



Research article

Productivity in religious orders: A management by values applied approach

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ARTICLE INFO

Keywords:

Management by values
Productivity
Work organization
Religious organizations

ABSTRACT

Purpose: In this theoretical-empirical study, we analyse work methodologies of Spanish Religious Orders, and their relationship with productivity, efficacy and efficiency.

Design/methodology/approach: In the literature review we have compiled all the applicable theories. Amongst them, Management by Values stands out and has served as the framework for the hypotheses. To test the latter, we have obtained data from face-to-face surveys, obtaining 112 valid answers. Ordinary Least Squares and Logit Model have been proposed.

Findings: A greater compromise of the individual with the organization generated greater values of productivity, and its higher value in the case of the female Orders when compared to the male Orders.

Research limitations: The conclusions presented here only refer to the data of religious organizations of Málaga (Spain) that have been analysed. Future research should consider the changes brought about by the possible merger of the different Orders and the analysis of the social work of the Church through its non-profit organizations (Cáritas or Manos Unidas).

Practical implications: This study can be translatable to profit-seeking organizations. If work methodology and coordinating tasks are appropriate for religious organizations, then they should also be beneficial for-profit companies.

Originality/value: Management by Values occupies an essential place in the direction and coordination of daily tasks and the life of religious communities. Their levels of productivity, efficacy and efficiency are a result of the strong link that joins the members to the aim of the organization.

1. Introduction

All organizations need efficient management, and the employment of all available resources in order to improve results. Globalization and the ongoing social, political and economic upheaval require the corporate sector to experiment by searching for innovation in the organization and work management, with the objective of attaining greater profitability and improving competitiveness.

A review of the existing literature reveals that the intersection between religion and organizations has not been sufficiently explored, hence the structure and the functioning of religious organizations have not been understood (Polish, 1959; Hill, 1973; Fay, 1978; Tracey, 2012). Perhaps this is due to the belief that the church is removed from commercial organizations, or because it consists of an occult domain. However, the church continues to be involved in numerous projects of a social nature and is presently gaining market share, principally in Latin

America and India, as far as the recruitment of believers is concerned. Consequently, it is a field of research to be explored.

This work aims to analyse the structure and organization of The Institutes of Consecrated Life in Malaga and province (South of Spain). Their strategic organizational structure makes them unique, converting it into a competitive advantage related with efficacy, efficiency and organizational productivity, and constitutes a manner of administration where innovative techniques, such as “Management by Values”, are integrated, abandoning the idea of considering a person as merely a resource for the execution of work. This leads to the development of a mechanism of internal compromise which makes the individual adopt the values of the organization as his own, generating benefits for both the employee and the company.

The interest of this work lies in that the Orders are organizations that realize productive work and employ resources just as profit entities do. Furthermore, there are no in-depth studies involving these organizations; as such we believe there is a necessity to understand their internal

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functioning. Due to their long existence and prevalence over time they can make a large contribution (with respect to hierarchy, work methodology and frugality of resources) to non-religious organizations. The reasons we expect these organizations to behave in a different manner to others are twofold: 1) the strong sharing of ideas, beliefs and values, and 2) life in community. Of all the administrative theories analysed in the work, Management by Values, stands out by the strength that it transmits to the member of these communities, thereby making these results translatable to the for-profit organizations.

The investigation consists of three parts. First, we introduce the theories that support the bases of this study, beginning with the classical theories of administration, continuing with the transitional theories, as the behavioural, and then with Management by Objectives, Management by Values and the Organizational Culture Approach. Second, we establish the hypotheses based on the previous theories. The Methodology illustrates the method used to obtain the results of the empirical analysis with the selected sample and variables. Finally, we expose the conclusions and suggest future lines of research.

2. Theoretical framework

An organization is a corporate group or social closed relationship that limits the admission of persons through rules (Weber, 1998). Also, a system of activities or forces consciously coordinated by two or more people, supposing a situation with cooperation between them (Barnard, 1956, 1958). For Etzioni (1964) it is a social unit purposely created with concrete aims such as businesses, hospitals, churches where labour, tasks and responsibilities are deliberately divided. Schein (1993) defines it as a rational coordination of the activities of the human group in order to obtain a common objective via the division of functions and work with a hierarchy of authority and responsibility whereas for Robbins and Coulter (2000) is a deliberate grouping of people focused on a specific purpose.

The aim of this analysis, Catholic Religious Institutes of Consecrated Life, are regulated by the Code of Canonical Law (CCL), enacted by Pope John Paul II, in Rome, on the 25th of January 1983. They compose the faithful of both sexes totally devoted to God, and “adopt with freedom this form of life in institutions of consecrated canonical life supported by the competent authority of the Church, through votes or other holy links, expounding the evangelical propositions of chastity, obedience and poverty ...” (CCL, cn. 573). There exist institutes of contemplative and active life, both engaging in community life. Canon 731 establishes the Societies of Apostolic Life, similar to the Institutes, but without religious propositions.

Religious organizations coordinate themselves via the concept of the administration, whereby individuals, groups and material resources are employed in an efficient manner in order to achieve objectives (Vroom and Deci, 1992; Slater, 2017) thereby obtaining a surplus which guarantees the efficiency of the organization (Koontz and Wehrich, 1994). Hence, the administration is imperative for the survival of the organization; The tasks of the administrators are similar (Kliksberg, 1975), although organizations differ as regards their financial, human, material resources, administrative ways, and work methods (Rodríguez-Fernández, 2007; Herzog et al., 2016). In relation to industry and commerce, the Church has generally done what it can: and it has often done it by creating mediating institutions (Torry, 2016).

