

The Impact of Compensation Systems on the Motivation of Teachers of a Higher Education Institution

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Abstract

This paper aims to evaluate the impact of compensation systems (pay and promotion) on the motivation of the teaching staff of a Higher Education Institution (HEI). For both, a theoretical reference is organized about the issues involving people's motivation, as well as those related to the characteristics of the organizations's rewards systems. The prospect of research in this paper is quantitative, descriptive stamp. It was adopted as a methodological procedure to carry out a survey of 290 teachers. Thus, as data collection instrument was used application of structured questionnaires. The analysis and interpretation of data, performed using descriptive statistics such as multiple regression analysis, allow to point out that the transparency of progression opportunities and the equity of the remuneration system are variables that exert a statistically significant positive effect on both the extrinsic motivation as the intrinsic motivation of the HEI's teachers. Among the independent variables that do not statistically significantly affect any of the dependent variables are transparency of the remuneration system and the controllability of progression opportunities

Keywords: Rewards Systems; Characteristics Rewards Systems; Extrinsic Motivation; Intrinsic Motivation; Higher Education Institution.

1. INTRODUCTION

Among all administrative issues related to motivation, possibly one that receives special attention is the case of compensation systems (MARRAS, 2011). This is because reward systems (remuneration, wages, benefits, promotions, etc.) can be one of the main factors motivating individuals in organizations, according to authors such as Jessup (1977), Bergamini (1992, 2008), Harris (1997), Davis and Newstrom (1998), Wood Jr. and Picarelli Filho (1999), Gomes and Amorim (2008), França (2009), Vieira and Souza (2010), Câmara (2011), Alves and Pinto (2011), Cardoso, Cardoso and Santos (2013), Duarte and Melo (2013), Vieira and Oliveira (2013).

The works developed by these authors can be characterized, for the most part, as exploratory and descriptive research and only highlight, in an argumentative way and without the use of techniques to establish inferences, the influence of several internal and external factors on the motivation of employees.

Given this context of characterization of the developed works, the researches, in general, in consonance with the conceptual and paradigmatic structures in force in the country, focused on investigations of the intervening factors of the motivation, using, as a priority, instruments and methodologies of qualitative research.

So, it can be emphasized that there are few empirical studies, such as Van Herpen (2007), which analyze and statistically test the effects of compensation systems (wages, benefits, promotions, etc.) on motivation at work. In order to provide information to fill this gap, but not to exhaust the possibility of treatment on the subject, it is the proposal's article: evaluate the impact that compensation systems (remuneration and promotion) have on the motivation of employees' professors of a higher education institution (IES), Federal University of Tocantins (UFT).

In this sense, this work is justified by the attempt to fill this theoretical gap, concentrating on testing, measuring and statistically evaluating the effects of compensation systems (remuneration and promotions) on the motivation of teachers in an HEI; concomitantly, this research also assumes its relevance and originality by focusing on analyzing the relationship between these factors and their influence on teacher motivation through an approach not yet addressed in the Brazilian literature, a quantitative approach of this relation that characterizes the research problem.

2. EXTRINSIC AND INTRINSIC MOTIVATION

Motivation is one of the most complex phenomena in the study of human behavior, and it is difficult to define it precisely because it has been used with different meanings. However, despite the lack of significant

differentiation in the structuring of writing, there is a consensus in the definition of motivation as being the set of processes involved in the impulse, direction, intensity and persistence of behavior (MITCHELL, 1982; DÖRNYEI, 2000; TAMAYO and PASCHOAL, 2003).

Several authors also share the idea that, in the broadest sense, the term motivation means the action or effect of motivating, of giving reasons, of stimulating the emergence of interests for something or for the life of the people, of impelling the person to present a specific behavior (KAST and ROSENZWEIG, 1970; STONER and FREEMAN, 1985; FERREIRA, 2001; CAVALCANTI et al., 2005; SALGADO, 2005; CASTRO, 2008).

It can be noted that there are two types of motivation, initially identified by Deci (1972) and later studied by other authors, such as Frey and Jegen (2001) and Bénabou and Tirole (2003): extrinsic and intrinsic. Extrinsic motivation occurs when an activity is performed for another purpose other than that inherent in the activity itself; it is affected by values external to the activity, being present when the performance of an activity by an individual aims at obtaining a reward external to the activity or when it performs this activity to avoid failure (DECI and RYAN, 2000).

