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IMPACT OF LEADERSHIP STYLE ON THE USE OF ACCOUNTING INFORMATION FOR DECISION MAKING*

Amélia Ferreira da Silva [1]*, Belen Fernandez-Feijoo [2], Susana Gago-Rodriguez [3]

[1] Porto Accounting and Business School, Polytechnic Institute of Porto, CEOS.PP, Rua Roberto Frias, nº712, 4200-465 Porto, Portugal
[2]University of Vigo, Lagoas Marcosende s/n, 36310 Vigo (Spain); [3]Economics and Business Administration School, Comillas Pontifical University – ICADE – Madrid, Spain

E-mails[1] acfs@iscap.ipp.pt (Corresponding autor); [2] belen@uvigo.es; [3] sjgago@icade.comillas.edu*

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Abstract. The article explores the effect of different leadership styles on behavioural outcomes and the use of accounting tools. Literature on clinicians' behaviours regarding the use of accounting tools is sparse, limited in scale, centred on nurses and lacking generalizability, especially in non-Anglo-Saxon countries. The article fills this gap. The analysis focuses on how middle doctors-manager (associates) respond to their senior doctors-manager (leader) leadership styles and the influence of these trade-offs on associates' use of accounting tools for decision-making and decision control. The study is conducted in two large public Portuguese hospitals. Data collection using questionnaires and partial least squares (PLS) was the statistical technique applied. The results show that the relationship between leadership styles and behavioural outcomes is not straightforward, and doctors' professionalism plays an important role that needs attention. As highly-educated professionals, doctors have their own criteria and do not always consider managerial ones.

Keywords: Accounting tools; behavioural outcomes; decision control; decision management; leadership style; Portugal; public hospitals

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JEL Classifications: M41, I18, M14

1. Introduction

Healthcare organizations have confronted successive waves of reforms during the last decades. To successfully lead these reforms in public hospitals, the first choice for politicians was to shift managerial power from healthcare professionals to managers, commanded to conceal clinical quality efficiently. However, practice indicated that it was frequently easier for doctors to gain organizational skills and knowledge than managers who

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learned medicine (Giacomelli et al., 2019). Consequently, governments stimulated the emergence of hybrid professionals (Kurunmäki, 2004), i.e., doctors-managers, in hospitals. These 'hybrid roles, framed by both professionalism and managerial logics, diffused across healthcare systems globally' (McGivern et al., 2015, p.412) in such a way that there are voices that claim for 'formal management training in the medical curriculum' (Myers and Pronovost, 2017, p.582l; Piccinetti et al., 2023).

As soon as governments understood that engaging clinicians in hospital management was crucial for the success of public reforms, new accounting information tools (AIT) were implemented. Previous research recognizes the different reactions of the public and the private sector when facing changes: staff within the former sector is less inclined to enforce transformations than within the latter (Rodrigues Quesada et al., 2014). Interestingly, doctor managers have become users (decision-making) and objects (decision control) of these AIT. Nevertheless, the literature suggests that senior doctors often need to gain knowledge and skills to lead these health enterprises (Grigsby, 2015). This may be because, previously, they did not receive training in or were not socialized within a (bureaucratic) management control system (Myers and Pronovost, 2017). However, effective leadership is core for senior doctors to face hospitals' complex challenges to achieve efficiency (Ferreira-da-Silva et al., 2019). Leadership styles' influence on managers' commitment to organizational goals is commonplace in the management literature (Robescu et al., 2021). The role of transformational and transactional leadership, proposed by Bass and Avolio (1994), has been widely accepted as an effective way to enhance organization performance. Martin and Learmonth (2012) suggest that leadership is an instrument to align healthcare stakeholders' objectives with policy intentions.

On the other hand, prior investigation reinforces the role of accounting as guardian of the aimed efficiency in healthcare reforms, and doctors' response is a crucial issue to this aim (Gebreiter, 2016). For instance, Ferreira-da-Silva ate al. (2019) show that transformational leadership encourages doctors to use AIT. Nevertheless, most accounting studies that analyze the achievement of efficiency at hospitals focus on senior managers' leadership style but ignore the implications of doctors' behaviour (e.g. Abernethy et al., 2010; Snieska et al., 2020).

