



UNIVERSIDADE DE
COIMBRA

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**THE EFFECT OF INTERNAL MARKETING
STRATEGY IN ORGANIZATIONAL
COMMITMENT**

A study in schools in Portugal

Dissertação no âmbito do Mestrado em Marketing orientado pelo Professor
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Dedication

To people that believes in change through education everywhere

Thanks

First of all, I want to thank my parents, Fátima and Manuel, for always believing in my capabilities and ensuring I could have a good education inside and outside school. Secondly, but no less important I need to thank all the patience and effort of my orientation teacher, Dr. Fernando Carvalho, to help and guide me through this surprising path of new knowledge.

To all my friends and family, in Brazil and in Portugal, that supported me in distance and in presence.

The mind that opens up to a new idea
never returns to its original states

Albert Einstein

RESUMO

Objetivo: o objetivo desta pesquisa é investigar a influência que as práticas de marketing interno da escola podem ter no comprometimento organizacional do professor, assim como a mediação e moderação que sua motivação pode ter nesta relação.

Abordagem: o modelo conceitual apresentou 4 hipóteses, nas quais as hipóteses de número 1, 2 e 3 foram ampliadas em mais três cada: 1a, 1b, 1c; 2a, 2b, 2c; 3a, 3b, 3c. O teste foi aplicado a uma amostra de 385 professores de Portugal. Os dados foram coletados através de questionário online e analisados por meio de modelagem de equações estruturais.

Resultados: Uma relação significativa e positiva entre o marketing interno da escola e o comprometimento organizacional do professor foi notada. Um efeito de mediação positiva da motivação intrínseca nessa relação foi comprovado apenas quando o marketing interno é aplicado como um conjunto de estratégias distintas. Não houve efeito de moderação positiva da motivação intrínseca. A motivação extrínseca foi estatisticamente injustificada para fazer parte da equação estrutural final, portanto, essa variável foi colocada de lado.

Limitações: este estudo é baseado em uma amostra com 385 professores. São necessários mais estudos neste tópico, em especial sobre a influência direta da motivação nos resultados dos professores, em vez do efeito de seu efeito mediador ou moderador. Outras métricas também podem ser usadas para medir essas mesmas variáveis, a fim de testar outros constructos.

Contribuições práticas: este estudo mostrou que as estratégias de marketing interno da escola podem ter uma maior influência sobre o comprometimento organizacional do professor, ao invés do efeito de moderação ou mediação da motivação. No entanto, a motivação intrínseca do professor pode ter uma relevante influência sobre o seu comprometimento organizacional, quando as estratégias de marketing interno não são bem aplicadas. Escolas em Portugal carecem de estudos de mercado interno sobre seus colaboradores. Nesta amostra, os professores das escolas portuguesas apresentam uma motivação mais intrínseca do que extrínseca, bem como um compromisso mais afetivo do que normativo ou continuado.

Originalidade: esta investigação foi uma das primeiras a testar a influência de estratégias de marketing interno no comprometimento organizacional dos professores das escolas, em Portugal, e também por incluir o efeito de mediação e moderação da motivação nesta relação.

Palavras-chave: marketing interno, comprometimento organizacional, motivação, mediação, moderação.

ABSTRACT

Purpose: the purpose of this research is to investigate the influence that school's internal marketing practices may have into teacher's organizational commitment, and the mediation and moderation that their motivation can have in this relation.

Approach: the conceptual model presented 4 hypothesis, in which the hypothesis number 1, 2 and 3 were subdivided into three more each: 1a, 1b, 1c; 2a, 2b, 2c; 3a, 3b, 3c. The tests were applied in a sample of 385 teachers of Portugal. The data was collected through an online survey and it was statistically analyzed through structural equation modeling.

Results: A significant and positive relation between the school's internal marketing and teacher's organizational commitment was noticed. A positive mediation effect of intrinsic motivation toward this relation was proven only when the internal marketing is applied as a set of different strategies. There was no positive moderation effect of intrinsic motivation. Extrinsic motivation was statistically unjustified to be part of the final structural equation, therefore this variable was put aside.

Limitations: this study is based in a sample of convenience with 385 teachers. Further studies in this topic are needed, in special the direct influence of motivation in teachers outcomes, rather than the mediation or moderation effect. Other metrics can also be used to measure those same variables, in order to test other constructs.

Practical Contributions: this study showed that school's internal marketing strategies can have a greater influence over teacher's organizational commitment, rather than the moderation or mediation effect of motivation. Yet, teacher's intrinsic motivation can have a great influence over their organizational commitment, when internal marketing strategies are not well applied. The results also shows that schools in Portugal lack internal market researches of their employees. Within this sample, school teachers of Portugal have more intrinsic motivation than extrinsic, as well as a more affective commitment than a normative or continuance one.