Intrinsic motivation, in turn, is characterized by the involvement and commitment of the individual to the activity alone, due to the pleasure and taste it produces, representing the activity, in those circumstances, an end in itself. Individuals who are intrinsically motivated are moved to action by the interest, amusement, or satisfaction inherent in them, to the detriment of rewards or pressures external to perform the same activity (DECI and RYAN, 2000; BÉNABOU and TIROLE, 2003).

3. CHARACTERISTICS OF COMPENSATION SYSTEMS

The rewards system includes the total package of benefits that the organization places at the disposal of its employees and the procedures by which those benefits are distributed. It includes not only wages, holidays, promotion opportunities, but also rewards as a guarantee of job security, transfers to more challenging positions and various forms of recognition for services rendered (MILES, 1975).

Chiang and Birtch (2006), in identifying various types of rewards, have combined financial and non-financial rewards with extrinsic and intrinsic rewards. For them, financial rewards are considered extrinsic because they refer to external monetary reinforcements and include direct benefits - payments that employees receive as bonuses, premiums, and cash consideration for the performance of their services - and indirect - arising Collective bargaining agreements and benefit programs of the organization such as vacations, gratuities, profit sharing, food aid, transportation, health insurance, etc.

Non-financial rewards do not benefit employees in monetary terms and can be of two natures: intrinsic or extrinsic. The extrinsic non-financial rewards are external reinforcements that the organization uses to stimulate the good performance of the professional at work that are mediated outside the person such as relationships with co-workers, opportunities for promotions, status, participation in decision-making, management style, professional development and training, work-life balance, availability of sufficient resources for job performance, recognition and a favorable working environment (CHIANG and BIRTCH, 2006).

Intrinsic non-financial rewards are those that involve individual experiences as a sense of competence in doing good work and are related to psychological rewards. They are mediated within the person and can be in the challenging nature of work, in the responsibility, in the possibility of exercising their skills, in the autonomy, in the pride in their skills, in the achievement and in the job satisfaction (CHIANG and BIRTCH 2006; ALVES and RIBEIRO, 2012).

Taking into account this classification and the conjugation carried out by Chiang and Birtch (2006), Figure 1 is proposed to represent a more diversified and systemic view of the financial, non-financial, extrinsic and intrinsic nature of the rewards.

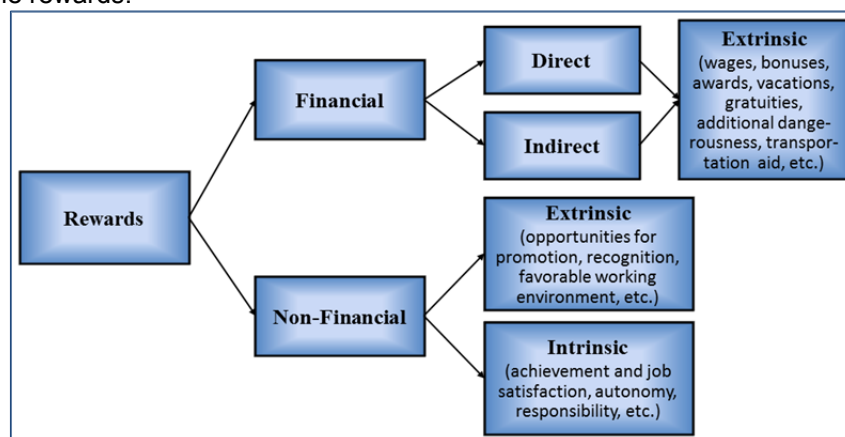


Figure 1 – Expanded Rewards Typology

Source: Authors, based on Dutra (2002), Chiang and Birtch (2006) and Camera (2011).

According to these considerations, and in parallel with Câmara (2011), it can be highlighted that for a compensation system to be effective and achieve the objectives for which it was created, it is fundamental that it has some characteristics, such as, that is aligned with the strategic objectives of the organization and that is well accepted by its recipients and perceived by them as being fair and objective, functioning in an equitable way and evaluating the contribution of each one according to clear and uncontroversial criteria.

For Thierry (1987) presented in Van Herpen (2007), the effectiveness of a compensation system (here assumed as the combination of monetary rewards and promotional possibilities) depends on three perceived characteristics, namely: (1) transparency, (2) equity and (3) controllability.

For Van Herpen (2007), the perceived transparency of a compensation system depends on two characteristics: adequate communication and complexity. For the author, a transparent communication system, in addition to informing the objectives that the organization intends to achieve, also informs its employees the rules of the compensation system by means of a clear communication of these rules, allowing them a better understanding of the methodologies, Indicators and targets to be used.

