et al., 2005; Lee et al., 2009; Prado et al., 2013; Psomas, 2013; Terziovski et al. 2003). There are observed differences in management approaches and performance between organizational sectors

(Pekovic, 2010) and some investigation shows that a higher export intensity is positively related to firm performance, since firms with a higher rate of export must be more effective and efficient and have access to more knowledge (Bernard & Jensen, 1999; Ling-Yee, 2004).

**Table 1.** Organizational Theories and Models summary.

Organizational Model	Summary	Comments
Rational Model	The organization is seen as a group of individuals and resources held together by a very specific set of goals. The structure of the organization is defined in alignment with the results desired by the organization. Emphasis is placed on the creation of formal structures and on clear rules and procedures for each member of the organization. Decisions are taken by managers and communication lines follow the organizational structure (Scott, 2003).	Usually encountered in finance, politics, and public administration; accent placed on rule-following and results-based decision making.
Bureaucratic	The organization places emphasis on rules and specialization (Weber et al., 1947). The two main defining characteristics of the organization are: a) a hierarchical structure with clear standards and lines of authority, and b) a reliance on rational-legal authority. This means that each organizational member has a clearly defined function (Olsen, 2008), and that the principles that guide behaviors in the organization are entirely objective. In this type of organizations, managers gain authority through their position in the hierarchy and there is a clear chain of command which removes the possibility of lower organizational members receiving orders from more than one manager.	Mostly found in finance and the legal system; usually employed by large and complex organizations; suitable for repetitive and relevant functions.
Coalition	The coalition organizational model is based on the idea that informal structures are formed within organizations and that these coalitions influence organizational behavior. The coalitions that naturally form between managers, employees, and any other stakeholders not only participate in setting organizational goals but also influence decision making (Cyert & March, 1963). In best case scenarios, coalitions manage to identify a set of common goals and can cooperate. However, in most cases, there are multiple actors with conflicting interests and decision making is hindered (Sened, 1996). Thus, most decisions are reached through negotiations.	Mostly found in politics or situations where power belongs to several actors (e.g., large firms); management by negotiation.

**Table 1.** Organizational Theories and Models summary (continued)

Organizational Model	Summary	Comments
Organizational Anarchy	The organization is seen as a grouping of individuals with no clear goals, structure or procedures. Most organizational behaviors are based on trial-and-error attempts and there is no formalization (Lomim & Fioretti, 2008). Employees lack a clear job specification and their own commitment to organizational goals varies according to their own interests and needs. There is a sense of a lack of accountability and no clear authority lines. The organization is usually confronted with many problems with no simple and clear solutions. Employees adhere to inconsistent ideas and it is difficult to establish organizational preferences. The effectiveness of this organizational model depends on the ability to find patterns of interaction between participants, problems, solutions and choice opportunities (i.e., the “Garbage Can Theory”) (Cohen et al., 1972).	Coined after a study of higher education institutions; no predefined rules or objectives, effectiveness depends on the issues, solutions, and actors; it is particularly suitable for knowledge-intensive industries.
Organizational Learning	This model is focused on ensuring that the organization can learn and to adapt (Slater & Narver, 1995). It is the responsibility of all the organizational members to search for errors and to contribute to the development of new ideas, procedures, connections etc. which will help the organization achieve its goals. Organizations can learn either through adaptive learning (single-loop learning) or through generative learning (i.e., double-loop learning which relies on the ability of the organization to analyze its beliefs and unacknowledged assumption regarding goals, customer’s needs, strategy and resources) (Argyris, 1993).	High learning and adaptation capabilities; mostly used in knowledge-intensive industries.

### 3. Method

This investigation aims to map the organizational models used by Portuguese companies to identify possible dominant patterns and search for differences across several dimensions (sector, size, number of customers; internal/external market). Due to the limitation to gather existing data to assess the research questions, a quantitative research approach was adopted supported by an online questionnaire yielding a sample of 96 respondents. Respondent contacts were gathered through social media (LinkedIn) and co-workers. The contacts were retrieved from

the authors’ co-workers, customers’, and suppliers and invitation emails were sent asking potential participants to respond to the online survey. Although online surveys can generate low response rates when compared to other survey methods, they are a suitable technique to reach quickly, and at a low cost, a specific population that is geographically dispersed and used to the online activity. The answers were monitored during the survey time to check and minimize possible bias with non-respondents and no significant changes were identified. The survey was prepared based on a review of the literature and it contains 5 multiple choice questions meant to

identify the respondents and their organization and 25 Likert scales (1 – strongly disagree, 5 – strongly agree) items for grasping the organizational models in use. Companies from the civil construction sector, the service sector, and production companies, accounted for a total of 76.1% of the survey responses and the internal consistency of the survey was validated using Cronbach’s Alpha, while SPSS (vs 22) was used for the statistical calculations.

