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# The influence of remuneration on the behavior of hospital employees in Brazil

*La influencia de la remuneración en el comportamiento de los empleados en los hospitales de Brasil*

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## Abstract

The study aimed to analyze the employee's perception of the remuneration systems in two major hospitals in Brazil, one managed by the government and the other by private investors. The sample considered 109 respondents, out of which 54 were from the private hospital and 55 from the public hospital. After data collection on the sample population, perception of remuneration was associated with occupation, gender, age and experience, as suggested by the Upper Echelons Theory. The results show that remuneration is viewed as an instrument of control and behavior or a learning-inducing mechanism; however, the perceptions of employees working in the health area and administrative area were different. These findings show that the influence of fixed pay is different not only for the employees of both areas, but also in relation to the public and private hospital management. It was found that gender is not a determinant factor of behavior and that there were no differences between younger and older employees as well as between more experienced and less experienced employees with respect to the effect of remuneration on behavior. There were no differences in relation to the type of hospital either. In general, the results emphasize the importance of remuneration as an instrument of control and management, either in the context of public or private organizations.

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## Resumen

El estudio tuvo como objetivo analizar la percepción de los empleados con respecto a los sistemas de compensación en dos grandes hospitales de Brasil, uno público y el otro privado. La muestra de la encuesta considera 109 empleados, 54 en el hospital con la gestión privada y 55 para el hospital público. Después de la recolección de datos sobre la población muestra, la percepción de la remuneración se asoció con la ocupación, el género, la edad y la experiencia, como sugiere la Teoría de los Escalones Superiores. Los resultados muestran que la remuneración es vista como un instrumento de control, comportamiento o mecanismo para fomentar el aprendizaje, sin embargo, identificó diferencias en la percepción de los empleados en el área de la salud y el área administrativa. Estos resultados demuestran que la influencia de la retribución fija es diferente, no sólo entre los empleados de las dos áreas, sino también en relación con la gestión de los hospitales públicos y privados. Se identificó que el género no es un factor determinante de pago, y no se dio cuenta que había diferencias de comportamiento entre los empleados más jóvenes y mayores con respecto a la influencia de la remuneración en el comportamiento, que no se identificaron diferencias entre más y menos experimentados empleados. Además, no hubo diferencias significativas entre las características de los hospitales. En general, los resultados ponen de manifiesto la importancia de la remuneración como un instrumento de control y gestión, tanto en el contexto de la administración pública, cuando las organizaciones privadas.

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*Códigos JEL:* M1; I12

*Palabras clave:* Remuneración; Teoría de los Escalones Superiores; Comportamiento; Hospitales

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## Introduction

Fixed remuneration and, especially, variable incentives have been discussed in recent years by diverse fields of knowledge in various countries. Corporate governance scholars, for example, are interested in examining the impacts of remuneration of key executives on organizational performances (Buck, Bruce, Main, & Udueni, 2003). Researchers on human resources and psychology are interested in identifying the factors that motivate workers (Bender, 2002).

In sociology, relations between employers and trade unions are also a topic of interest in the research agenda. In the legal area, several researchers discuss employment-related regulations as economic studies address intensively the conflicts of interest among the agents (Conyon & Sadler, 2010). These diverse aspects may still vary according to the characteristics found in each country.

In the healthcare sector, there is specifically a complexity between the area of resources administration and the healthcare area. Hospitals survival depends essentially on the involvement of the medical staff in the management of resources, as reported by Abernethy and Stoelwinder (1995). Managing such resources is a key factor that determines physicians' behavior. Their choices are directly related to the power and influence that they have in hospitals (Abernethy & Vagnoni, 2004).

Batista, Vieira, Cardoso, and Carvalho (2005) and Gaki, Kontodimopoulos, and Niakas (2013) sought to understand the factors that motivate hospital workers. Concern with the effects of remuneration on the executives' behavior and motivation in hospital settings is a topic of investigation and analysis.