Ammerman (2005) categorizes in a similar manner the vast array of organizational activity in which religious groups engage. A fairly narrow range of institutional templates gives recognizable form to the work being done by congregations. The structure and activities we expect to find in a congregation have shifted significantly over the last 250 years, but the anthropological characteristics persist (Campbell-Jones, 1979).

Taylor (1986), the father of the Scientific Administration School, focused on improving productivity in the workplace, through greater efficiency in production, by application of the scientific method to the optimization of tasks via measurement and observation. Fayol (1954)

centred his theory on the organizational structure and provided importance to the hierarchy, while focusing on objectives of efficiency and productivity in aiming, by means of coordination and adequate group effort, towards a common goal (Mooney, 1947). Weber (1998), in his search for the optimal model of an organization, founded the bureaucracy theory, proposing that maximum organizational efficacy is obtained through the legal rational authority and the absolute definition of tasks, procedures, authority and responsibility. This results in a higher probability of a command or action being obeyed (Etzioni, 1975).

Amongst the type of authorities established by Weber (1998), we focus on his *charismatic authority*, based on charisma - meaning *gratuitous talent of God or state of grace* when used in a religious sense (Santora, 1993). Charisma consists of the most powerful way of exerting leadership in the world, as evidenced by Jesus or Ghandi (Nur, 1998). In the field of management, the employer recruits his employees based on their degree of faith, as opposed to relying exclusively on their technical qualifications.

Weber (1998) claims the bureaucracy to be the optimal means of structuring in order to achieve the maximum efficiency and productivity typical in modern democratic societies, as observed in religious (Church), educative (Universities) and economic (Corporations) organizations. Blum and Dudley (2001) indicated that the key of the Weber thesis consisted in contrasting labour productivity between a group of protestants and Catholics.

Ammerman (1997) analyses how religious congregations emerge, persist, adapt and/or die within a larger community ecology. Congregations, for her, are part of a web of connections. She selected in her work nine communities of different regions of the United States, all of whom experiencing significant periods of change. She found that some congregations respond to changing conditions by resisting, declining, moving to new places or adopting a new identity.

Economy and religion, as well as business and religion have always displayed a close relationship (Williams, 1983; Yildiz, 2015). Weber (1998) states that priests are specialized professionals transmitting rationality to the workplace. Jesus (ethical prophet) received a divine task and appealed for obedience to his followers (based on charismatic authority); in doing so, the latter transform themselves into a permanent congregation, and thereby impart rationality to religion (Ritzer and Barbado, 2001). In similar fashion, The Church attracts believers from the urban middle classes, thus rationalizing economical life.

Therefore, religious studies provide enrichment to the economic discipline, illustrating how economical models can, and should be modified in order to 1) aggregate questions related to norms, values and beliefs, and 2) further explore the relationship between religion and economic activities (Byron, 1977; Iannaccone, 1998; Demerath et al., 1998; Gelb and Elkins Longacre, 2012; Menezes Montenegro, 2016). Tervo-Niemelä (2016) conducted a survey in 2014 among the clergy in the Evangelical Lutheran Church of Finland showing that the clergy have clear and distinctive work orientation profiles and that these profiles also have a clear linkage to wellbeing at work. Four profiles were identified: multifaceted orientation (majority of them); worship life; promoters of justice and helping; and clergy with a passive orientation. The study strongly suggests that clergy members with the broadest orientation and interests are most able to deal with the multifaceted demands of church work.

Backstrom and Davie (2010) delve into the connections between religion and welfare in Europe, exploring that relationship in detail in eight European. The different theological traditions, different church-state relationships and different welfare regimes are all examined. Williams (2008) distinguishes among trust, bonding, bridging and linking social capital, to conceptualize how religious communities promote and develop social capital within a specifically religious cohort. Developing this construct of religious social capital further, this paper proposes a measure for use specifically among religious communities to assess individual-level social capital. The Williams

Religious Social Capital Index (WRSCI) provides a unidimensional construct of religious social capital taking into consideration the four elements highlighted.

Smith (1958, 2010) in the *Theory of moral sentiments* analyses the behaviour of religious activities from an economic standpoint; he concludes by highlighting the reputational value of human capital in the production process. This approach considers that the religion of the group reveals moral information on its members and provides an economical reference; a member of humble origin can reinforce his/her social position; religion acts as a “club” of moral reference for its members and increases the efficiency in the assignment of human resources (Rossi and Zaccarelli, 2006). In this sense, religious behaviour becomes economically rational (Anderson, 1988). However, Smith (1958, 2010) considered that the doctrines of the Catholic Church, due to its non-profit seeking attitude, impeded the development of the capitalism.

Initially, Catholicism exhibited a positive idea of work (Genesis 2, 15); however, after the original sin, The Church did not orient believers to work as a means of enrichment, but rather as Divine punishment or suffering. Along the same lines, Paul of Tarso stated “he who doesn't work doesn't eat (2 Ts 3,10).”