#### 4. Results

Around 37% of the companies included in the sample operated in the civil construction sector, followed by the service sector (24%) and production (14.6%). For a complete breakdown of the economic sectors of the companies see Table 2.

**Table 2.** Descriptive statistics-sector of activity

Sector	Nº of respondents	%
Civil construction	36	37.5
Services	23	24
Production	14	14.6
Marketing & communications	4	4.2
Financial	3	3.1
Health	2	2.1
Others	14	14.5
Total	96	100.0

Small and medium enterprises represented 70% of the total answers, which is in line with the distribution of those sectors of activities in the target population (Table 3).

**Table 3.** Descriptive statistics – number of employees of companies

Number of Employees of the Firm	Number of respondents	%
Less than 10	25	26.0
Between 10 and 50	19	19.8
Between 50 and 250	23	24.0
More than 250	29	30.2
Total	96	100.0

The intensity of the commercial activity and export presence are presented in Table 4 and 5. According to the results of a focus group held with four experts from these activity sectors the sample results matched the population distribution concerning these two dimensions.

Construct reliability was tested with Cronbach’s Alpha, which assesses reliability through the internal consistency of each construct. The constructs presented good internal reliability values (Cronbach, 1951), as seen in Table 6.

According to Maroco and Garcia-Marques (2006) since Cronbach’s Alpha is greater than 0.60 we can consider the survey as consistent and use the group items for each model (Table 7).

**Table 4.** Descriptive statistics-Commercial activity intensity of companies

Number of potential customer contacts per day	Number of respondents	%
Less than 5	24	25.0
Between 5 and 10	21	21.9
Between 10 and 20	12	12.5
More than 20	39	40.6
Total	96	100.0

**Table 5.** Descriptive statistics-level of national and international market dominance

Main Customer Source	Number of respondents	%
Portuguese	74	77.1%
Foreign	22	22.9%

**Table 6.** Model internal consistency validation

Organizational Model	Number of question Items in the survey	Cronbach's Alpha
Rational	5	0.612
Bureaucratic	5	0.785
Coalition	5	0.772
Organizational anarchy	5	0.843
Organizational learning	5	0.833

**Table 7.** Organizational model descriptive statistics.

Organizational Model	Mean	Standard Deviation
Rational	2.8375	3.3187
Bureaucratic	3.6313	0.83569
Coalition	2.8792	0.91328
Organizational Anarchy	2.6417	1.05827
Organizational Learning	3.3187	0.91517

**Table 8.** Correlation results

Correlation Analysis	Bureaucratic	Coalition	Organizational Anarchy	Organizational Learning
Rational	0.337**	0.067 (ns)	-0.030 (ns)	0.276**
Bureaucratic		0.284**	-0.200 (ns)	0.617**
Coalition			0.429**	0.193 (ns)
Organizational Anarchy				-0.279**

\*\* correlation is significant at 0.01 level

To further research if the size of the company, the number of employees, the intensity and nature of the commercial activity is related to the choice of organizational model, several ANOVA analyses were performed. The sample's normality was checked with the

The bureaucratic model was the one most frequently used followed by the organizational learning model. Organizational anarchy was the model with less reported use. Due to the non-normality of all the variables, Spearman rho correlations were calculated to measure the intensity of variables relationships (Table 8). Spearman rho varies between -1 and 1 and the nearer the values are from these extremes, the stronger is the linear association between the two studied variables. The sign indicates the direction of the association between X (the independent variable) and Y (the dependent variable). If Y tends to increase when X increases, the correlation coefficient is positive. If Y tends to decrease when X increases, the correlation coefficient is negative. If the value is zero, this means there is no linear relationship between the variables. When Spearman rho is higher than 0.60, we can state that the linear association between the two variables is strong (Pestana & Gageiro, 2008).

There is a strong positive relationship between bureaucratic and organizational learning models, suggesting that organizations that adopt the bureaucratic model seem to be able to implement systematic processes innovation making compatible the rules and procedures with the ability to learn and adapt.