Although the effects of variable compensation have been widely studied, it is believed that fixed pay in some way also affects behavior. According to Herzberg, Mausner, and Snyderman (1953), motivated employees are likely more productive and creative, and remuneration is one of the most influential factors of this behavior.

In addition, the use of performance-based compensation and/or payment of incentives in public healthcare services seems to be a widespread practice since the 1990s, especially in hospitals. However, systematic assessments are still uncommon, and only some descriptive studies on the adoption of such practice in emergency services, in university hospitals and general hospitals are found, as reported by [Cecílio \(1997\)](#) and [Cherchiglia et al. \(1998\)](#).

In Brazil, hospital institutions can be defined by three different management focuses: (i) *public hospitals*, which are publicly managed, funds are provided by public budgets and the hospitals are properties held by the nation, state, municipality or federal district; (ii) *private hospitals*, which are for-profit institutions held by an individual or legal entity that organizes and is responsible for the decision-making process; (iii) *non-profit hospitals*, which are entities that have an agreement with the publicly-funded *Sistema Único de Saúde – SUS* (Unified Health System), where 60% of their capacity and services are provided to SUS members, obtaining financial resources and tax exemptions, but also provide services to private healthcare institutions ([Trivelato, Soares, Rocha, & Faria, 2015](#)).

The characteristics of organizations and decision-making managers distinguish public from private institutions. However, other factors related to the management style also have an impact on the organizational outcomes, once the strategic decisions of an organization are influenced by the managers' competencies, skills, knowledge and cognitive styles. Such top managers' traits, according to the Upper Echelons Theory (UET), distinguish the way that top managers run the firm and the decision-making process ([Hambrick & Mason, 1984](#)).

The roots of the Upper Echelons Theory are found in the behavioral theory of the firm ([Cyert & March, 1963](#)), which suggests that managerial choices are not always rational, but mostly influenced by human natural constraints. Behavioral factors can influence the strategic choices made by the management team, which in turn determine the firm's performance ([Nielsen, 2010](#)). [Hambrick and Mason \(1984\)](#) suggest that demographic characteristics, such as educational background, gender, age and experience can also be used to explain the employees' behavior.

Despite the literature growth in the past decades on UETs-related characteristics in different organizations or about the causes that led firms to adopt variable remuneration arrangements ([Bender, 2004](#)), there have been discussions that consider diverse contexts such as the individuals' age ([Ensley, Pearson, & Pearce, 2003](#); [Wiseman & Gomez-Mejia, 1998](#)) and gender ([Dezsö & Ross, 2012](#); [Peni & Vähämaa, 2012](#)) or even experience as a UET-related variable ([Bantel & Jackson, 1989](#); [Ghiselli & Lodahl, 1958](#); [Hoffman & Maier, 1961](#)). However, there are no in-depth studies on the influence of these characteristics on the employees' behavior, particularly in hospitals.

Under this perspective, the following question arises: *how does remuneration affect hospital employees' behavior?* Thus, the aim of this study was to investigate the employees' perception of the compensation systems in two large hospitals in Brazil, one managed by the government and other by private investors.

It is justifiable the importance of studies in the context of hospital management, considering it as a services network (such as hotels, laboratories, pharmacy, image, equipment maintenance, materials sterilizing, nutrition and dietetics, surgical center, etc.), which need to interact by means of processes and decisions involving multi-professional and interdisciplinary teams, making hospital management a complex task ([Karahanna & Preston, 2013](#); [Parayitam, 2010](#)). In this regard, resources and people management as well as the collaborators' pay system pose challenges to hospital managers and the decision-making process, showing the need and importance of studies focused on such context.

In addition, the choice of one public and one private hospital was made strategically, to allow determining the differences produced by different management styles, as well as regarding the criteria for hiring and paying employees or collaborators and how these criteria influence the individuals' behavior.