Catholicism developed a division of work where the clergy, nuns, monks, and other religious people performed, when compared to the secular communities, a noble and saintly labour. In these times the “oratores” or clergy consisted of the privileged class in the social pyramid, consecrating life to “saintly leisure” as Saint Thomas (1947) described contemplative life (Summa Theol., II-II, q. 77, a. 1).

In adapting to the positive conception of work, the Catholic Church incorporates the *Social Doctrine of The Church* by divulging various encyclicals by Pope Leon XIII, such as “*Rerum Novarum*” (1891), on labour conditions, and the appeal to social justice; and, “*Quadragesimo anno*” (1931), on the problems associated with businesses. Pope Juan Pablo II published “*Laborem Exercens*” (1981), which deals with the morality and spirituality ideal of Christian work - considered a fundamental duty for all Christians (Catechism of the Catholic Church, n. 2427), and a means of responding to God's call to participate in the transformation and domination of Creation (Génesis, 2016, 1,28).

Sochaczewski (2017) explores the role of the Roman Catholic Church in the Polish Solidarity movement in the early 1980s. This study demonstrates how figures and symbols of religious authority may play the role of the *good enough* parent at the collective level. Harrison (1972) focuses on culture aligned with the individual, where the main objective consists of fulfilling the individual necessities of the members.

This identical ideal of work is professed by “Opus Dei”, organization founded in 1928 by Saint Jose María Escrivá de Balaguer, who proclaimed the fulfilment of personal sanctification through daily work - in synchronization with the Weberian ethic - and, accepted all Christians (the secular majority), all along equating saintliness and perfection with success and professional leadership (Bonet, 2009).

Motivational theories and management by objectives - both relied upon to promote the identification of all members with the organization - stand out in this group. Authors such as Chiavenato (2008), Oluseyi and Hammed (2009), or Robbins and Judge (2013) identified the motivation factor as key in the incessant quest to increase productivity. Motivation is highly valued because of its consequences: motivated individuals persevere in a task until reaching their objective (Robbins and Judge, 2013).

The theories of Maslow (1991), Herzberg (1986), and Porter and Lawler (1968) lead to positive ideas about work and the perception that satisfaction generates greater productivity, resulting in a reinforcing feedback loop. This is proved in different industries, as for example Noviello (2000) in aerospace manufacturing and McNeese-Smith (1996) in the Health sectors.

Robbins and Judge (2013, p. 207) distinguish between intrinsic and extrinsic motivations; in the case of Catholic Religious Orders, the members feel a high grade of intrinsic motivation that lead them to freely involve in the mission of the congregation (Ryan and Deci, 2000). This, as

pointed out by Iannaccone (1988) and Tracey (2012), differentiates them from a sect.

Locke (1968), in his theory of task motivation and incentives, establishes that the goal is a criterion set in order to decide how much effort to dedicate to a task. Hence, the members of a religious congregation feel personal satisfaction when consecrating their entire lives to God, and contributing to achieve the objectives of the Order. Erez and Arad (1986) add that the implication is greater when persons have participated in setting the goals.

A technique used by organizations - in line with the establishment of goals - relies on Management by objectives, attributable to Drucker (1954) and mainly disseminated by one of his followers, Odiome (1972). Other authors (Kooontz, 1997; Humble, 1970) focus their attention on the adequate feedback necessary to render the model functional. In the Religious Orders, Management by objectives is unconsciously applied without the members being aware that an administrative theory underlies their daily tasks and ways of functioning.

In spite of the influence of Management by objectives, we consider another theory, Management by Values, more applicable to present day organizations. Ronen (1978) studied exclusively values whereas for Dolan and Richley (2006), values are often assumed involuntarily and mean the primary motivators of people. Values guide the mission and vision of the organization and enable the development of harmony and confidence amongst the stakeholders (Lee, 1988). García and Dolan (1997), postulate on their three practical objectives: simplification, orientation, and commitment.

Blanchard, O'Connor and Ballard (1997) consider to be ethical, sensible and profitable as values to be shared by the employees and adopted by a company that proposes flat structures without the accumulation of power in any one level. The advantages of Management by Values are the increase in efficiency, the good organizational climate, the tendency towards creativity, the coherence with social responsibility, the work-leisure equilibrium, the attraction of talent, and the decision-making process based on values. The present-day notion of *work engagement* is very related to this approach of Management, as exposed by Abu Bakar (2016) when considering the huge impact of religion on shaping people's philosophy and its role in work-life interface (Sav, 2016).

Blanchard (2006)¹ proposes organizations seek to adopt a charismatic and exemplary leadership, the type exercised by Jesus, focussed on persons and not on results. The author brings up the parable of Simon Peter, where Jesus orders Simon to go fish; the latter readily complies, albeit with certain scepticism, and returns with a net full of fish. Similarly, Lowney (2004), a former Jesuit seminarian turned high level executive with the J.P. Morgan Company, discovered that the techniques used by the bank entity were very similar to the leadership wielded and transmitted to the members of the Loyola Companion by Saint Ignatius Loyola.

Clearly, the Jesuit leadership has embraced Management by Values. Nonetheless, new movements within the Catholic Church are emerging continuously, as for example The Focolares, who have developed an innovative project involving businesses throughout the world, referred to as *Economy of Communion*, based on the principle of solidarity. It advocates for the union of efficiency with beneficence as an alternative to the present economic standard (Galindo, 2004).