Yet, literature about clinicians' behaviours regarding the use of AIT needs to be more extensive, limited in scale, lacking generalizability, and mainly focused on Anglo-Saxon countries. This paper explores the effect of different leadership styles on behavioural outcomes and the use of AIT. We contribute to the knowledge on the involvement of doctors in managerial processes. We extend Fryer et al. (2018)' conversation highlighting the importance of middle manager affective commitment for successfully implementing improvement programs. Specifically, we analyze the way middle doctors-manager respond to different leadership styles of their senior doctors-manager ('affective commitment') and the influence on formers' use of accounting tools for decision-making and decision control ('improvement programs') following Andersen's (2019) concepts. We conducted our study in two large public teaching hospitals in Portugal, contributing to overcoming the lack of non-Anglo-Saxon countries' research in the field. We anticipate that behavioural outcomes were higher under the most proactive leadership style, namely transformational style; that satisfaction is an antecedent of the other two outcomes, namely effectiveness and extra effort; and that using AIT for decision control is an antecedent for decision-making.

This paper is split into four additional sections. In the next section, we described our theoretical framework and our hypotheses. We then present our methodology, followed by our results and discussion. The concluding section summarizes our contributions and explains the implications for further research.

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2. Leadership Style: Previous Literature and Development of Hypotheses

Prior literature has reported leadership's key role in organizations' success (Llach et al., 2017). Bass and Avolio (2004) proposed a continuum typology of leadership styles: transformational, transactional, and passive/avoidant. A transformational leadership style requires not merely that a leader recognizes their associates' needs but also that they actively work to develop those needs from lower to higher levels of maturity. Transformational leaders raise their associates' awareness of the importance of achieving valued outcomes and the strategies to reach them. These leaders encourage associates to transcend their self-interest for the team, organization, or more extensive policy. The relationship between transformational leader and their associates is based on qualitative aspects and interpersonal bonds (Noeverman, 2007).

Transactional leadership focuses on the forces of a leader to motivate their associates to perform at their full potential over time, either for the leader's sound or a larger collective. In its more constructive form, transactional leadership can be reinforced by working with individuals or teams, setting up and defining agreements or contracts to achieve specific work objectives, discovering individuals' capabilities, and specifying the compensation and rewards that can be expected upon successful task completion (Witges and Scanlan, 2014). In its corrective form, transactional leadership is similar to monitoring for mistakes. Whichever form it takes, this style focuses on identifying errors (Bass and Avolio, 2004). Transactional leaders base their relationship with their associates on quantitative evaluation of performance and deviations from objectives. They reward or punish their subordinates when they achieve or do not reach their targets (Noeverman, 2007).

Passive/avoidant leadership (i.e., *laissez-faire* style) is neither constructive nor active. *Laissez-faire* leaders follow a strategy of alienation. They avoid getting involved in problems or taking important decisions. More remarkably, as Toor and Ofori (2009) concluded, there is a negative association between ethical behaviour and *laissez-faire* leadership.

Prior literature identifies three different behavioural outcomes: effectiveness of the style, satisfaction with the kind and extra effort it induces (Bass and Avolio, 1994, 2004). Effectiveness reflects the leader's capacity to guide an effective group and meet their associates' needs (Bass, 1999). Satisfaction captures the degree to which associates are satisfied with the leader's behaviour and their job (Bass, 1999). Extra effort refers to the leader's capacity to increase associates' desire to succeed and encourage them to excel (Bass, 1999). The effect of each leadership style on associates' behaviour is different. Bass and Avolio (2004) indicated that the highest levels of all three outcomes are achieved for those leaders that follow a transformational style, whilst the lowest levels correspond to a *laissez-faire* style (Asiri et al., 2023).

2.1 Leadership styles and behavioural outcomes in hospitals

Earlier studies found that each leadership style distinctly influences associates' satisfaction, effectiveness and extra effort (Kim et al., 2015). Nevertheless, the research on this topic in the healthcare sector has mainly approached hospitals in Anglo-Saxon countries at a nurse level (e.g. Casida and Parker, 2011; Chen and Chen, 2018). Yet, further analysis is needed.