Equity theory emphasizes the need for individuals to receive a fair amount of compensation in relation to other individuals. This is because they compare the ratio of their inputs (efforts) to the results (rewards) to the input-output relationship of other individuals. If an individual sees this relationship as unequal, a state of tension is provoked, which, in turn, will lead to an attempt to restore equality. Janssen (2001) has empirically shown that managers who perceive justice in the effort-reward relationship perform better than those who perceive themselves to be unjustly rewarded.

The third characteristic of the compensation system is the perceived relationship between effort and compensation, also called system controllability. Van Herpen (2007) points out that Baker (2002) defines controllability as the extent to which the individual is able to control or influence the outcome of their actions.

4. METHODOLOGY

The present work is classified as a descriptive research (CERVO and BERVIAN, 2002; GIL, 2002; KÖCHE, 2002; LEITE, 2004; MALHOTRA, 2012), since it aims to transcribe, describe, interpret and explain the results of the study the impact of compensatory systems (remuneration and promotion) on the motivation of the teaching staff of the Federal University of Tocantins - UFT.

Considering the nature of the problem investigated, the research approach used was quantitative. This type of research approach, according to Richardson *et al.* (1999), is characterized by the use of quantification both in the collection of information and in its treatment through statistical tools. For the authors, its basic purpose is to guarantee the accuracy of the results, to avoid distortions of analysis and interpretation, attributing to the obtained results a greater margin of confidence.

For Bryman (2004), quantitative research is generally conceptualized by its adopters as having a logical structure in which theories determine the problem for which researchers address them in the form of hypotheses derived from general theories, as will be done in the following section.

4.1 Statement of the Problem, Question of Investigation and Hypotheses

As mentioned in the introductory part of this study, has as a research problem to verify what effect does a compensation system (remuneration and promotion) have on the motivation of the teaching staff of the Federal University of Tocantins - UFT?

The option to investigate these factors that influence motivation stems from the growing importance they have gained in the national and international context and the lack of specific studies to statistically measure and test this relationship between compensation systems and their influence on the motivation of individuals.

However, part of the literature has pointed out that the compensation system is used by organizations as a way to attract and retain their talents, reduce turnover, decrease absenteeism, increase productivity and motivate employees, obtaining from them a counterpart corresponding to their skills. Authors like Bergamini (1992), Harris (1997), Marras (2000), Dutra (2002), Bohlander and Snell (2009) and Câmara (2011) share this idea.

For a compensation system to be effective and achieve the objectives for which it was created, it is essential that it has some characteristics. Thierry (1987) presented in Van Herpen (2007) indicates that transparency, fairness and controllability are characteristics that lead to the effectiveness of an organization's compensation system. This latter view is also shared by authors such as Bergamini (1992), Harris (1997) and Bohlander and Snell (2009).

Authors such as Albuquerque (1999), Dutra (2002), Hellriegel and Slocum Jr. (2004) and Bohlander and Snell (2009) emphasize that important work-related internal and external factors leading to motivation and job satisfaction include job challenges, competent supervision, fair and just pay, and rewarding careers. Thus, it is expected that the characteristics of the compensation system (transparency, fairness and controllability) will have an impact on the level of employee motivation.

The literature also highlights that the opportunity to earn a promotion in addition to allowing the organization to utilize the skills and abilities of its staff more effectively also serves as an incentive for good performance and increased satisfaction. Van Herpen (2007) points out that in addition to a salary increase, a promotion increases employee status and can bring new challenges that strengthen their intrinsic motivation. Therefore, the option to test the hypothesis of the relationship between the characteristics of promotion opportunities (progression) and the extrinsic and intrinsic motivation of UFT's employees.

These dimensions emerge from the reviewed literature as elements that must exert a determining influence on the configuration of people's motivation. For this reason, they support the research question, structured for empirical research and presented along with its hypotheses, below.

Research question:

What is the effect of the compensation system (remuneration and opportunities for progression) on the motivation of UFT's teaching staff?