Coghlan (1987) undertook a study of five religious orders to see how they formulated strategy. He hypothesized that the concepts and elements in strategic planning and strategic management were directly relevant to, and implicitly in use by, religious orders engaging in strategy formulation.

¹ Blanchard is cofounder of “Lead Like Jesus”, a non-profit organization inspiring and preparing leaders in labor activities <https://www.leadlikejesus.com/>.

Management by values encompasses organizational culture, a set of intangible values and beliefs shared by the members of an organization that results in traditions being transmitted unconsciously through daily routine, without any formal indoctrination (Litwin and Stringer, 1968; Ansoff, 1985; Deal and Kennedy, 1985; Sethia and Von Glinow, 1985). These non-written norms define the corporate identity and mold an organization into an entity different from its peers (Barney, 1986; Schein, 1988; Lessem, 1992).

According to Management by values, employees must not fear change, and be always ready to accept it, in either a proactive or reactive manner. Winter and Jackson (2014) consider the values of loyalty, dedication and commitment carry entirely new meanings by younger workers. They are reluctant to passively accept perceived organizational inequities that their elder colleagues willingly oblige by.

Authors have studied from different perspectives the nature of work and the values created in several environments, such as formative team processes (Dose and Klimoski, 1999), technological companies (Burke and Ng, 2006) or individually (Walsh and Gordon, 2008; Mashiach, 2018). In all these workplaces, leadership must be exercised with creative capacity in order to anticipate different tendencies (Baldacchino, 2017). Leader productivity and worker values, when complemented by strengthening cooperative relationships, can contribute to making teams effective (Chen and Tjosvold, 2014). The individual - the central element - must forever accept change in the interest of organizational productivity, efficacy and efficiency.

3. Methodology

The methodology followed by this study is structured in the hypothesis's formulation, sample and data, and variables sections.

3.1. Formulation of hypotheses

When setting the hypotheses we rely on organizational performance, which as generally accepted, can be analysed from three different perspectives: financial, operative and effectivity, the latter of a broader scope (Short and Palmer, 2003; Fry et al., 2016; Garcés-Galdeano et al., 2016). The Religious Orders - the object of our study - did not facilitate enough information to use financial or operative instruments which could be used as a measurement of organizational performance. Therefore, we decided to use the viewpoint of organizational effectiveness (Venkatraman and Ramanujam, 1986), and we used three components of performance in the Religious Orders: work productivity, efficacy and efficiency. Although some authors use efficacy and efficiency (effectiveness) as a measure of productivity (Pritchard and Roth, 1991) in this paper we are going to distinguish between them.

According to Fariñas et al. (2016) productivity is defined as the ratio of value of gross production of goods and services expressed in real terms to the number of yearly effective hours of work. For the use of productivity as a measure of organizational performance we analysed studies of Grifell Tatjé & Lovell (2000, 2008, 2015), the proposal made by Short and Palmer (2003), and the seminal work of Bernardin (1996) applied to the university environment.

Authors as Rodríguez Fernández (2007), Talukdar (2015) as well as Thomas (1989), Escover (1993), Stainer (1995), and the relevant researches of Appelbaum et al. (1998) and Nordhaug (2004) delve into the relationship between work productivity and human resources management. These latter authors suggest that top management needs to establish a flexible and adaptive infrastructure that should lead contemporary and complex organizations to optimum levels of performance. According to them the largest barrier to change is not technologies and work processes related but rather involves people (Blanco, 2008).

Baker and Power (2018) analyse the role and impact of beliefs, values and worldviews in the business and work-based environment, and how they are translated in non-religious spaces. Based on pilot research of

English Roman Catholic employees and managers the authors establish an emerging framework identifying the different variables informing the relationship between beliefs, values and public workplace settings (also known as spiritual capital). These variables include amongst others the close links between beliefs, values and agency in the business and work environment or the overlapping relationship between religious and non-religious beliefs and values.

We will formulate the hypotheses using the theoretical framework developed previously as foundation. First, The Administrative Theories support the means of managing and coordinating activities and serve as determinants for the achievement of organizational performance, in our case dependent on the type of institute analysed (Religious Orders).

Second, we base our study on Management by Objectives and the theories on intrinsic motivation of the employees that lead to increases in efficiency in their labour activities. We also consider that the selection of a given Order or institute (vocation of the religious) constitutes an important factor leading to better results.

Third, based on the theory of Management by Values, we consider that both the charisma of an Order and the mission of a company represent a symbol and sign of the shared values that lead members in their participation in congregational life as exposed by Kent and Henderson (2017).

According to the previous considerations we propose the following hypotheses:

- Hypothesis 1: The Institutes of Active Life and The Associations of Apostolic Life obtain greater values of productivity than the Institutes of Contemplative Life.
- Hypothesis 2: The Institutes of Active Life and The Associations of Apostolic Life obtain greater values of efficiency than the Institutes of Contemplative Life.
- Hypothesis 3: The Institutes of Active Life and The Associations of Apostolic Life obtain greater values of efficacy than the Institutes of Contemplative Life.

Furthermore, we consider two demographic variables: the age and the gender, both representative of the cultural diversity, and determinants of the organizational performance. Cox and Blake (1991) set out the benefits derived from the cultural diversity of the company. Child (1974) and Hart and Mellons (1970) correlate the age of upper management with corporate growth, whereas Hambrick and Mason (1984) establish a relationship between the youth of the directors and their higher income due to their greater willingness to assume risks. Older directors prefer security (Child, 1974); they have a diminished capacity for assimilating new ideas or conducts, leading to less productivity for their organizations (Chown, 1960). Along the same line Ilmakunnas and Maliranta (2016) show that the separation of older workers is profitable to firms. Therefore, we posit this hypothesis.