This study contributes to understanding the impacts that behavior has on the implementation and use of remuneration policies and systems, whether they are based on performance or not. The outcomes be a warning sign to organizations and managers about any need for employees' care and training. Such results are important to identify the collaborators' perception of the remuneration and performance appraisal systems existing in the organization, particularly in hospitals, taking into account that the literature on this matter is limited, and may contribute to the knowledge production process about the relationship between behavior, remuneration and performance appraisal.

## Literature review

This section presents conceptual aspects related to remuneration and the upper echelons theory and studies on to the subject.

### *Remuneration*

Salary issues are discussed in various countries. In Germany, labor relations are often considered homogeneous and static (Allen, Tüselmann, El-Sa'id, & Windrum, 2007). However, companies have been reporting that collective labor agreements in general contribute to increase labor operating costs. The authors investigated data collected from 16,000 firms by the *Institut für Arbeitsmarkt-und Berufsforschung (IAB)* and found that collective labor agreements do not exert pressure on corporations, once they often pay more than the stipulated values. They also noticed that variable remuneration (bonus and profit sharing) makes the German remuneration more heterogeneous than the one they advertised.

Executive's compensation has aroused interest of regulators since the big accounting scandals involving Enron (EUA) and Marconi (UK) (Bender, 2002). Corporate governance scholars have dedicated some space in their agendas to verify how remuneration policies of top executives are defined. Bender (2002) investigated in two large UK energy companies how these policies were set. The author found that social and psychological aspects influence the definition of compensation plans as much as the economic aspects. Compensation is often determined as a form of incentive and motivation (explained by socio-psychological theories) and is linked to a combination of reward for performance (explained by economic theories).

Bender (2004) also discussed the causes that lead corporations to adopt a variable remuneration system for their executives and found an explanation in the Institutional Theory. According to this author, this form of remuneration legitimates the action of the directors and advisors in relation to other companies. Another explanation was found by means of the Agency Theory, because this kind of compensation leads to a harmony of interests among agents.

Variable pay, as a form of incentive, may harmonize the interests between shareholders and managers regarding short-term returns, and, in the long term, it could result in losses to the company, as Buck et al. (2003) found in a study conducted on the implementation of incentive plans in the UK.

Callan and Thomas (2011) broadened this discussion, and by means of a model of structural equations, they found that the relation was stronger when financial variables were associated with social performance variables.

In 2002, concerned about remuneration policies, regulators in the UK made it mandatory the publication of the Directors' Remuneration Report (DDR), granting to shareholders the right to vote for the approval of the directors' remuneration. Conyon and Sadler (2010) observed that less than 10% of the shareholders voted against DDR and that percentage has decreased over time. They also found that, of the shareholders who voted against the remuneration indicated in the DDR, the majority indicated a long-term incentives plan as the best alternative. Kovacevic (2009) also found similar results in Australian companies.

In general, literature has found a direct link between the remuneration of the Chief Executive Officer (CEO) and the companies' financial performance. These findings were also confirmed by Doucouliagos, Haman, and Askary (2007) in study on the Australian banking sector. However, they found that there was not the same pay-performance relationship for the other directors. Such link between the CEO remuneration and financial results has increased in the past years. This justifies the institutionalization mentioned by Bender (2004) in UK firms.

However, Fernandez-Alles, Cuevas-Rodríguez, and Valle-Cabrera (2006) reported that variable pay has not always been defined in an economically rational manner and associated with improved organizational performance, as the followers of the Theory of Agency have suggested. Companies define incentive policies based on the legitimacy of their performance within their social context, as Institutional Theory scholars explain.

This statement was corroborated by empirical study conducted by Sung-Choon and Yamadori (2011) in Korean firms that suffered with the 1997 Asian crisis and underwent severe institutional changes. Companies adopted variable remuneration to legitimate their actions and copied the same practices (isomorphism), linking it to performance variables. Main, Jackson, Pymm, and Wright (2008) have already observed this same isomorphism in UK firms.

