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Original

Employee reactions to the use of management control systems in hospitals: motivation vs. threat

Ernesto Lopez-Valeiras[a,*], Jacobo Gomez-Conde[b], Rogerio Joao Lunkes[c]

[a] Accounting and Finance Department, University of Vigo, Ourense, Spain
[b] Accounting Department, Universidad Autónoma de Madrid, Madrid, Spain
[c] Accounting Department, Universidade Federal de Santa Catarina, Florianópolis, Brasil

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ABSTRACT

Objective: Management control systems (such as budgets or balanced scorecards) are formal procedures used by managers to promote employee behavior aligned with organisational objectives. Employees may react to these control systems by either becoming more motivated or perceiving them as a threat. The aim of this paper is to determine the extent to which hospital ownership (public or private), professional group (physician, nurse, pharmacist or administrative employee), type of contract (fixed or temporary), gender and tenure can condition employee reaction to management control systems.
Methods: We conducted the study in the three largest hospitals in the State of Santa Catarina (Brazil), two public (federal and state-owned) and one private (non-profit organisation). Physicians, nurses, pharmacists and administrative employees received a questionnaire between October 2013 and January 2014 concerning their current perceptions. We obtained 100 valid responses and conducted an ANOVA variance analysis.
Results: Our results show that the effect of management control systems on employees differs according to hospital ownership, professional group and type of contract. However, no significant evidence was found concerning gender or tenure.
Conclusions: The results obtained contribute to creating specific knowledge on the reactions of employees to the use of management control systems in hospitals. This information may be important in adapting management control systems to the characteristics of the hospital and its employees, which may in turn contribute to reducing dysfunctional worker behavior.

Reacciones de los empleados ante la utilización de sistemas de control de gestión en hospitales: motivación *vs.* amenaza

Palabras clave:
Sistemas de control de gestión
Comportamiento
Hospital
Grupos profesionales
Permanencia en el puesto

RESUMEN

Objetivo: Los sistemas de control de la gestión (p. ej., presupuestos o cuadro de mando integral) son prácticas formales que utilizan los directivos para promover que los empleados desarrollen comportamientos alineados con los objetivos de la organización. Los empleados pueden percibirlos como una fuente tanto de motivación como de amenaza. El objetivo de este trabajo es determinar si la propiedad del hospital (pública o privada), el grupo profesional (médico, enfermera, farmacéutico o administrativo), el tipo de contrato (indefinido o temporal), el género y la permanencia en el puesto condicionan la reacción del empleado ante un sistema de control de gestión.
Método: El estudio se realizó en los tres mayores hospitales del Estado de Santa Catarina (Brasil), dos públicos (federal y estatal) y uno privado (no lucrativo). Entre octubre de 2013 y enero de 2014 se envió una encuesta sobre percepciones presentes a médicos, enfermeras, farmacéuticos y administrativos. Se realizó un análisis ANOVA a partir de 100 respuestas válidas para este estudio.
Resultados: Los resultados muestran que el efecto de los sistemas de control de gestión sobre los empleados es diferente en función de la propiedad del hospital, el grupo profesional y el tipo de contrato. Sin embargo, no se encontró evidencia significativa en relación con el género ni a la permanencia en el puesto.
Conclusiones: Los resultados obtenidos contribuyen a crear un conocimiento específico de las reacciones a los sistemas de control en los hospitales. Esta información es relevante para adaptar el sistema de control al hospital y sus empleados, reduciendo así comportamientos disfuncionales.

* Corresponding author.
E-mail address: elvaleiras@uvigo.es (E. Lopez-Valeiras).

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Introduction

Changes in the health environment have affected the performance and economic and financial management of health institutions, mainly hospitals.[1] Improving the health quality and the services provided by hospitals requires promoting employee behavior aligned with organizational objectives, and avoiding selfish conducts that place personal interests before those of the organization.[1] Some of the behavior acknowledged in the healthcare literature are: low commitment to organizational goals,[1–3] fraud and corruption,[4,5] conflicts,[6] or unethical behavior.[7]

Among other strategies,[8] managers may use management control systems (MCS) to assure that professionals behave according to the objectives of the organization.[9] The most common MCS used in hospitals are the balanced scorecard,[10,11] budgeting systems,[12,13] and cost control.[14,15] The growing literature over the last decades on the use of MCS in health institutions[16] provides evidence on the positive consequences of implementing these tools to direct hospital employee behavior. Findings suggest that MCS may promote cooperation and coordination,[12] cost containment[17] or participation.[18] On the one hand, MCS may contribute to guiding the conduct of professionals by informing and motivating them to do what the organization expects of them.[19,20] On the other hand, MCS may contribute to guiding the behavior of employees by informing them about the negative consequences of behaviors that are unacceptable to the organization, i.e., MCS may be perceived as a threat.[1,21] In brief, employees may react to MCS by either becoming more motivated and/or perceiving these measures as a source of threat.