- Hypothesis 4: Productivity is inversely related to the age of the communities.

Sackett et al. (1991) found a direct relationship between the productivity of an organization and its gender composition. Adler (2001) brought to light using the Fortune 500 (1980–1998) ranking that the top 25 companies with the presence of women in upper executive levels showed a significant correlation with greater profitability. The difficulty of conciliating work and family, common in businesses (Agut and Martín, 2007), does not exist in Religious Orders as the “family” is the community itself, and all members consecrate their livings to the mission of the congregation. For that reason, we consider expedient the following hypothesis.

Kregting et al. (2019) studied the persistent religious gender gap in the Netherlands and they found out that women are still more religious than men. Cnaan (2006) analysed the gender of religious congregations in Philadelphia and discerned that they are using their resources to help

others whenever possible; the key variables that were significant in all models used in his study were congregation size and budget. Basically, the bigger and richer the congregation, the more it helps others, regardless of the gender of its prominent members.

- Hypothesis 5: Female religious communities will result more productive than male Orders.

3.2. Sample and data

The data for the empirical study has been compiled with face-to-face surveys, obtaining 112 valid answers. The statistical analysis has been carried out with the Stata v. 1.3 program.

The sample, formed by 112 Religious Catholic Communities in the Province of Malaga (Spain), is distributed as follows: Religious Female Contemplative Life (16), Religious Female Active Life (57), Religious Male Active Life (26) and Societies of Apostolic Life (13). These 112 communities integrate 929 individual members and belong to a total of 63 Religious catholic Institutes of Consecrated Life. The demographic profile of the 929 members that set the sample is 73% male religious and 27% female. Regarding age, two groups were established. The first group includes individuals with an age of 20–65 years old (35%) and the second group represents those over 65 (65%).

We indicate the estimations for the dependent variables of the models used in the empirical study and complementary information using Regression Analysis as [Ardi and Budiarti \(2020\)](#) in their study about the role of religious beliefs and collective narcissism in interreligious contact on university students.

To test Hypotheses 1,4 and 5, we used the empirical model of Multiple Regression by Ordinary Least Squares estimators. This technique allows for the quantification of the relationship amongst variables, obtaining an estimation of the magnitude of the influence ([Gujarati, 2012](#)), in this case on the dependent variable Productivity (PRD). This dependent variable (PRD) was measured on a numerical ratio scale from 0 to 10 (0 is the minimum and 10 is the maximum) used in previous studies ([Chan et al., 2003](#)). The assessment of the respondents was based on the greater or lesser degree of organizational performance for the religious organization to which they belong.

Regarding the Hypotheses 2 and 3, we run the regression model logistic LOGIT which allows predicting the result of a categorical variable based on the independent or predictor variables ([Hosmer et al., 2013](#)). This is the case of the dependent variables Efficiency and Efficacy. The estimation of the dependent variable Efficiency (EFI) was carried out with a measurement scale with Likert-type elements with 3 response levels (1 high; 2 medium; 3 low). The assessment of the respondents was based on the greater or lesser degree of saving of resources (time and raw materials) during the fulfilment of their work tasks. To estimate the dependent variable Efficacy (EFC) was carried out with a measurement scale with Likert-type elements with 3 response levels (1 high; 2 medium; 3 low). The assessment of the respondents was based on the greater or lesser degree of fulfilment of their work tasks. For both variables, the respondents only used 2 levels to answer (1 high; 2 medium), therefore, these 2 dependent variables were recoded as categorical (with 2 categories). In this way, the binary logistic regression function is the most suitable for estimating these dependent variables ([Hosmer et al., 2013](#)).

3.3. Variables

The independent variables used in the study are:

NIN: Continuous quantitative variable. Number of members in each community.

WOMEN: Dummy variable. Refers to the sex of the community. WOMEN = 1 if the community is female and WOMEN = 0 if the sex is male.

UNIQUE: Dummy variable. Value = 1 if the work method of the organization is unique and value = 0 if the method is varied.

In order to analyse the type of institute, we used 3 dummy variables: CONTEMPL (CONTEMPLATIVE LIFE), ACTIV (ACTIVE LIFE) and SAL (SOCIETIES OF APOSTOLIC LIFE. They have value = 0 if it is not this type of institute, and value = 1 if it is this type of institute).

ROUTINE: Dummy variable. This variable has value 1 if members execute routine activities, and value = 0 in the contrary case.

HOD: Continuous quantitative variable. Number of daily hours of work.

PRAG4: Dummy variable. Percentage of members older than 65 years. This variable has value 1 if members are older than 65 years, and value = 0 in the contrary case.

OUTS: Dummy variable. Variable with value = 1 if the community uses subcontractors to perform some activities, and value = 0 in the contrary case.

ASI: Dummy variable. Variable with value = 1 if there exists assignment of labour tasks in the community, and value = 0 in the contrary case.