In Spain, where firms operate with less protection of shareholders, capital markets are less developed and, consequently, there is a larger property concentration. Manzanequel, Merino, and Banegas (2011) found that from 2004 to 2009 there was an average increase of 8.6 percent in CEO remuneration, which contradicted the country's economic condition at that time.

In England, Epstein and Ward (2006) examined the influence on behavior resulting from the relation between the academics' efforts in publishing with the difference between actual remuneration and perceived deserved remuneration. It was found that the greater the difference between actual and deserved income the lower the publication level, which showed the influence on behavior. The authors also alert that it is not the value of remuneration that influences behavior, but the perception of these differences.

In the healthcare area, Gaki et al. (2013) were interested in determining the variables that motivated the nurses' work at a university hospital in Greece. Approximately 200 nurses with higher education level were interviewed, observing four basic categories: job attributes, remuneration, co-workers and achievements. The results indicated that the major motivator is not remuneration, but achievements. However, they observed an indirect relationship between remuneration and achievements, i.e., the best-paid employees seemed to be more concerned with personal and professional achievements.

Hu and Schaufeli (2011) investigated wellbeing at work in family-owned companies in China, motivated by the suicide of 12 employees of a single company. Factors such as remuneration, work conditions and working hours were associated with motivation, and job insecurity is the most stressful factor of employees.

Study by Kulich, Trojanowski, Ryan, Haslam, and Renneboog (2011) was based on the hypothesis that there was a gender difference in executive remuneration. The authors interviewed 192 male and female 192 executive directors and found that women earned less than men did. They also identified that compensation of women is less sensitive to the company performance indicators.

### *Upper Echelons Theory*

The Upper Echelons Theory was first published by Hambrick and Mason (1984), showing that the characteristics of top executives interfere in the decisions made in the management process. Top managers play a key role in organizational outcomes, and strategic decisions are influenced by the managers' competencies, knowledge, skills and cognitive styles (Hambrick & Mason, 1984).

The first proposed model shows that the executives' demographics represented by age, experience and educational background, as well as their values and perceptions, influence their choices and, consequently, the firm's profitability, continuity and future (Carpenter, Geletkanycz, & Sanders, 2004). Such characteristics are studied because they are different socio-cognitive abilities, of emotional and logical background acquired over life or influenced by genetics, which are difficult to reproduce (De Campos Serra, Serra, & Tomei, 2014; Hambrick & Mason, 1984).

Parayitam (2010) shows that there is an effect of trust on decision outcomes, based on the team's ability to make strategic decisions in the health service area, suggesting that when there is perceived trust among the participants, they will likely interpret positively the information received and will be committed to decisions; in contrast, lack of trust may jeopardize the quality of decision and how it is understood.

Previous studies mention factors and characteristics that contribute to decision-making, such as, for example, age, gender and the team's experience. Age is considered a socio-demographic variable in organizational management composition and may influence strategic decisions (Ensley et al., 2003; Wiseman & Gomez-Mejia, 1998). Gender is another variable that has motivated several studies in the organizational context and is related to the differences between men and women regarding remuneration policies (Dezsö & Ross, 2012; Peni & Vähämaa, 2012).

Experience is also considered an important variable with respect to behavior and decision-making and, depending on the individuals' experience, decisions may be risky or more cautious (Bantel & Jackson, 1989; Ghiselli & Lodahl, 1958; Hoffman & Maier, 1961).

Specifically in the context of health services institutions, Parayitam (2010) states that conflicts between the medical staff and the administrative staff can yield problems to the hospital management. Karahanna and Preston (2013) point out that formal or informal knowledge exchange between the team members contributes to communication but does not have a direct effect on the trust level between the directors and the management team in hospitals.

In this regard, strategic decisions in hospital organizations may also be influenced by age, gender and experience, which involve managerial talent, skills and cognitive styles of top executives (Hambrick & Mason, 1984).

In general, it can be seen that the decision-making process is influenced by several variables, especially concerning remuneration. Remuneration and the employees' characteristics (gender, age, experience, bonuses, etc.) can also exert influence on the decision-making process and on the individuals' behavior, in diverse types of organizations, including hospitals.