Some researchers found that the effect of transformational leadership on the three outcomes was more substantial and positive in clinical staff than in other styles (Xirasagar et al., 2006). For instance, Salas-Vallina et al. (2022) analyze how to restore satisfaction and enthusiasm among physicians after the deep psychological damage that COVID-19 left behind within these professionals. They conclude about the importance of shared leadership for the searched physician re-engagement that may be framed in the transformational style. Similar results are reported for different environments (Alwali and Alwali, 2022; Øygarden et al., 2020). These studies also identified a more substantial effect of transactional leadership on associates' outcomes than of *laissez-faire* style.

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However, they recognized that hospitals are complex organizations and factors, such as the structural distance among groups, moderate the favourable relationship between transformational leadership and the three perceived outcomes (Avolio et al., 2004).

Another stream of literature contradicts these findings in some way. Hospitals seem to belong to the negative zone of organizational receptivity to transformational leadership when professionals (nurses, physicians, etc.) are weakly committed to the organization (Bass, 1999; García-Sierra et al., 2023). As mentioned, most research that analyzes this relationship (leadership style and outcomes) focuses on nurses in Anglo-Saxon countries. The role that nurses perform in the hospital power structure, which is highly hierarchical, may explain these results. Therefore, they may not necessarily extend to doctors because, contrarily to nurses, doctors occupy an upper level in the organization's hierarchy. Additionally, doctors are professionals who are more educated and motivated to be considered self-leaders (Ugurluoglu et al., 2015; Zhang et al., 2023). Therefore, we expect to see higher behavioural outcomes for those doctors who perceive that they are following a transformational leader who considers associates' needs and converts them into leaders, whilst the lowest levels may correspond to a *laissez-faire* style.

Based on our analysis, the first hypothesis is stated as follows:
H1: A perceived transformational leadership style has a more positive effect on the behavioural outcomes of doctors than a transactional style, whilst *laissez-faire* (i.e., no style) has a negative impact.

2.2 Behavioral outcomes and the use of AIT for managerial decisions

The growing demand for healthcare services and quality improvement has put a lot of pressure on doctors to manage and control costs. Doctor managers are expected to become regular users of AIT to support decision-making and control their subordinates. The underlying rationale is that doctors' decisions about patient treatment and care commit hospitals to costs and must be conscious of the economic implications of their clinical decision-making. Therefore, the information provided by AIT will be used for decision control of doctor managers. Medical motives for accepting managerial responsibility may be primarily defensive. Once doctors are responsible for most managerial decisions that commit hospital resources, the political strategy of co-opting them into the management aims to ensure that clinical professionals become directly involved in the administrative process (Xirasagar et al., 2005).

As Abernethy and Vagnoni (2004) noted, the users of accounting information, i.e. physicians, should be considered when designing AIT in hospitals. Furthermore, Ferreira-da-Silva et al. (2019) showed that the presence of a transformational style of leadership in hospitals produces a positive perception of AIT by doctors. We progress in this idea by hypothesizing that the behavioural outcomes of each leadership style mediate the use of AIT. When the style is positively perceived and has positive consequences on the three behavioural outcomes, i.e., effectiveness, satisfaction and extra effort, doctors feel more committed to the hospital. They are more inclined to use AIT. Effectiveness enhances the use of AIT because it is recognized as essential to any process that requires organizational changes, mainly when the change involves highly-qualified professionals, such as doctors, and highly politicized institutions, such as hospitals (Abernethy and Vagnoni, 2004). Organizational changes that imply the introduction of AIT also need extra effort to overcome challenges. It might also be expected that satisfaction with the leader promotes the involvement and commitment of doctors with economic and financial objectives.

Doctors are an educated workforce willing to develop their abilities, seek personal enrichment, and understand and assume their organizational mission (Hater and Bass, 1988). If their senior doctor develops an adequate leadership style, its behavioural outcomes will likely facilitate the use of AIT. We expect that behavioural outcomes encourage the use of AIT, which is perceived as an organizational goal (Engin and Gürses, 2019), an objective of implementing organizational changes that involve professionals in the managerial process (Jansen,

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2011). Positive behavioural outcomes are suitable for guaranteeing organizational commitment when organizational changes that deal with AIT are implemented, mainly when the change involves doctors and hospitals (Abernethy and Vagnoni, 2004; Ferreira-da-Silva et al., 2019). Our second hypothesis is, therefore:
H2: Positive behavioural outcomes from a leadership style positively influence using AIT information for decision-making and decision-control.