4. Results and discussion

Below are the estimates of the models used for each dependent variable, together with their corresponding models, as well as information complementary to the tables. The estimation of the dependent variable Productivity (PRD) is represented by the following relationship:

$$PRD = cons + \beta_{NIN} * NIN + \beta_{WOMEN} * WOMEN + \beta_{UNIQUE} * UNIQUE + \beta_{ACTIV} * ACTIV + \beta_{SAL} * SAL + \beta_{ROUTINE} * ROUTINE + \beta_{HOD} * HOD + \beta_{PRAG4} * PRAG4 + \beta_{OUTS} * OUTS + \beta_{ASI} * ASI$$

In [Table 1](#) we can observe the results of the model Ordinary Least Squares for the dependent variable Productivity.

The variable NIN presents a significant coefficient. This indicates that for each increase of 1 member in a community, it will have productivity 0.0387 points higher. The WOMEN variable is also significant. Its value, 0.6847, indicates that a community made up of women will have, on average, the productivity of 0.6847 points higher than a community made up of men. This confirms the fifth hypothesis. Regarding the UNIQUE variable, it is not significant, which indicates that it cannot be said that there are differences in productivity between communities with a single work method and communities with a varied work method.

By type of religious Institute, ACTIV with a value of 1.4508, indicates that an active type community has on average a productivity 1.4508 points higher than a CONTEMPLATIVE type. We observe that SAL with a value of 1.8715 indicates that a Society of Apostolic Life has average productivity 1.8715 points higher than a CONTEMPLATIVE type. These results indicate that contemplative-type communities are the least productive. Here, we confirm Hypothesis 1.

Other variables such as ROUTINE and HOD are not significant. Therefore, regarding ROUTINE, we cannot say that there are differences in productivity between the communities in which they carry out routine activities and those that do not. Concerning HOD, it cannot be said that there are differences in productivity between the communities based on the number of hours a day that its members dedicate to it.

The variables PRAG4 and OUTS are also significant. This means that PRAG4 indicates that a 1% increase in community members over 65 is associated with a decrease in productivity of 0.0087 points. Hence we can confirm the validity of hypothesis 4. Regarding OUTS, we can say that the communities that make subcontracts have an average productivity of 0.5915 points lower than those that do not make subcontracts.

Finally, ASI is not significant. This indicates that it cannot be said that there are differences in productivity between the communities that carry out work assignments and those that do not.

Table 1. OLS model for productivity.

Dependent variable	Independent variables											F	R ²
	Cons	NIN	WOMEN	UNIQUE	ACTIV	SAL	ROUTINE	HOD	PRAG4	OUTS	ASI		
PRD	7.2866*** (0.8098)	0.0387* (0.0198)	0.6847 *** (0.2431)	0.1958 (0.5222)	1.4508** (0.5706)	1.8715*** (0.6037)	0.0736 (0.3245)	-0.0115 (0.0139)	-0.0087 ** (0.0036)	-0.5915** (0.2551)	0.2667 (0.6662)	0.0038	0.2381

*** → Variable statistically significant at less than 1%; ** → Variable statistically significant at less than 5%; * → Variable statistically significant at less than 10%.
 Cons → Constant; F → Statistical F probability; R² → Goodness of fit.
 Equation of the model: $PRD = cons + \beta_{NIN} * NIN + \beta_{WOMEN} * WOMEN + \beta_{UNIQUE} * UNIQUE + \beta_{ACTIV} * ACTIV + \beta_{SAL} * SAL + \beta_{ROUTINE} * ROUTINE + \beta_{HOD} * HOD + \beta_{PRAG4} * PRAG4 + \beta_{OUTS} * OUTS + \beta_{ASI} * ASI$.

The estimation of the dependent variable Efficiency (EFI) is represented by the following relationship:

$$EFI = cons + \beta_{NIN} * NIN + \beta_{WOMEN} * WOMEN + \beta_{UNIQUE} * UNIQUE + \beta_{ACTIV} * ACTIV + \beta_{SAL} * SAL + \beta_{ROUTINE} * ROUTINE + \beta_{HOD} * HOD + \beta_{PRAG4} * PRAG4 + \beta_{OUTS} * OUTS + \beta_{ASI} * ASI$$

In Table 2 we can observe the results of the model LOGIT for the dependent variable Efficiency (see Table 3).

In LOGIT models we can interpret the sign of their coefficients (positive or negative). The variable NIN presents a significant and positive coefficient (Value = 0.3149). This indicates that those communities with a greater number of members are more efficient. The variables WOMEN and UNIQUE are not significant, which indicates that we cannot affirm that there are differences in efficiency between the communities that are formed by women and those that are formed by men. Likewise, we cannot affirm that there are differences in efficiency between the communities that use a single work method and those that use a varied one.

Regarding the type of religious Institute, ACTIV is significant, with a value of 4.4218 (positive), which indicates that active-type communities are more efficient than CONTEMPLATIVE ones. SAL is also significant, with a value of 5.5657 (positive), which indicates that Societies of Apostolic Life are more efficient than CONTEMPLATIVE-type communities. These results indicate that contemplative-type communities are the least efficient and therefore the second hypothesis is confirmed.

The ROUTINE variable is significant, with a value of -2.2707 (negative), which indicates that communities in which routine tasks are performed are less efficient than communities in which routine tasks are not performed.