Hypotheses:

- H_{1a}: The greater the perception of the transparency of the remuneration system, the greater the extrinsic motivation of UFT's teaching staff.
- H_{1b}: The greater the perception of the fairness of the remuneration system, the greater the extrinsic motivation of UFT's teaching staff.
- H_{1c}: The greater the perception of controllability of the remuneration system, the greater the extrinsic motivation of UFT's teaching staff.
- H_{2a}: The greater the perception of the transparency of the opportunities for progression, the greater the extrinsic motivation of UFT's teaching staff.
- H_{2b}: The greater the perception of the fairness of the opportunities for progression, the greater the extrinsic motivation of UFT's teaching staff.
- H_{2c}: The greater the perception of the controllability of the opportunities for progression, the greater the extrinsic motivation of UFT's teaching staff.
- H_{3a}: The greater the perception of the transparency of the remuneration system, the greater the intrinsic motivation of UFT's teaching staff.
- H_{3b}: The greater the perception of the fairness of the remuneration system, the greater the intrinsic motivation of UFT's teaching staff.
- H_{3c}: The greater the perception of controllability of the remuneration system, the greater the intrinsic motivation of UFT's teaching staff.
- H_{4a}: The greater the perception of the transparency of the opportunities for progression, the greater the intrinsic motivation of UFT's teaching staff.
- H_{4b}: The greater the perception of the fairness of the opportunities for progression, the greater the intrinsic motivation of UFT's teaching staff.
- H_{4c}: The greater the perception of the controllability of the opportunities for progression, the greater the intrinsic motivation of UFT's teaching staff.

4.2 Universe and Research Sample

The delimitation of the sample occurred through the process known as intentional non-probabilistic sampling (KIDDER et al., 1987). Thus, the research was carried out with the teachers who were full at UFT campuses in the cities of Araguaína and Palmas because of their representativeness and significance, since approximately 67.6% of the teaching staff of this institution are concentrated in these two campuses.

Through information obtained from the Human Development Sector (SDH, 2014) of the UFT, it was verified that the universe of research consists of 632 teachers. Therefore, in this space delimited for study, removing the teachers in which the pre-test of the instrument of data collection was applied, as well as those that were not located for the delivery or sending of the questionnaire and those who did not agree to participate in the research, only 290 participated in the research and met the criteria and qualifications predetermined for it, constituting, in this way, the final sample of the research.

Regarding the geographic distribution of UFT teachers who were surveyed, the majority of them, about 54.83% (159), is located on the campus of the city of Palmas. The other 45.17% (131) teachers are distributed on the campus of the city of Araguaína.

4.3 Collection, Analysis and Processing of Data

The data collection was characterized by the work of searching for information in the UFT, using as a research tool, to reach the proposed objectives, the application of questionnaires (LAKATOS and MARCONI, 2005). Analytically, the questionnaires contained closed or dichotomous questions of the "yes" or "no" type; and

closed questions that combine with open answers. Through the questionnaire, the questions were answered in writing by the respondents, without the intermediary or presence of the researcher.

All the questions related to the employees' perception about the compensation system of the UFT, as well as those related to its extrinsic and intrinsic motivation were formulated as assertive. Contributors were asked to react to these statements on a Likert-type scale, providing responses ranging from 1 to 5, being "1", equivalent to disagree and "5", corresponding to agreement.

After data collection, they were tabulated and classified systematically through descriptive statistics such as multiple linear regression analysis. In the analysis and interpretation of the data we used support tools such as Microsoft Excel® and IBM® SPSS® (Statistical Package for the Social Sciences), version 20.0, running in Windows® environment, to give a broader meaning to the answers, linking them to other knowledge.

5. RESULTS AND DISCUSSION

In order to identify the effect that perception about the characteristics of the UFT compensation system (transparency of the remuneration system, transparency of opportunities for progression, fairness of the remuneration system, fairness of opportunities for progression, controllability of the remuneration system and controllability of opportunities for progression - independent variables) exerts on the extrinsic and intrinsic motivation (dependent variable) of its teaching staff, the multiple regression technique was used. As individual characteristics may have an impact on the relationship between variables, control variables were used in each of the analyzes performed. The results of the relationship between the characteristics of the compensation system and the extrinsic motivation of UFT teachers can be visualized in Table 1.

In Table 1, it can be noted that the multiple regression analysis revealed that only the perception of the transparency of the opportunities for progression (Transparency_OP), the fairness of the remuneration system (Fairness_RS), the fairness of the opportunities for progression (Fairness_OP) and controllability of the remuneration system (Controllability_RS) are the independent variables that substantially contribute to the model predict a result. Among the control variables, only the time in the institution (given in years) and the existence of clear goals to fulfill are significant variables for the model.