2.3 Behavioral outcomes inter-relationship

The three behavioural outcomes: effectiveness, satisfaction and extra effort, are not balanced. Previous research has reported causal precedence of satisfaction over organizational commitment, leading to extra effort to achieve organizational goals (Yun et al., 2007). In the healthcare sector, subordinates' satisfaction is positively related to patient satisfaction, increasing effectiveness. Satisfaction is also a facilitator of trust and loyalty to leaders, generating effectiveness and extra effort (Myrden and Kelloway, 2015).

As it is above mentioned, the healthcare literature on our study topics is mainly focused is staged by the nursery body. The relationship between satisfaction and other leadership outcomes is not an exception. Trofino (2003) reports that as satisfaction increased, effectiveness and extra effort increased for nurse staff. Kammerlind et al. (2004) identify the facilitator effect between satisfaction and the other outcomes, for the healthcare sector, by improving patient satisfaction and care. They find that healthcare organizations that are customer and process focused have satisfied employees improving organizational results and more satisfied patients.

The effect of satisfaction on effectiveness and extra effort among highly-qualified physicians needs to be explored more. To this aim, we formulate our third hypothesis as follows:
H3: In hospitals, associates' satisfaction with the leader's behaviour promotes effectiveness and extra effort.

2.4 Effect of the use of AIT for decision control on decision management

Academics generally agree that AIT information supports management and control decisions. The AIT information facilitates organizational members to make both management and control decisions, which should be consistent with the organization's objectives (Iveroth et al., 2013). The increasing importance of healthcare costs requires using AIT for decision management and control. Using accounting information for management decisions reduces ex-ante uncertainty to make better-informed and educated decisions. AIT provides ex-post information for decision control to evaluate associates' performance and closeness to organizational objectives (Bouwens and Abernethy, 2000).

Abernethy and Vagnoni (2004) assessed these two roles of AIT in their decisions through the organizational use of budgetary information at a subunit level. The first is the decision management role, i.e., doctor managers use AIT (budget information) in their decisions. The second is the decision control role which refers to the use, by their senior managers, of accounting information to control the doctors' behaviour (i.e., their clinical decisions). Using AIT information for decision management reinforces formal authority (Abernethy and Vagnoni, 2004). The use of AIT for decision control positively influences its use in doctors' decision-making process (Ferreira-da-Silva et al., 2019).

Our hypothesis is based on the following rationale. If senior managers monitor (control) subordinates using AIT information, it is plausible to assume that doctors will want to use the same information structure for their decision-making. In that way, doctors will feel more confident about the information supporting their decisions, as they will be controlled by it. This hypothesis is built on ‘strategic coherence’ (Lusiani and Langley, 2019), meaning that senior doctor managers will transmit consistent messages throughout the managerial hierarchy. Therefore, we propose our fourth hypothesis as follows:
H4: The use of AIT for management control by senior doctor-managers positively influences associate managers-doctors to use AIT for decision-making.