Table 1  
Questions on behavior and remuneration.

To which extent you consider that remuneration: (1) totally disagree; (7) totally agree								
I behave according to the existing rules.	1. Limits my actions?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Such rules arise from the way I am paid.	2. Generates fear of punishment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
To which extent the remuneration I receive:	3. Is simply a control?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Is a positive additional motivation?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	4. Makes me expect any reward?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	5. Works as a guide for my behavior?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	6. Favors organizational learning?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Source: Developed by the authors.

## Methodology

With respect to the methodology employed in this study, it is a descriptive survey with a quantitative approach. The survey was conducted in two major hospitals in Florianópolis, state of Santa Catarina (Brazil). The choice of the two largest hospitals in the state (one private and one public hospital school) was strategic: (i) to achieve the greatest amount of responses, which favors statistical analyses; (ii) large hospitals have a remuneration system and well-designed management structure, which favors the analysis of the UET's demographics; large hospitals have a great number of employees, which enables to verify possible different outcomes produced by the management style.

The questionnaire was developed containing three general questions about the respondent's age, sex and length of service at the hospital, and other questions that investigated the variables that could influence behavior. The main question on behavior and remuneration was formulated as proposed by [Tessier and Otley \(2012\)](#). From the initial statement, seven variables were suggested, and the respondent could choose the best option on a rating scale of 1 to 7, where 1 meant totally disagree and 7 totally agree. The questions asked if remuneration limited their actions, generated fear of punishment, was simply a control, generated positive additional motivation, generated expectations of reward, worked as a guide for behavior and favored organizational learning, as shown in [Table 1](#).

The questionnaire was printed and administered from September to October 2014. A box was specifically designed to collect the questionnaires, with no identification of the respondents. The purpose of this procedure was to ensure that the respondents would feel free from any external interference, i.e., without any constraint or pressure. A total of 135 questionnaires were collected, representing a response rate of 29.67%. Twenty-six questionnaires that were incomplete were excluded from the sample. Therefore, the final sample comprised 109 respondents, out of which 54 from the private hospital and 55 from the public hospital.

Mann–Whitney *U* test was used for the differences of means between two independent samples. This test is more suitable for ordinal scale variables ([Fávero, Belfiore, Silva, & Chan, 2009](#); [Hair, Black, Babin, Anderson, & Tatham, 2009](#)), aiming to identify initially if there were differences in the hospitals (public and private). Afterward, the relationship between the variables (i) occupation (technical/healthcare positions and administrative/managerial positions); (ii) gender; (iii) age and (iv) experience was analyzed. For all conditions, the condition of the respondents from the public and private hospitals was comparatively examined.



Chart 1

Difference of means between public and private hospitals (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	1095.000	1327.500	1110.500	1091.500	1143.500	1262.000	1162.000
Wilcoxon <i>W</i>	2635.000	2812.500	2595.500	2576.500	2628.500	2802.000	2647.000
<i>Z</i>	−2.407	−1.016	−2.356	−2.449	−2.153	−1.376	−1.871
Asymp. Sig. (2-tailed)	.016	.310	.018	.014	.031	.169	.061

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Hospital.

## Results analysis

With the aim to determine how remuneration influences the behavior of hospital employees, the first step was to verify if there were statistical differences between the two hospitals. The Mann–Whitney *U* test was then applied for the differences of means between two independent populations. To conduct the test, the following hypotheses were developed:

$H_0 =$  *there is no difference between the hospitals*

$H_1 =$  *the hospitals are different*

In [Chart 1](#), it can be seen that the restriction, control, motivation, reward and learning variables are significant and, therefore, there are differences between the hospitals. This result is important because it shows that the compensation system can yield different reactions in behavior, according to the type of management. For example, performance goals can be seen differently by employees from private hospitals or public hospitals, as a motivation to achieve such goals or in the way in which they are appraised or controlled, leading to discontent or dissatisfaction.