The coefficient of determination or regression of the resulting model (R^2) is 0.673, which is significant at the 0.1% level. This means that, in the sample, 67.3% of the variance in the extrinsic motivation levels of UFT teachers can be attributed to the independent and control variables. One of the conditions that must be satisfied in the regression analysis is that the errors must be uncorrelated (or independent). This assumption was verified with the test proposed by Durbin and Watson (1951), called Durbin-Watson, which in this case by being equal to 2.089 (well near 2) indicates that the errors should not be correlated with each other or, in other words, are independent.

Table 1 – Influence of the Characteristics of the Compensation System on Extrinsic Motivation

	B	S_e B	β
Constant	0.287	0.146	
Transparency_RS	0.003	0.046	0.004
Transparency_OP	0.108	0.031	0.133**
Fairness_RS	0.463	0.037	0.538***
Fairness_OP	0.130	0.038	0.147**
Controllability_RS	0.201	0.035	0.223***
Controllability_OP	0.063	0.043	0.072
Time in Institution (in years)	-0.029	0.009	-0.114**
Existence of Goals	0.219	0.081	0.093**
Sig.	p < 0.001		
R²	0.673		
R² Adjusted	0.666		

Note: **B** = unstandardized regression coefficient;
S_eB = standard error of the estimate (measures the mean deviation between the actual values of Y and the estimated values Y');
β = standardized regression coefficient.
*** p < 0.001 ** p < 0.01

Source: Primary data (2016)

The unstandardized coefficient of the transparency of the remuneration system (Transparency_RS) shown in Table 1 of the coefficients is 0.003. This value indicates that when the transparency of this system increases one unit, the extrinsic motivation increases 0.003, presenting a positive relation with this dependent variable.

However, with the t -value of 0.070 and with an associated probability of 0.954, [t (269) = 0.070, $p > 0.05$], it can be stated that the change in motivation levels is the same if the score of the transparency of the remuneration system increase one unit. Therefore, the levels of extrinsic motivation of the UFT teachers studied do not increase due to the increase in the transparency of their remuneration system, which, therefore, leads to the refutation of hypothesis 1a.

In the case of the influence of the transparency of the opportunities for progression (Transparency_OP) on extrinsic motivation, the results showed that the levels of extrinsic motivation of the UFT teachers surveyed increase 0.108 degrees due to the increase of one unit in the transparency of these opportunities, since the statistics t was significant [t (283) = 3.49, $p < 0.01$], corroborating hypothesis 2a.

As regards the effect of the fairness of the remuneration system (Fairness_RS) on extrinsic motivation, the results showed that the levels of extrinsic motivation of the UFT teachers surveyed increase by 0.463 degrees due to the increase, on average, of one unit in fairness of this system, given that the value of the statistic t is very significant [t (283) = 12.672, $p < 0.001$], leading to the confirmation of hypothesis 1b.

In relation to the effect of the fairness of the opportunities of progression (Fairness_OP) on the extrinsic motivation, it can be stated from the results presented that the levels of extrinsic motivation of the UFT teachers surveyed increase by 0.130 degrees due to the increase of one unit in fairness of these opportunities. The value of the t statistic confirms these results by showing quite significantly [t (283) = 3,439, $p < 0.01$], thus supporting the hypothesis 2b.

With regard to the influence of the controllability of the remuneration system (Controllability_RS) on extrinsic motivation, the results show that the levels of extrinsic motivation of UFT teachers increase by 0.201 degrees due to the increase of one unit in the controllability of this system. As the test t value proved to be very significant [t (283) = 5.74, $p < 0.001$], this change in extrinsic motivation levels of UFT teachers can be confirmed, which therefore also corroborates hypothesis 1c.

Regarding the relationship between the controllability of the opportunities for progression (Controllability_OP) and the motivation, the results showed that the levels of extrinsic motivation of the UFT teachers do not really increase as a result of the increase of one unit in the controllability of these opportunities, since the value of the statistic t is not significant [t (269) = 1.470, $p > 0.05$], leading to rejection of hypothesis 2c.

Among the control variables, as can be seen in Table 1, only the time of action in the institution (given in years) and the existence of goals showed to be significant variables for the model. With regard to the effect of the teachers' time in the institution on the motivation, the results allow to emphasize that the levels of extrinsic motivation of UFT's teachers decrease 0.029 degrees due to the increase, on average, of one unit (in the case one year) in the time of his actions in the institution. The value of the statistic t confirms these results by revealing itself quite significantly [t (283) = -3.233, $p < 0.01$].