Originality: this research was one of the first to testify internal marketing strategies with school teachers organizational commitment, in Portugal. In addition, this investigation innovates by exploring the mediation and moderation effect of motivation into this relation.

Keywords: internal marketing, organizational commitment, motivation, mediation, moderation

Abreviation

AC	Affective Commitment
AGT	Achievement Goal Theory
EVT	Expectancy Value Theory
EMO	Extrinsic Motivation
CC	Continuance Commitment
IC	Internal Communication
IM	Internal Marketing
IMO	Intrinsic Motivation
IMR	Internal Market Research
NC	Normative Commitment
OC	Organizational Commitment
SDT	Self Determination Theory
TR	Training

SUMARY

Dedication	Erro! Indicador não definido.	ii
Thanks	Erro! Indicador não definido.	iii
Resumo		iv
Abstract		v
Abreviation		vi
Introduction		1
1. Justification	Erro! Indicador não definido.	4
Part I: Preciding Studies		6
2. Literature Review		7
2.1 Internal Marketing		7
2.2 Organizational Commitment		11
2.3 Motivation		15
Part II: Current Research		22
3. Investigation Model		23
3.1 Conceptual Model		23
3.2 Hypothesis of the Investigation		24
4. Methodology		29
4.1 Sample and Population		29
4.2 Data Collection Method		30
4.3 Survey		31
4.4 Scales		31
4.5 Pre-test		32
4.6 Statistical Data Analysis		33
4.6.1. Sample Characteristics		33
4.6.2. Estimation Technique		37
4.6.3. Statistical Assumptions for Multivariate Techniques		38
a. Present Study Reports		39
4.6.4. Model's Quality Adjustment Analysis		43
4.6.5. Quality Adjustment for Measurement Models		44
4.6.6. Structural Model's reliability		45

5. Results	52
6. Discussion	65
Conclusion	69
Bibliographic References	72
[Appendix]	81

INTRODUCTION

Previous literature states that committed workers perform better than those with lower commitment, emphasizing the positive correlation between organizational commitment and work performance (Kim, Song and Lee, 2016; Manalo, Castro and Uy, 2020; Muriuki, Maru and Kosgei, 2016; Tentama and Pranungsari, 2016). Taking this into consideration, the main objective of this study is to understand the influence that school's *internal marketing* (IM) strategies – specially analyzed through aspects of *internal communication* (IC), *training* (TR) and *internal market research* (IMR) – can have in teacher's *organizational commitment* (OC) in their day-to-day work.

The positive mediation and moderation role of *intrinsic motivation* (IMO) in this relation is another point of interest applied in this study. In a first moment, based in literature review, the mediation effect of extrinsic motivation (EMO) was also considered as part of the equation, but with an expected negative effect towards the relation of IM in OC. With those results, we hope to give feedback for those workers and educational institutions in order to narrow the distance that may exist between them and the mission that they should accomplish together.

The Internal Marketing (IM) strategy concept values both employees as clientele and their work as a product, so consequently to achieve the company's goals this product should meet the needs and satisfaction of their customers (Huang, 2019; Viera-dos Santos and Gonçalves 2018). An informal or formal data collection is part of this process (Schildkamp, 2019; Viera-dos Santos and Gonçalves 2018). Applying this theory, schools as any other company that want to compete with other establishments of the same type, need to be aware of the needs and satisfaction of the internal and external customers (to be said, teachers and students), so that employees feel inspired and encouraged to deliver a high-quality performance (Huang, 2019; Kotler, 2000; Viera-dos Santos and Gonçalves 2018).

As schools may face many problems that don't have obvious solutions, determining the cause of it is an important step before taking any improvement action; and for that the review of Schildkamp (2019) has concluded that data-base decision-making can increase student's learning and achievement. The reality, however, does not match this. Gaps between the schools' operations and teacher's expectations may often exist due to a lack of attention from the school towards a systematically monitoring of the educator's needs, which

could jeopardize the institution in tangible and intangible matters (Hung, 2012; Sarquis *et al.*, 2020; Ting, 2010). Is a common error, for instance, for school's management to focus only on students to achieve some kind of threshold or benchmark (Schildkamp, 2019).

In a biometric study of consumer's behavior, about 76% of them "believe it is no longer acceptable for companies to just make money; they expect them to positively impact society, as well" (Porter Novelli and Cone Communications, 2019, p.6). So when analyzing education as an enterprise, their role is undeniably part of these expected social impacts, after all "in countries around the world, schools are increasingly expected to use data to monitor their performance, diagnose areas for improvement and use data to make informed decisions to improve the quality of education efficiently and effectively"(Schildkamp, 2019, p. 269). The dialogue between different stakeholders is a critical part of this complex process (Schildkamp, 2019).