Shapiro-Wilk test, and variance homogeneity with the Levene test and no significant violations were found. The most significant ANOVA tests are presented in Tables 9 and 10.

**Table 9.** Results of ANOVA test for rational model and number of company employees

Nº employees	Nº respondents	Mean	F	P-Value
Less than 10	25	3.0880	3.174	0.028
Between 10 and 50	19	3.1368		
Between 50 and 250	23	2.6000		
More than 250	29	2.6138		

**Table10.** Results of ANOVA test for coalition model and sector of activity

Nº employees	Nº respondents	Mean	F	P-Value
Service	23	2.4783	4.107	0.021
Civil Construction	36	2.9944		
Production.	14	3.3000		

## 5. Conclusions

Our research sheds new light on the connection between organizational characteristics and the choice of organizational model.

First, we have shown that the activity sector and the size of the organization influence the type of organizational model developed. This is in line with Mintzberg’s (1979) seminal work and with more recent findings from Gustafsson et al. (2001) and Ismyrlis and Moschidis (2015). Moreover, we have also found that there are no statistical differences as a result of the influence of the number of customers or the level of internationalization of the market activities, which confirmed the results obtained by Bernard and Jensen (1999) and Ling-Yee (2004).

Second, our results show that the rational organizational model is more frequently used in the service sector, whereas the bureaucratic model dominates the production sector. For the coalition model ( $F= 4.107$ ;  $p= 0.021$ ), we found that it is more intensely used in the production sector, followed by the construction sector and that it is less frequently encountered in the service sector. These findings confirm Mintzberg’s (1979) conclusion that organizational flows and environments have an evident influence on the organizational models employed.

Third, we have seen that smaller organizations have a more pronounced tendency towards rational organizational models than larger ones, but further research is necessary to confirm it. These results shed light on the potential direction of influence of organizational size on organizational model and performance which was signaled by Gustafsson et al. (2001) and Ismyrlis and Moschidis (2015).

Fourth, our results also point towards the general preference among Portuguese companies for the bureaucratic organizational model. Organizations that adopt the bureaucratic model seem to be able to implement systematic processes innovation making compatible the rules and procedures with the ability to learn and adapt, which is line with the remarks from Brown (1995) that organizations need to pay attention to the need to be agile and innovative to remain competitive in a dynamic environment. The coexistence of bureaucratic and organizational learning models is counterintuitive because previous research has shown that emphasis on rules and structures hinders organization’s ability to learn and to adapt. Thus, further research is needed to understand how these two organizational models influence each other and how it is possible for organizations to both focus on the formulation on strict rules and regulations and on quickly implementing new ideas and technologies.

Fifth, we found that several organizational models can coexist inside the same organization, hinting towards a high level of organizational hybridity especially in smaller firms which place a higher emphasis on dialogue, flexibility, and response capability. This conclusion is also consistent with Mintzberg's (1997) work on the complexity and varying use of different organizational models. However, this might also be the biggest challenge regarding the choice of organizational models, as the dominant model usually overpowers the others, leaving lesser chances for the possibility of organizational agility. Agility is important because, as Schein (2004, p. 32) states, "*managers must be capable of diagnosing a situation and in addition adapt their management style to the requirements of the environment surrounding them. If the employees or other stakeholders are distinct, the manager has to treat them accordingly*".

These results bring some useful insights to both academics and practitioners interested in gaining a deeper understanding of the organizational characteristics that influence the choice of organizational model. The diversity of isolated theories within organizational theory may be related to their chronologic appearance and level of analysis (social-psychological, structural, macro, learning, and adapting to the environment). In the dynamic and highly complex business environment in which organizations today operate, any organization that aims to ensure its success needs managers and employees with a broad set of competencies and a suitable organizational model. Fonseca

(2015) argues that the mission, values, and scope of each specific organization should suggest the most suitable organizational model for supporting its culture and maximizing its chances of success. Depending on the organization's strategy and value proposition, the sector of activity, the lifecycle phase, and the resources and external environment, different organizational models should be employed.

This research brings also some useful insights for policy development, as it highlights that the size and the activity sector of the organization influence the adoption of the organizational model, suggesting the opportunity to customize different policy approaches (e.g., for small and bigger companies; for service and production sector) to reach better outcomes.

For future studies, it is recommended to use a bigger sample size and validate the respondents' answers with qualitative methods to account for possible bias. Also, additional dimensions, such as company age should be considered, and further research could address the potential dangers to society of closed organizational models considering recent corporate scandals.

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