The unstandardized coefficient of the existence of targets shown in the coefficient table is 0.219. As this variable is a dummy, where 0 means no explicit targets to meet and 1 means the existence of clear targets to be met, this coefficient value indicates that if the existence of targets increases by one unit, in the case of 0 to 1 (to have clear targets to be met), the extrinsic motivation will increase by 0.219, presenting a positive relation with this control variable. With t -value of 2.718 and associated significant probability of 0.007, [t (283) = 2.718, $p < 0.01$], it can be stated that the change in motivation levels really is different if the score of the existence of goals increase one unit. Therefore, it can be said that the levels of extrinsic motivation of UFT's teachers increase as a result of the existence of explicit goals to be fulfilled. This interpretation is only true if the effects of the other significant predictors are kept constant.

In Table 1, the standardized or beta (β) coefficients of the transparency of the opportunities for progression (Transparency_OP) and the fairness of the opportunities of progression (Fairness_OP) shown in the coefficients table are very close, indicating that the two variables present a degree of importance comparable to the model. In addition, the magnitude of the t statistic also confirms this proximity. In the comparison between the independent variables to identify the most important for the model, the variable that most explains the extrinsic motivation of UFT's teachers is the fairness of the remuneration system, with the standardized coefficient of 0.538, in addition to the magnitude of the t statistic of 12,672 confirms this importance for the dependent variable.

Regarding multicollinearity in the data, observing the values presented by the Variance Inflation Factor (VIF) and by the Tolerance statistic and in parallel with the observations of Meyers (1990), Menard (2002) and Field (2009), it is possible to highlight that all VIF values are below 10 and all Tolerances are above 0.20. Therefore, it can safely be concluded that there is no multicollinearity (highly correlated variables) within the observed data set.

Therefore, in a summary form, it can be emphasized that the variables transparency of the opportunities for progression, fairness of the remuneration system, fairness of the opportunities for progression, controllability of the remuneration system, time in the institution and existence of clear goals to be fulfilled have a significant effect on the extrinsic motivation of the UFT's teachers surveyed. However, the variables transparency of the

remuneration system and controllability of the opportunities for progression do not significantly affect the extrinsic motivation of these teachers.

Multiple regression was also used to verify how the characteristics of the UFT's compensation system affect the intrinsic motivation (dependent variable) of its teaching staff. Control variables were also used to try to control the impact of individual characteristics. The results of the relationship between the characteristics of the compensation system and the intrinsic motivation of UFT's teachers can be seen in Table 2.

Table 2 – Influence of the Characteristics of the Compensation System on Intrinsic Motivation

	B	S_e B	β
Constant	3.041	0.172	
Transparency_RS	-0.029	0.040	-0.063
Transparency_OP	0.115	0.025	0.247***
Fairness_RS	0.143	0.027	0.291***
Fairness_OP	0.018	0.034	0.035
Controllability_RS	0.038	0.036	0.073
Controllability_OP	0.030	0.037	0.060
Age	0.009	0.004	0.132*
Dummy3_Marital Status	-0.197	0.112	-0.094**
Sig.	p < 0.001		
R²	0.211		
R² Adjusted	0.200		

Note: **B** = unstandardized regression coefficient;

S_eB = standard error of the estimate (measures the mean deviation between the actual values of Y and the estimated values Y');
β = standardized regression coefficient.

*** p < 0.001 ** p < 0.01 *p < 0.05

Source: Primary data (2016)

Table 2 shows that regression analysis showed that only the transparency of the opportunities for progression (Transparency_OP) and the fairness of the remuneration system (Fairness_RS) are the independent variables that contribute substantially to the model to predict a result. Among the control variables, only age and the third dummy of marital status showed to be significant variables in the model.

The resulting coefficient of determination (R²) is 0.211, significant at the 0.1% level. This means that, in the sample, 21.1% of the variance in the intrinsic motivation levels of UFT's teachers can be attributed to the variation in the independent and control variables. The assumption that the errors are uncorrelated or independent was checked with the Durbin-Watson statistic, which is equal to 2.091 (well near 2 and greater than 1.5), indicating that this assumption must certainly be satisfied.

The unstandardized coefficient of the transparency of the remuneration system (Transparency_RS) shown in Table 2 of the coefficients is -0.029. This value indicates that when the transparency of this system increases by one unit, the intrinsic motivation decreases 0.029 levels, presenting an inverse relation with this dependent variable. However, with the t-value of -0.725 and an associated probability of 0.469 [t (269) = -0.725, p > 0.05], it can be stated that the change in intrinsic motivation levels is the same if the score of the transparency of the remuneration system increase by one unit. Therefore, the levels of intrinsic motivation of the UFT teachers surveyed do not diminish or increase as a result of the increase in the transparency of the remuneration system, which, therefore, leads to rejection of hypothesis 3a.