The rest of the variables of the analysis (HOD, PRAG4, OUTS and ASI) are not significant. Therefore, we cannot affirm that there are differences in efficiency between the communities in which the members work more hours per day and those that work less. The same for communities in which there is a higher percentage of people over 65 years old and those with less age. Nor can we affirm that there are differences in efficiency between the communities in which outsourcing takes place and those that do not. Finally, this is also the case in communities in which labour tasks are assigned and in which they are not.

The estimation of the dependent variable Efficacy (EFC) is represented by the following relationship:

$$EFC = cons + \beta_{NIN} * NIN + \beta_{WOMEN} * WOMEN + \beta_{UNIQUE} * UNIQUE + \beta_{ACTIV} * ACTIV + \beta_{SAL} * SAL + \beta_{ROUTINE} * ROUTINE + \beta_{HOD} * HOD + \beta_{PRAG4} * PRAG4 + \beta_{OUTS} * OUTS + \beta_{ASI} * ASI$$

Table 2. LOGIT model for efficiency.

Dependent variable	Independent variables											X ²	Pseudo R ²
	Cons	NIN	WOMEN	UNIQUE	ACTIV	SAL	ROUTINE	HOD	PRAG4	OUTS	ASI		
EFI	-1.2420 (2.0345)	0.3149 ** (0.1533)	-0.4280 (1.1042)	0.008 (1.0824)	4.4218 *** (1.2880)	5.5657 *** (2.0877)	-2.2707 * (1.3294)	-0.0732 (0.0453)	-0.0085 (0.0453)	1.0545 (0.9738)	-1.1498 (1.0362)	0.0408	0.2806

*** → Variable statistically significant at less than 1%; ** → Variable statistically significant at less than 5%; * → Variable statistically significant at less than 10%.
 Cons → Constant; X² → Pearson's Chi Square statistic; McFadden pseudo R² → Goodness of fit.
 Equation of the model: $EFI = cons + \beta_{NIN} * NIN + \beta_{WOMEN} * WOMEN + \beta_{UNIQUE} * UNIQUE + \beta_{ACTIV} * ACTIV + \beta_{SAL} * SAL + \beta_{ROUTINE} * ROUTINE + \beta_{HOD} * HOD + \beta_{PRAG4} * PRAG4 + \beta_{OUTS} * OUTS + \beta_{ASI} * ASI$.

For the Efficiency variable, we also run a model LOGIT, therefore, we can interpret its sign. On the one hand, we observe that the variables NIN, WOMEN, and UNIQUE are not significant, which means that we cannot affirm that communities with a greater number of members are more effective than those with fewer. Nor can we affirm that there are differences in effectiveness between communities that are made up of women and those made up of men. And likewise, we cannot affirm that there are differences in efficiency between the communities that use a single work method and those that use a varied one.

On the other hand, the variables ACTIV (value 3.4204) and SAL (value 3.9964), are significant and positive, so we can affirm that active-type communities and Apostolic Life Societies are more effective than CONTEMPLATIVE ones. These data confirm hypothesis number 3. The variables ROUTINE (value -2.3531) and HOD (value -0.0992) were also significant but with a negative sign. In this case, we can say that the communities in which routine tasks are carried out and those in which their members dedicate a greater number of hours a day to work are less effective than their counterparts.

Finally, the variables PRAG4, OUTS and ASI are not significant, so we cannot affirm that there are differences in efficacy between the communities in which there is a higher percentage of people over 65 and those with less. The same between the communities in which sub-contracts are carried out and those that do not. And the same case for the communities in which labour tasks are assigned and in which they are not.

As shown by the results, hypothesis 1, 2, and 3 have been confirmed as regards the greater values of productivity, efficacy and efficiency experienced by The Institutes of Active Life and The Associations of Apostolic Life when compared to The Institutes of Contemplative Life.

Notably, the variable HOD (Hours of daily work) has no statistical significance for the variable Productivity, that is, although Contemplative Life Communities dedicate more daily hours to work than to prayer, they are not more productive than the others, probably because their mission and values are different.

Other variables related to Productivity lead to the following conclusions:

- The number of components of an Order is directly related to the Productivity. All members share the same values and work to achieve the same aim, and therefore a greater number of members will contribute to increased productivity.
- Communities that do not use subcontractors are more productive than others that do so; perhaps, the reason lies in that the work of the

Table 3. LOGIT model for efficacy.

Dependent variable	Independent variables											X ²	pseudo R ²
	Cons	NIN	WOMEN	UNIQUE	ACTIV	SAL	ROUTINE	HOD	PRAG4	OUTS	ASI		
EFC	2.2971 (2.3322)	0.1153 (0.0859)	-0.8628 (1.3603)	-0.4972 (1.6504)	3.4204 *** (1.0468)	3.9964 ** (1.8075)	-2.3531 ** (1.1874)	-0.0992 ** (0.0477)	-0.0176 (0.0130)	-0.0164 (0.7448)	-0.5006 (1.5904)	0.0071	0.2293

*** → Variable statistically significant at less than 1%; ** → Variable statistically significant at less than 5%; * → Variable statistically significant at less than 10%.

Cons → Constant; X² → Pearson's Chi Square statistic; McFadden pseudo R² → Goodness of fit.

Equation of the model: $EFC = cons + \beta_{NIN} * NIN + \beta_{WOMEN} * WOMEN + \beta_{UNIQUE} * UNIQUE + \beta_{ACTIV} * ACTIV + \beta_{SAL} * SAL + \beta_{ROUTINE} * ROUTINE + \beta_{HOD} * HOD + \beta_{PRAG4} * PRAG4 + \beta_{OUTS} * OUTS + \beta_{ASI} * ASI$.

subcontractors has not been included in the results of the work of the community.