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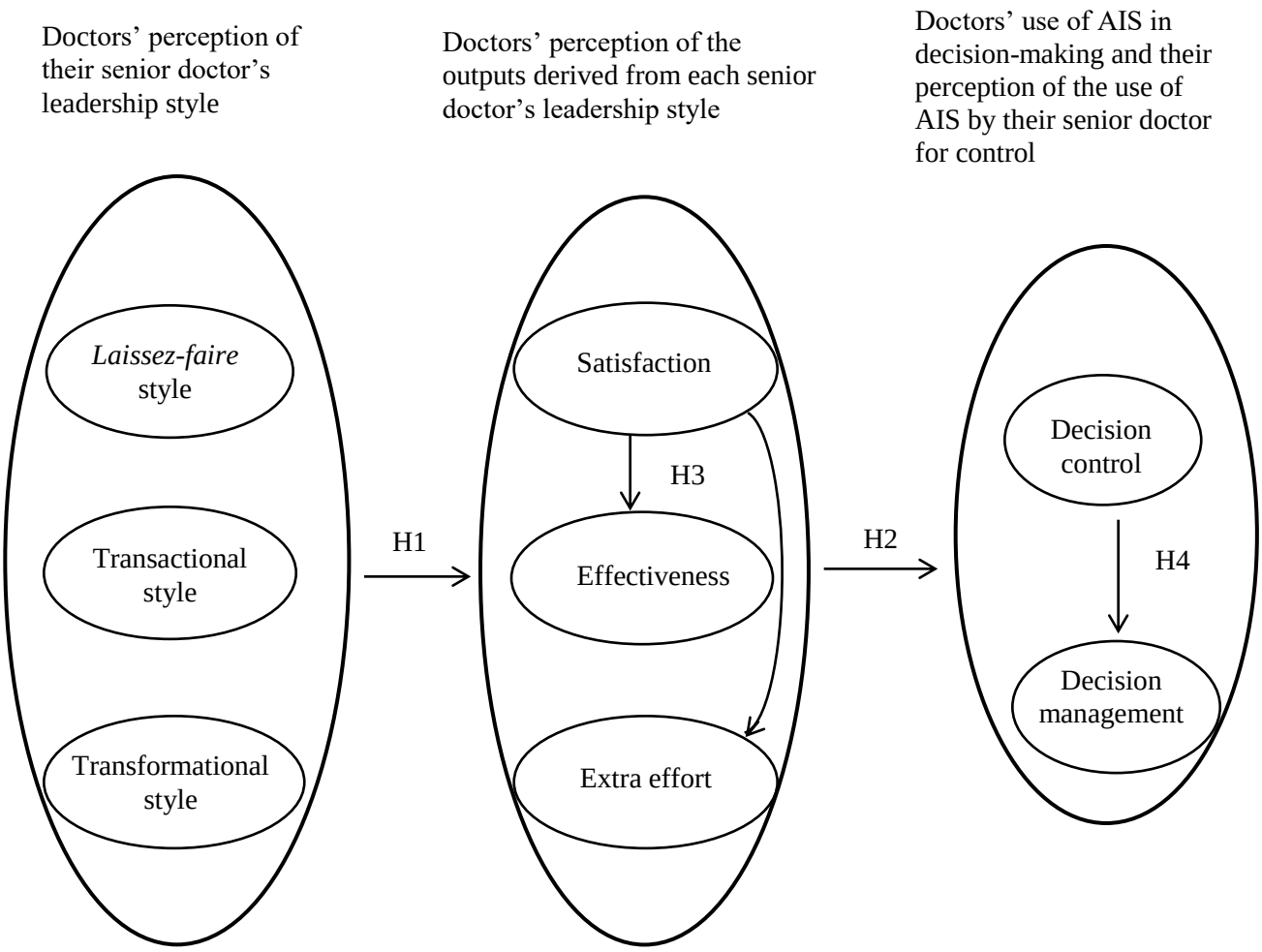

Figure 1. Proposed model
Source: Own elaboration

3. Methodology

We conduct this study in two large public Portuguese hospitals. They had similar characteristics and faced a similar political, economic and regulatory environment. They are both located in the same district in the north of Portugal. Both hospitals were public, university and central, had the same funding arrangements and were organized into similar internal formal structures. We chose this setting because the Portuguese government introduced 2003 a structural reform of healthcare, primarily aimed at public hospital management. The intention was to introduce disruptive changes with irreversible effects.

Consequently, hospitals in the public sector faced administrative and structural changes, which may have considerably impacted their management. These changes included decentralization of authority to give hospitals more autonomy and to make them act more like businesses to attract consumers and resources. Hospitals in Portugal have become autonomous units, much like the hospital trusts created by the 2003 reform of the National Health Service in the United Kingdom (National Health Service and Community Care Act 1990). This means that

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each hospital prepares a business plan and budget proposal, which, after being approved, serve as a basis for performance evaluation and budget control. These hospitals are semi-independent autonomous governmental health units within the civil service. This change in their status will eventually give them much more authority in dealing with personnel, budgets, and capital. Since then, AIT has experienced substantial changes and increased importance in managerial decision-making. Additionally, most significant changes in internal hospital management are directed towards doctors. These significant structural changes may lead to substantial changes in hospital authority and important changes in AIT's role in decision-making.