In the case of effect the transparency of the opportunities for progression (Transparency_OP) on intrinsic motivation, the results showed that the levels of intrinsic motivation of UFT's teachers increased 0.115 degrees due to the increase of one unit in the transparency of these opportunities, since the t statistics showed very significant [t (285) = 4.513, p < 0.001], which therefore leads to ratification of hypothesis 4a.

The estimated parameter b of the fairness of the remuneration system (Fairness_RS) shown in the coefficient table is 0.143. This value indicates that when the fairness of this system increases by one unit, the intrinsic motivation increases by 0.143 levels. The t-value of 5.325 with an associated probability less than 0.001, [t (285) = 5.325, p < 0.001], indicates that it is unlikely that the regression coefficient occurred because of a sampling error. In this way, it can be said that the change in intrinsic motivation levels really is divergent if the score fairness in this system increases by one. Therefore, it can be noted that the levels of intrinsic motivation of UFT teachers increase by 0.143 degrees as a result of the increase of one unit in the equity of their remuneration system, corroborating hypothesis 3b. This interpretation is only true if the effects of the other significant predictors are kept constant.

In relation to the effect of the fairness of the opportunities for progression (Fairness_OP) on intrinsic motivation, it can be stated from the results presented that the levels of intrinsic motivation of the UFT's teachers surveyed do not increase due to the increase of one unit in the equity of these opportunities. The value of the t statistic confirms these results by showing non-significantly [$t(269) = 0.513, p > 0.05$], thus leading to the refutation of hypothesis 4b.

Regarding the influence of the controllability of the remuneration system (Controllability_RS) on the intrinsic motivation, the results allow to say that the levels of intrinsic motivation of the UFT's teachers do not increase as a result of the increase of one unit in the controllability of this system. As the value of the t -test proved to be non-significant, [$t(269) = 1.029, p > 0.05$], the change in the levels of intrinsic motivation of UFT's teachers can not be confirmed, which leads to hypothesis rejection 3c. Regarding the relationship between the controllability of the opportunities for progression (Controllability_OP) and the motivation, the results found that the levels of intrinsic motivation of UFT's teachers do not increase as a result of the increase of one unit in the controllability of these opportunities, because the value of the t statistic is not significant [$t(269) = 0.807, p > 0.05$], leading to rejection of hypothesis 4c.

Regarding the effect of the teachers' age on motivation, the results show that the levels of intrinsic motivation of UFT's teachers increase by 0.009 degrees as a result of the increase of one unit (in the case one year) in their ages. The value of the t statistic confirms these results by showing significantly [$t(285) = 2.472, p < 0.05$]. Regarding the effect that teachers' marital status has on motivation, the results indicate that the levels of intrinsic motivation of UFT's teachers decrease by 0.197 degrees as a result of the change from their marital status from married to divorced. It should be remembered that this variable, marital status, is dichotomous, where 0 means married and 1 means divorced.

In the comparison between the independent variables to identify the most important for the prediction of the model, the variable that most explains the intrinsic motivation of UFT's teachers, as well as also identified for the extrinsic motivation, is the fairness of the remuneration system, with the coefficient standardized of 0.291, in addition to that the magnitude of the t statistic of 5.325 confirms this importance for the dependent variable.

Regarding multicollinearity in the data, analyzing the values presented by VIF and Tolerance statistics, and in parallel with the observations of Meyers (1990), Menard (2002) and Field (2009), it can be noted that all values of VIF are below 10 and all Tolerances above 0.20, which leads to a considerable margin of safety that these data do not present collinearity problems (high correlations with each other).

In summary, it can be highlighted that the variables transparency of the opportunities for progression, fairness of the remuneration system, age and the third dummy of marital status exert a significant effect on the intrinsic motivation of the UFT's teachers surveyed. However, the transparency of the remuneration system, the fairness of the opportunities for progression, the controllability of the remuneration system and the controllability of the opportunities for progression do not significantly affect the intrinsic motivation of these teachers.

This synthesis of the results of the relationship between the analyzed variables also gives support and allows displaying a summary of the hypotheses declared to present answers to the question of investigation, as can be seen in Table 3, below.