This study aims to analyze the specific reactions of health professionals to MCS. Literature in psychology notes that organizational factors and individual characteristics are paramount to understanding employee reactions to certain circumstances.[22] Fundamentally, our study argues that the reaction (motivation and/or threat) of an employee to MCS is conditioned by hospital ownership (public or private hospital), the professional group (physician, nurse, pharmacist or administrative), the type of contract (fixed or temporary), the gender and the tenure (years of professional experience). On the one hand, organizational factors such as ownership or professional group are expected to influence employee reaction to MCS given the different backgrounds, norms and values among these groups.[23,24] On the other hand, individual characteristics such as type of contract, gender and tenure may also play a key role due to diverse socialization processes, levels of commitment and intrinsic motivation.[20]

Methods

This study is part of a broader international project related to management in hospital organizations. Here we present quantitative research, conducted through a survey distributed among the employees of the three largest hospitals in the State of Santa Catarina (Brazil). Brazil is amongst the countries that hold a universal public health care system. The Brazilian Constitution establishes a minimum percentage of 15% of the net current revenue of the financial year for health. By 2014, 71% of the population (approximately 142 million) went to public health facilities for care. The total resources invested in public health actions and services accounted for approximately US $30 billion. On the other side, 50 million private health plans were contracted in Brazil in 2014.[25] Regarding managerial practices, the Brazilian Health Ministry (Ministério da Saúde) designs MCS that hospitals are expected to implement. Such is the case, for example, of a recent computerized system for cost accounting. The effective design, implementation and use of MCS in Brazilian hospitals is currently an issue among managers, government and academics in Brazil.[26–28]

Table 1
Descriptive statistics of the sample (N = 100).

	n	(%)
Ownership		
Public hospital	58	(58)
Private hospital	42	(42)
Professional group		
Physician	26	(26)
Nurse	23	(23)
Pharmacist	5	(5)
Administrative employee	46	(46)
Type of contract		
Fixed	65	(65)
Temporary	35	(35)
Gender		
Female	59	(59)
Male	41	(41)
Tenure (months)		
0-24 months	34	(34)
25-120 months	33	(33)
Over 120 months	33	(33)

The questionnaire was designed following the suggestion of Dillman.[29] Before administering the questionnaire, we conducted a pre-test. We first contacted six academics with experience in the area to provide a pretest. After receiving expert advice and doing proposed revisions, we pre-tested three professionals from the healthcare sector to check potential weaknesses, like confusing instructions, unintelligible questions or excessive time devoted to completing the survey. We obtained valuable suggestions from this process and incorporated them into the final version of the questionnaire. Scientific committees from the three hospitals approved the project and the questionnaire. One of them was a private nonprofit organization (198 beds), another was a state-administered public hospital (329 beds) and the third was a public hospital school administered by the federal government (228 beds).

The period in which the questionnaires were sent and collected includes the months of October 2013 through January 2014. The questionnaire was anonymous and followed by a letter explaining the project and an acknowledgement note for the participation. Once this was all completed it was collected and put into a box that was properly elaborated for its return with no trace of identification. The aim of this procedure was to avoid external interference to the respondent employees, i.e. avoid any embarrassments or pressure on the employees. Initially, 135 complete questionnaires were received (29.67% of the population). Some questionnaires lacked significant data and could not be used in this study. The survey resulted in 100 usable responses for this study. Table 1 displays the demographic data of the sample. Top and middle managers were excluded from the sample due to the possibility of a biased perception of control given that these managers are the ones that usually design, implement and use MCS. Professionals with no managerial roles are in the group of administrative employees from different departments within the hospital such as accounting, human resources or IT.

Using the chi-square statistics, we found no significant differences ($p>0.01$) among early and late participants (first 20% responses to late 20% responses). To detect the presence of common method bias, we plotted all the variables simultaneously on an exploratory factorial analysis. Harman's single factor test[30] assumes a strong evidence of common bias if a single or common factor is found on the factor analyses; this captures most of the covariance among the variables. Moreover, results suggest 8 factors with eigenvalues higher than 1; this explains 74.15% of the

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