This paper is part of a comprehensive long-range research project initiated in 2009 in collaboration with the Otorhinolaryngology Service. Despite facing a temporary 3-year pause due to the pandemic, we steadfastly continue our research alongside the same medical service. The data for this study were collected using questionnaires. We issued 93 of them but only 72 doctors-managers (77.42 per cent) decided to collaborate with us. Of the 72, 43 came from the first hospital and 29 from the second. The confidentiality agreement reached with the second hospital limited our disclosure of information on the sample, so we can only report details about the first hospital. The average seniority of clinical service directors in their current positions for the whole sample was 9.87 years (SD = 5.03); 28 of them had PhDs (40.58 percent). The sample from the first hospital was 62.5 per cent male, the average age was 56.43 years, and the average seniority as doctors was 31.28 years. All of the interviewees in both hospitals worked as heads of services, but 20 (27.78 per cent) were graduate assistants, with lower administrative classification than the other 52 (72.22 per cent), who were, and worked as, heads of service. To test how each proposed factor behaved in this sample, we retained the original data and did not exclude any participant from the sample.

For interviewees about the use of AIT for decision management and decision control in hospitals, we use the questionnaire earlier used by Ferreira-da-Silva et al. (2019), Abernethy and Vagnoni (2004), and Swieringa and Moncur's (1975). To assess the perceptions of the interviewees on the three leadership styles (transformational, transactional and *laissez-faire*) and their behavioural outputs (satisfaction, effectiveness and extra effort), we use Bass and Avolio's Multifactor Leadership Questionnaire (Bass and Avolio, 2004). We translated this questionnaire from English to Portuguese and performed a pre-test of the questionnaire with experts in research into hospitals. This confirmed its adequacy. All respondents were responsible for managing one clinical service/unit in one of the hospitals.

We applied the partial least squares (PLS) technique to test our hypotheses. In doing this, we first represent the relationship between the observed variables (answers from the questionnaire) and the latent constructs (transformational style, transactional style and *laissez-faire* styles, satisfaction, effectiveness, extra effort, decision management, and decision control) using the measurement model, assessing its reliability and validity. We defined reflective links as observed variables that are believed to reflect the latent constructs (Chapman and Kihn, 2009). PLS is appropriate for predictive analysis with multiple dependent variables for a relatively small sample size, such as the one we have.

4. Results and Discussion

Reliability and validity assess reflective measurement models. To fulfil reliability for exploratory research (Chapman and Kihn, 2009), we dropped six out of twenty items of Transformational Style and two out of twelve of Transactional Style. Additionally, when we examined the loadings of manifest variables, we observed that three items of the construct Transactional style, referred to as passive management, had negative signs, and, consequently, we removed them. All the latent variables shown in Table 1 have high composite reliability (i.e., from 0.8354 to 1.0000).

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Table 1. AVE, composite reliability, Cronbach's Alpha and R^2

Variables	AVE	Composite Reliability	Cronbach's Alpha	R^2
Laissez-faire style	0.7383	0.9712	0.9673	
Transactional style	0.6496	0.9169	0.8907	
Transformational style	1.0000	1.0000	1.0000	
Satisfaction	0.7784	0.8751	0.7235	0.7803
Effectiveness	0.7396	0.9185	0.8802	0.8863
Extra effort	0.9092	0.9678	0.9500	0.8889
Decision control	0.7061	0.9053	0.8592	0.0702
Decision management	0.7175	0.8354	0.6076	0.5785

Source: Own elaboration

Standardized β-statistics and their p-values assess the adequacy of the structural model and R^2 assesses model fitness. We calculated. The R^2 values for the dependent (endogenous) constructs were very high for the outputs of the three models of leadership while satisfactory for Decision management (R^2=0.58) and low for Decision control (R^2=0.07) (Table 1). The PLS results in Table 2 indicate a negative association between *Laissez-faire* style and Satisfaction (-0.2408; p-value < 0.001). Regarding the Transformational style, there was a significant positive association between this style and the three behavioural outcomes: Satisfaction (0.6174; p-value < 0.05), effectiveness (0.3093; p-value < 0.05), and Extra effort (0.5434; p-value < 0.001). We found a marginal significant positive relationship between Transactional style and effectiveness (0.2364, p-value < 0.10). Our results are comparable to those reported for Anglo-Saxon environments (e.g. Xirasagar et al. (2006) for doctors and Casida and Parker (2011), and Witges and Scanlan (2014) for nurses). These results provide support for Hypothesis 1.