Table 3 – Summary of the Hypotheses of the Research Question

Hypothesis	Unstandardized Coefficient	t-Value	Sig.	Hypothesis Status
1a	0.003	0.070	0.945	Rejected
2a	0.108	3.490	0.001	Accepted
1b	0.463	12.672	0.000	Accepted
2b	0.130	3.439	0.001	Accepted
1c	0.201	5.741	0.000	Accepted
2c	0.063	1.470	0.143	Rejected
3a	-0.029	-0.725	0.469	Rejected
4a	0.115	4.513	0.000	Accepted
3b	0.143	5.325	0.000	Accepted
4b	0.018	0.513	0.608	Rejected
3c	0.038	1.029	0.304	Rejected
4c	0.030	0.807	0.421	Rejected

Source: Primary data (2016)

Table 3 shows that the collected data do not allow to accept half of the hypotheses that were declared for the empirical research (1a, 2c, 3a, 4b, 3c and 4c), but allow to support 06 hypotheses of the research carried out (2a, 1b, 2b, 1c, 4a and 3b).

6. FINAL THOUGHTS

In view of the importance of the topic for any organization and the scarcity of studies in the available literature, this research had the objective of evaluating the impact that a compensation system (remuneration and promotion) exerts on the motivation of the teachers of a higher education institution, Federal University of Tocantins (UFT).

The results show that 67.3% of the variance in the levels of extrinsic motivation of UFT's teachers can be attributed to the variables transparency of the opportunities for progression, fairness of the remuneration system, fairness of the opportunities for progression, controllability of the remuneration system, time of action in the institution and the existence of clear goals to be fulfilled in the institution. These variables evidenced a statistically significant positive relation with the extrinsic motivation (as they increase the extrinsic motivation also increases), except the variable time in the institution, which showed a negative relation, indicating that as the teaching staff's time in the institution increases, their extrinsic motivation tends to decrease. On the other hand, the independent variables transparency of the remuneration system and controllability of the opportunities for progression did not significantly affect the extrinsic motivation of these teachers.

The influence of the perception of the characteristics of the compensation system on the intrinsic motivation of UFT's teaching staff ensures that 21.1% of the variance in their levels of intrinsic motivation can be attributed to the variables transparency of the opportunities for progression, fairness of the remuneration system, age and third marital status dummy. These variables had a statistically significant positive effect on the intrinsic motivation, except the variable third dummy of the marital status, which showed an inverse relation with the dependent variable, indicating that to the proportion that the marital status of teachers goes from married to divorced, their intrinsic motivations tend to decrease. However, the variables transparency of the remuneration system, fairness of the opportunities for progression, controllability of the remuneration system and controllability of the opportunities for progression did not statistically affect the intrinsic motivation of these teachers.

In the comparison between the independent variables that have a significant impact on motivation, it can be pointed out that the transparency of the opportunities for progression and the fairness of the remuneration system are variables that positively affect both the extrinsic motivation and the intrinsic motivation of UFT's teachers. This means that for the institution's teachers, the existence of clear criteria or rules for progression and justice in the way they are paid make them feel energized, extrinsically and intrinsically motivated, as well as giving them a feeling of joy, contentment and pleasure. Among the independent variables that do not affect extrinsic and intrinsic motivation, the transparency of the remuneration system and the controllability of the opportunities for progression are the variables that stood out. This means that these variables do not influence teachers' motivation because they are probably beyond their reach, given that the way how the remuneration is defined and how the control of the opportunities for progression is exercised are all established and defined on the basis of agreements collectives and specific laws.

As limitations of this research, it is emphasized that the results presented, in front of the universe that could be researched (in this case, teachers of all seven UFT's campuses), are limited to the sample used, and generalizations about the results are made with certain and due caution. Although the multiple regression models used adhered well to the data and met some conditions such as normality and linearity in the data, homogeneity of variances, independence of errors and absences of multicollinearity and singularity (variables highly correlated or perfectly correlated, respectively), draw conclusions beyond the sample may be a misunderstanding.

The conclusions and limitations of this paper generate several suggestions for future investigations. Thus, this work could provide a "background" for the realization of studies of this nature in all seven UFT's campuses and also in other public and private universities, making the necessary adaptations and counting with the possibility of participation of a greater number of respondents, in order to be able to generalize the results of the model beyond the sample. As the analysis used integrates several dimensions, its multidimensional perspective can contribute to new insights being obtained through other research of this type.

Finally, questions related to the causality of the relationship between the characteristics of the compensation system and the extrinsic and intrinsic motivation could be better discussed, because there are serious doubts in the literature about which mechanisms operate in the relationship between these elements or variables.

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