As the results indicated that there were differences between the hospitals, the next step was to examine each hospital separately to determine if there were differences in the influence of remuneration regarding occupation, gender, age and experience, as indicated in the literature on the Upper Echelons Theory (Ensley and Pearson; [Ghiselli & Lodahl, 1958](#); [Ghiselli et al., 2012](#); [Hoffman & Maier, 1961](#); [Pearce, 2003](#); [Peni & Vähämaa, 2012](#); [Wiseman & Gomez-Mejia, 1998](#)).

### *Background (occupation)*

Previous literature indicates that conflicts between the medical staff and administrative staff may cause problems to the hospital management ([Karahanna & Preston, 2013](#); [Parayitam, 2010](#)). To confirm if there were differences or not between health and administrative employees, Mann–Whitney *U* tests were conducted to determine the existence or not of differences between both professionals concerning remuneration. The hypotheses were determined as follows:

$H_0 =$  *there is no difference between health and administrative employees*

$H_1 =$  *there is a difference between health and administrative employees*

First, it was investigated if remuneration influenced differently the employees of the private hospital ( $H_1$ ). As shown in [Chart 2](#), the results indicate that the null hypotheses can be rejected for the control, behavior and learning variables. This means that when remuneration is viewed as an instrument of control, as a behavior guide or a mechanism of encouragement to learning, there are differences between the administrative and health employees.



Chart 2

Difference of means between the health and administrative employees – Private hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	251.000	281.000	198.500	248.500	265.500	165.500	177.000
Wilcoxon <i>W</i>	917.000	947.000	864.500	914.500	931.500	831.500	843.000
<i>Z</i>	–1.356	–.861	–2.489	–1.486	–1.162	–2.950	–2.850
Asymp. Sig. (2-tailed)	.175	.389	.013	.1	.245	.003	.004

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*Source:* Based on the survey's data.<sup>a</sup> Grouping Variable: Occupation\_H1.

Chart 3

Difference of means between the health and administrative employees – Public hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	232.500	195.000	127.000	199.000	216.500	210.500	205.500
Wilcoxon <i>W</i>	1222.500	1185.000	1117.000	1189.000	1206.500	276.500	1195.500
<i>Z</i>	–.206	–1.034	–2.475	–.935	–.548	–.681	–.789
Asymp. Sig. (2-tailed)	.837	.301	.013	.350	.584	.496	.430

*Source:* Based on the survey's data.<sup>a</sup> Grouping Variable: Occupation\_H2.

As to the public hospital, as shown in [Chart 2](#), only the control variable was significant, i.e., remuneration exerts different influence on the employees of both areas, when remuneration is perceived as a control instrument.

These outcomes are interesting because the influence of fixed compensation is different not only between the employees from both areas, but also between the public and private hospitals. Employees from the public hospital, probably motivated by job security, as ensured by the Brazilian legislation, seem to be less influenced by remuneration than those from private hospitals. This is important because the performance indicators or the remuneration policies in Brazilian hospitals should consider the type of management.

### Gender

Previous literature indicates pay differences between men and women ([Dezsö & Ross, 2012](#); [Peni & Vähämaa, 2012](#)). It was investigated if in each hospital separately there were differences of gender regarding the remuneration effect on the employees' behavior. For this purpose, the following hypotheses were tested ([Chart 3](#)):

$H_0 =$  there is no difference between men and women

$H_1 =$  There is a difference between men and women

The results show that only the restriction variable was significant, according to [Chart 4](#). This means that gender is not a determinant factor for the effect of remuneration in behavior differences, except when this influence causes a perception that remuneration limits the employees' actions within hospitals.

The restriction variable was also significant for the public hospital, as shown in [Chart 5](#), indicating that only when there is a perceived restriction there are differences between men and women.