Table 2. Results from PLS analysis (path coefficients; n=72)

Paths	Original sample
Laissez-Faire -> Satisfaction	**-0.2408******
Laissez-Faire -> Effectiveness	-0.0097
Laissez-Faire -> Extra Effort	0.0377
Transactional -> Satisfaction	0.1637
Transactional -> Effectiveness	**0.2364***
Transactional -> Extra Effort	0.1163
Transformational -> Effectiveness	**0.3093****
Transformational -> Extra Effort	**0.5434******
Transformational -> Satisfaction	**0.6174*****
Satisfaction -> Decision Control	**-0.5384*****
Satisfaction -> Decision Management	**-0.4766***
Effectiveness -> Decision Control	0.3131
Effectiveness -> Decision Management	0.0294
Extra effort -> Decision Control	0.3121
Extra effort -> Decision Management	0.2555
Satisfaction -> Effectiveness	**0.4350******
Satisfaction -> Extra Effort	**0.3356*****
Decision Control -> Decision Management	**0.6849******

$^{*}p < 0.10$ (one-tail test); $^{**}p < 0.05$; $^{***}p < 0.01$; $^{****}p < 0.001$.

Source: Own elaboration

Regarding Hypothesis 2, the effect of Satisfaction, Effectiveness and Extra effort on the use of AIT for Decision control and Decision management, we only found a significant relationship for satisfaction on both control and management (-0.5384, p-value <0.01; -0.4766, p-value<0.10). Surprisingly enough, the relationship is negative, meaning that doctors-mangers who are more satisfied at work with the leadership style of their superior are those

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who are negatively inclined towards using AIT information for decision-making and control. This result might be explained by the fact that doctors are highly-qualified professionals, committed not only to their organization's goals but mainly to their patient care and safety (Shoemaker et al., 2010). Doctors' satisfaction based on patients' care, more vital than satisfaction generated by their leader, might drive a specific denial to manage the economic figures involved in their daily decisions. We must then reject hypothesis 2. This negative effect contradicts some previous studies (Abernethy and Bouwens, 2005), although others on the topic do not refer to this relationship (e.g., Chenhall, 2003).

Satisfaction is positively related to Effectiveness (0.4350; p-value < 0.001), and Extra effort (0.3356; p-value < 0.01). These results support Hypothesis 3. Those physicians who are more satisfied with their leader are prone to invest additional effort and perceive that their leader is effective. We confirm that satisfaction is an antecedent of the other two outcomes, Effectiveness and Extra effort.

We also found a strong and significant association between Decision control and Decision management (0.6849; *p*-value < 0.001), which leads us to accept Hypothesis 4. This result indicates that those doctor managers whose leaders use AIT information to exert decision control are prompted to use AIT for decision-making. These doctor-managers like their superiors to use AIT information to control their performance like to use AIT information for their decision-making. Previously, Abernethy and Vagnoni (2004) addressed the importance of decision control and decision management to doctors appointed to manage the day-to-day activities of clinical units by examining how superiors use budget information to control doctor-managers' behaviour. They considered both roles as simultaneous consequences. Here, we found that using AIT for decision control is an antecedent of clinician-managers' favourable use for decision-making.

5. Conclusions and Future Research

The healthcare sector faces significant challenges, which may be overcome by, among other options, the involvement of doctors in managerial processes. These challenges imply substantial changes in the hospitals. Doctors playing a middle administrative role are becoming regular users of AIT. How these doctor-managers use accounting information depends on their senior doctors' leadership style and behavioural outcomes. This paper focuses on how these doctor-managers behave in response to their perceptions of the leadership style of their senior doctor and the effect that this behavioural response exerts on their use of AIT for decision-making. We also examined how this use of AIT influences their views of the decision controls used by their senior doctors.

Our results provide evidence that a transformational leadership style stimulates positive behavioural outcomes, i.e. satisfaction, effectiveness and extra effort, in doctor managers, whilst a *laissez-faire* style results in adverse outcomes in satisfaction. The transactional style is more neutral, with a marginal effect on effectiveness. In sum, transformational leadership achieves the best behavioural outputs. This result has already been reported by previous research in Anglo-Saxon environments. Our contribution is the confirmation of this hypothesis in other settings and, for doctors, become this approach a noteworthy novelty. We also find that satisfaction is solely the behavioural outcome affecting the use of the AIT information for decision-making and decision-control by doctor-managers.