Hypothesis 4 is confirmed, that is, communities with younger members are more productive than those with older members. When conducting the surveys, some religious orders explained that they had members who only collaborated a few hours a day because they were quite old.

Likewise, hypothesis 5 is confirmed, the greater productivity of the female Orders when compared to the male only, even though the activities carried out by both are similar.

The rest of variables analysed have no statistical significance in regard to changes in productivity.

With respect to Efficiency, hypothesis 2 is confirmed, demonstrating that the Communities of Active Life and the Societies of Apostolic Life are more efficient. The three types of institutes, by embracing the vow of poverty, share the values of asceticism, frugality, and austerity. This coincides with the results obtained in Productivity, as expected for they both measure the same concept - performance achieved with the minimum utilization of resources.

The communities of contemplative life give less importance to work than to prayer; consequently, these types of Orders are less efficient. Their primary worry is the sustenance of the religious members, the maintenance of the buildings and the assistance to the needy.

Other variables related to Efficiency:

- With respect to the number of members, bigger communities with a greater number of members are more efficient than smaller ones.
- In regard to routine or non-routine tasks: a variety of tasks in the community favours efficiency. Some religious commented that the varied tasks stimulate the attention they pay to save resources.

In relation to Efficacy, hypothesis 3 is confirmed, the Communities of Active Life and The Societies of Apostolic Life are more effective than The Contemplative. Efficacy refers to the accomplishment of tasks, without considering the minimum usage of resources.

Other variables analysed generate the following results:

- Communities with routine tasks are less effective, namely creativity and novelty of tasks increase Efficacy. The Societies of Apostolic Life are an example of Efficacy due to the flexibility and autonomy they enjoy. Its values are active service, and action applied to different tasks favours greater efficacy.
- More daily work hours are not a guarantee of Efficacy. This is the case of contemplative female nuns, whose activity is usually the preparation of pastries, with the only objective of achieving the sustainability of the community house.

5. Conclusions

With respect to the productivity variable, a greater compromise of the individual with the organization results in greater values of productivity. In our case, we observed that Active Life and Apostolic Life are more productive than Contemplative Life; Apostolic Life being the most

productive, due to their particular ways of managing and coordinating the activities of the members. Throughout history the Catholic Church has modified its traditional conception of work. In fact, the congregations of contemplative life conceived during the Medieval Ages had a more otiose character, especially when compared to their more active and dynamic brethren founded subsequently.

The differing degrees of productivity can be explained as follows: The highest corresponds to The Apostolic Societies, most likely due to the non-religious character of their votes and their total autonomy with respect to the Bishopric. Next The Active Life Communities, a result of their structure and perfect coordination of daily tasks. Finally, The Contemplative Life Communities obtain the lowest degree, a consequence of their main mission revolving around the prayer and not work.

Another important aspect researched in this article, differentiation by sex in religious organizations, has thrown light upon this issue: the greater productivity of the female Orders when compared to the male-only, even though the activities carried out by both are similar. So, the gender, as postulated in this article, is a relevant feature in the achievement of higher productivity.

In conclusion, this study confirms that a set of elements - structure, management, coordination of activities, work methodology, motivation and values - embraced by the members of an Order form a distinctive strategy that leads the community to improve its levels of organizational performance. Among all theories analysed, Management by Values, occupies an essential place in the direction and coordination of daily tasks and life in religious communities. Their levels of productivity, efficacy and efficiency are a result of the strong link that joins the members to the aim of the organization. The values of the community act as stimulators conducive to the achievement of the mission. Furthermore, we have found that Management by Values plays a much more significant role than previously thought and the "beliefs" by which organisations are managed are largely theological.

The interest of this study lies in that it can be translatable to profit-seeking organizations; religion and work have always shared a common thread. We believe the positive aspects of Religious Orders can enrich secular entities. If work methodology and coordinating tasks are appropriate for religious organizations, then they will also be beneficial for-profit companies. Religious Orders best practices should be applied to all types of organizations.

5.1. Limitations and future lines of research

This work has some limitations. The conclusions presented here only refer to the data of religious organizations of Mlaga (Spain) that have been analysed. These religious organizations were unwilling to provide financial data to support the construction of the PRD variable. Instead, they agreed to assess the PRD of their order from the point of view of organizational performance through a numerical ratio scale.

Therefore, it could be interesting to carry out research with larger samples that include data from religious institutions at the national level and also financial. This could confirm or refute the conclusions expressed in this study.

As much remains to be explored in this domain, future research should consider other issues. For example, specific cultural values

espoused by concrete Orders; present-day strategic techniques employed in the Medieval Age; and, the changes brought about by the possible merger of different Orders. The analysis of the social work of The Church as carried out through its non-profit organizations (Caritas or Manos Unidas), and that of new Orders which have recently emerged as a consequence of the tendency towards “Economy of Communion” - enriched with ethical values - could be the object of further study.

Declarations

Author contribution statement

Mercedes Rodríguez-Fernández: Conceived and designed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

M. Ángeles Jurado-Caraballo: Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Funding statement

This research received funding from Junta de Andalucía (Spain) through Research Group SEJ-603 “Organizational Performance”.

Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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