Chart 4

Gender differences – Private Hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	233.000	304.000	319.000	343.000	301.000	280.000	343.500
Wilcoxon <i>W</i>	729.000	800.000	595.000	619.000	577.000	776.000	619.500
<i>Z</i>	–2.187	–1.002	–.709	–.253	–1.051	–1.357	–.240
Asymp. Sig. (2-tailed)	.029	.316	.478	.800	.293	.175	.810

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Gender.H1.

Chart 5

Gender difference – Public Hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	163.000	201.000	208.000	225.000	212.500	224.000	222.000
Wilcoxon <i>W</i>	1109.000	1147.000	1154.000	303.000	290.500	302.000	300.000
<i>Z</i>	–1.994	–1.215	–1.042	–.695	–.946	–.712	–.754
Asymp. Sig. (2-tailed)	.046	.225	.297	.487	.344	.477	.451

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Gender.H2.

As gender is an observed variable of the remuneration policy, previous studies consider the aspects inherent to pay disparities between genders (Dezsö & Ross, 2012; Peni & Vähämaa, 2012). However, the findings allow an insight that men and women react differently to the execution of tasks. For example, women are likely less susceptible to not performing some task by influence of salary than men. It is expected that future studies can confirm these assumptions.

## Age

Previous works show that age is an important socio-demographic variable in top management composition and may influence strategic decision (Ensley et al., 2003; Wiseman & Gomez-Mejia, 1998). In this regard, we investigated if age is also a behavioral factor that indicates differences between employees from public and private hospitals. For the effect of analysis, we examined if employees aged more than 40 years presented behavioral differences compared to younger employees in both private and public hospital.

$H_0 =$  there is no difference between younger and older employees

$H_1 =$  there is a difference between younger and older employees

As shown in Chart 6, none of the variables was significant in the private hospital. This indicates that there were no behavioral differences between employees over or below 40 years in this hospital with respect to the remuneration policy. This finding is somewhat surprising because it was expected a difference between young and older employees, as suggested by Kabacoff and Stoffey (2001), but the results do not show this disparity, as can be seen in Chart 6.

Likewise, Chart 7 indicates that there are no significant differences between the two groups of employees (more and below 40 years) in the public hospital, i.e., age is not a significant variable with respect to behavioral differences by influence of remuneration.

Chart 6

Age difference – Private Hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	302.500	265.000	313.500	273.500	247.500	278.500	295.500
Wilcoxon <i>W</i>	968.500	931.000	484.500	444.500	418.500	449.500	466.500
<i>Z</i>	–.399	–1.182	–.208	–.994	–1.520	–.847	–.553
Asymp. Sig. (2-tailed)	.690	.237	.835	.320	.128	.397	.581

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Age\_H1.

Chart 7

Age difference – Public Hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	336.000	288.000	328.000	354.500	303.500	296.500	312.500
Wilcoxon <i>W</i>	931.000	883.000	923.000	949.500	898.500	891.500	907.500
<i>Z</i>	–.375	–1.250	–.514	–.045	–.946	–1.076	–.792
Asymp. Sig. (2-tailed)	.708	.211	.607	.964	.344	.282	.428

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Age\_H2.

Initially, it was expected that age was a key factor of influence on behavior. It was expected, for example, that young employees had more expectations of reward and older employees could feel more demotivated in their activities. However, the findings indicate that in both hospitals there are no behavioral differences between younger and older employees with respect to the influence of remuneration on behavior.

### Experience

Previous literature considers experience as a key variable regarding behavior (Bantel & Jackson, 1989; Ghiselli & Lodahl, 1958; Hoffman & Maier, 1961). Therefore, we sought to determine if there were differences between more or less experienced workers in each hospital and differences between private and public hospitals.

The formulated hypotheses considered more than three years of experience (time) in the position, so we have:

$H_0 =$  there is no difference between more or less experienced employees

$H_1 =$  there is a difference between more or less experienced employees

The results shown in Chart 8 indicated that the variables did not show statistically significant differences regarding experience (more than three years in the function or less than three years in the function). Thus, we cannot reject the null hypothesis and affirm that there is a difference in the private hospital. In general, our findings suggest that remuneration policies do not cause different effects in both groups, when the time of experience in the job position is considered.