Contrary to our expectations, it results in lower use of the AIT. These doctor-managers feel satisfied with their leader and their work. Satisfaction driven by their professionalism and commitment to patient care and safety is vital enough to overcome satisfaction driven by their leader and commitment to organizational goals. In sum, they do not perceive the AIT information as a valuable tool for their decision-making.

Remarkably, satisfaction is the key outcome, negatively affected by the *laissez-faire* style, neutral for transactional and positively affected by the transformational style. It is a behavioural outcome that indicates

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whether a leader generates a positive and satisfactory working environment for their followers. Its primary role might be explained by the two objects of our research setting: doctors are highly-qualified professionals, and hospitals are highly politicized and hierarchical institutions. Satisfaction is crucial for these two objects. This finding may interest both researchers and practitioners. The desired satisfaction is achieved using the transformational style and not by introducing an accounting logic of performance.

Our contribution to literature is threefold. First, we explore the effect of different leadership styles on behavioural outcomes. We found that the relationship among these constructs could be more complex, and doctors' professionalism plays an important role that needs attention. These results have practical implications for regulators when implementing reforms of the AIT in hospitals. There are also implications for academics because further research is needed to clarify these complex relationships. Second, we contribute to the knowledge of the involvement of doctors in managerial processes. As highly-educated professionals, we have learned that doctors look for their criteria (e.g., the Hippocratic oath leads to patients' care and safety) and only sometimes consider managerial ones. This contribution hints at hospital top managers when designing practical procedures that combine medical and administrative criteria. Again, professionalism in the healthcare setting needs further attention from academics. Finally, we contribute to the topic's literature by researching doctors' issues in a non-Anglo-Saxon country. Prior literature has mainly focused on nurses and Anglo-Saxon countries. Both facts might influence contradictory results with previous literature due to the different research settings. Country culture influences institutions such as hospitals and medical professions. Hence, an international research setting could help determine the specific relationship between leadership styles, behavioural outcomes, and the use of accounting information for decision management and control.

As with all exploratory research, the study has some potential limitations. First, we examined a relatively simple model. Second, the sample size could also be considered a limitation, even though it was internally consistent. Our sample was only 72 managers. Although we use statistical procedures applicable for short samples, this could have biased against finding any statistically significant differences. A third limitation is that we used a sample of Portuguese managers. Cultural, economic, psychological and social factors could have biased their answers. Future research should be based on a more extensive sample, adding information from other countries and incorporating cultural country parameters as another exciting element to explain the effect of leadership style in the use of AIT for decision-making and decision control.

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Amélia Ferreira da SILVA is a Coordinating Professor at Porto Accounting and Business School, Polytechnic of Porto. She has a Phd in Accounting, from University of Vigo, Spain. She was head of CEOS.PP – Centre for Organizational and Social Studies of Porto Polytechnic, by *FCT – Fundação para Ciência e Tecnologia*, the Portuguese entity for science. Her research interests are accounting for decision making, digital transformation in accounting, and business failure prediction.
ORCID ID: https://orcid.org/0000-0002-8366-9863

Belen FERNANDEZ-FEIJOO worked in the public sector and in private companies for 12 years. She developed her academic career in University of Vigo. She was hired as an assistant professor in 1992, received her Ph.D. in 1994, became associate professor in 1997, and full professor in 2020. Her research interests are in the areas of hospital management, corporate social responsibility, and cooperative enterprises. She has published in journals such as Corporate Social Responsibility and the Environment, Journal of Business Ethics, and Australian Accounting Review.
ORCID ID: https://orcid.org/0 0000-0003-3642-2136

Susana GAGO-RODRÍGUEZ is a lecturer in the Department of Financial Management at the Universidad Pontificia Comillas. She holds a PhD in Economics and Business Administration. She leads the Financial Reporting and ESG research group at ICADE and is a member of the CETIS PhD committee and the AACSB support committee. She is currently associate editor of the International Journal of Disclosure and Governance. Her research focus on critical and behavioural accounting and auditing, management control and ethics, areas where she supervises doctoral theses.
ORCID ID: https://orcid.org/0000-0002-6225-9822