It was also examined if there were differences between more or less experienced employees in the public hospital. According to Chart 9, the results indicate that none of the variables showed statistical significance and, therefore, we cannot state that there is a difference between more or less experienced employees in public hospitals.

Chart 8

Differences between more or less experienced employees – Private Hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	270.500	267.000	276.000	246.000	243.500	317.000	259.500
Wilcoxon <i>W</i>	441.500	438.000	942.000	912.000	909.500	983.000	925.500
<i>Z</i>	–.994	–1.142	–.952	–1.535	–1.600	–.130	–1.250
Asymp. Sig. (2-tailed)	.320	.254	.341	.125	.110	.896	.211

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Experience.H1.

Chart 9

Differences between more or less experienced employees – Public Hospital (Test Statistics<sup>a</sup>).

	Restriction	Punishment	Control	Motivation	Reward	Behavior	Learning
Mann–Whitney <i>U</i>	334.000	364.500	344.500	327.000	276.000	272.500	330.000
Wilcoxon <i>W</i>	685.000	715.500	695.500	678.000	627.000	623.500	681.000
<i>Z</i>	–.747	–.220	–.560	–.871	–1.738	–1.809	–.814
Asymp. Sig. (2-tailed)	.455	.826	.575	.384	.082	.070	.416

Source: Based on the survey's data.

<sup>a</sup> Grouping Variable: Experience.H2.

These results are also surprising because it was expected that experience was a factor that accounted for behavioral differences in relation to the remuneration system. However, the results show that there are no difference between more or less experienced workers as well as no significant differences between the hospitals.

## Conclusions

The aim of this study was to analyze the employees' perception of the remuneration systems of two major hospitals in Brazil to determine if there was a difference in public and private management contexts, considering that one of the hospitals was managed by the government and the other one by private investors.

It was observed through a questionnaire administered to a sample of 109 respondents (54 from a private hospital and 55 from a public hospital) the perception of remuneration associated with the individuals' occupation, gender, age and experience, as suggested by the Upper Echelons Theory, in addition to the public and private environment contexts. The investigation also observed, regarding the characteristics, the following variables: (i) restriction; (ii) punishment; (iii) reward; (iv) control; (v) motivation; (vi) behavior; (vii) learning.

The results initially show a difference in the management process and the employees' perception of the remuneration systems in public and private hospitals. The analysis allowed determining that the control, motivation, reward and learning variables are significant and, therefore, for these variables there is a difference in the remuneration system between the hospitals. Such result is important because it shows that the remuneration system may exert different effects on behavior, according to the management style, including hospitals, which is the case of the present study.

The employees from private or public hospitals perceive performance goals differently, and remuneration is viewed as an instrument of control, behavior or a mechanism that encourages

learning, and the findings suggest that there are differences in the employees' perception, including between those working in the health area and the administrative area.

In general, the findings suggest that fixed remuneration has a difference either in the public or private management contexts or between the employees of both areas (administrative and medical). Regarding the other aspects examined, gender was not a determinant factor of fixed remuneration, except when there is a perception that remuneration is as a factor that restricts actions within the hospital. By analyzing age as a behavioral factor that indicates differences between the employees from the public and private hospital, we could not find differences between young and older employees. There were no differences as well between the more experienced employees or less experienced employees in each hospital and no differences regarding experience between the hospitals. Although there was no relation between gender, age and experience, as suggested in the literature, the findings indicate evidences between the contexts of public and private management and differences between the perceptions of administrative employees and health employees.

For further studies and investigations, we suggest an investigation in other contexts, observing the relation between gender, age and experience, as proposed by previous studies, and a comparison between fixed and variable remuneration in public and private organizations.

In general, the results show the importance of analysis of remuneration as an instrument of control and management in both public and private organizations, including hospitals, considering the evidences of conflicts between the medical area and the administrative area, and such perceptions can interfere with the hospital management process.

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