Meanwhile, it is known that organizational commitment (OC) has a positive relation with regular employee attendance, the same way it has a negative one with turnover intention, and IM is a strategy likely to improve those positive outcomes, through developing the organization's competitiveness and motivating the workforce (Kim, Song and Lee, 2016; Sarquis *et al.*, 2020). Nonetheless, studies show that a teacher's commitment towards the school is a predictor of its effectiveness (Hung, 2012; Manalo, Castro and Uy, 2020; Viera-dos Santos and Gonçalves 2018). After all, providing a superior value to the final customers (students) is only a consequence of a value chain that is created inside the company and in which a superior value is delivered to every point of it, in other words, to all employees of the school (Conduit and Mavondo, 2001; Hung, 2012; Sarquis *et al.*, 2020; Viera-dos Santos and Gonçalves 2018).

According to the study published by Viera-do Santos and Gonçalves (2018), IM and organizational culture contribute to illustrate the perceived organizational support among employees of higher education institutions in Portugal. Meanwhile, other studies also justify the relation between perceived organizational support and job performance and commitment in education background (Bukari and Kamal, 2017; Guan *et al.*, 2014; Kurniawan, 2018; Yongzhan, 2020). The study of Viera-dos Santos and Gonçalves (2018) included 635 employees, regardless of their position, from university education (66,8%) and polytechnic education (33,2%). Their results showed a positive correlation between the three variables, clarifying how critical it is for an organization to establish a support culture towards their

employees and to enhance their perception of those values, especially using IM to adequately communicate these support provided. The authors also claimed that this can improve job satisfaction and motivation.

Among the suggestions for future studies, Viera-dos Santos and Gonçalves (2018) declared the relevance of the analysis of different kinds of employees. In order to complement those empirical data of the Portuguese education system, the present study decided to narrow the study group only to teachers and also to evaluate a different kind of educational environment (schools instead of higher education institutions) to understand if those same assumptions can be taken into school teachers work.

This study is interested in investigating the influence of internal marketing strategies in teacher's organizational commitment in Portugal, especially through indicators of internal communication, training and internal market research; and also to compare the main differences that may exist between each type of those strategy alone. The effects that teacher's motivation may have in this relations, over a mediation and moderation capacity, are another important aspect of this research. Another goal is to increase the academic community with more data regarding management issues of schools in Portugal, by the publication of the results presented in this document.

This research was composed of an investigation structure based in 6 steps: (1) literature analysis and theoretical basis; (2) model and hypothesis establishment; (3) survey distribution and data collection; (4) validation of measurement and structure models; (5) hypothesis tests; and (6) results interpretation and discussions. This document is divided into two parts, the first one contain the literature review of the variables studied (step 1 – *literature analysis and theoretical basis*) , and the second one contain the remaining steps mentioned.

1. Justification

In a progressively more globalized context, the collaborative scenario is the one that companies realize they need to have in order to survive or stand out. It is no coincidence that *soft skills* (such as creativity, emotional intelligence, teamwork etc.) are the skills valued by corporations nowadays (Fukamati, 2016). One more aspect of this change is the transformation of what it means ‘leader’. The authoritarian and one-sided idea is set aside and makes room for its new meaning: to relate. That is, to connect more humanely with your team, your employees, suppliers, consumers, with the society as one (Fukamati, 2016; Lai *et al.*, 2020).

In service companies the human resources is always a critical success factor, and in educational institutions the IM has an important role in the market positioning, as “their competitiveness is related to the performance of internal processes and the engagement of employees” (Sarquis *et al.*, 2020, p. 233). For that, understanding the underlying motivation of the employees is an important step because it is a critical component that molds those member’s behaviour (Lai *et al.*, 2020). Therefore, employee motivation and OC is a relationship that, although it seems intuitive, still is pertinent and, therefore deserves to be studied, especially when applying a better strategic management (Lai *et al.*, 2020).

A market-driven education institution that has the aim of providing a service with added value needs to collect data on what is happening in their educational context, share it and respond it with strategic decisions (Boluda and López, 2021). Under these terms, the discussion about internal marketing has gained more space and validity. In a study published by the Portuguese Consumer Protection Association, in 2018, one in every three Portuguese workers is at risk of suffering from *burnout*, a consequence of chronic work stress that can have results in both the employee's personal and professional life. That same study showed that in 28% of the cases the workers were from the educational area.

Results from the last Teaching and Learning International Survey (TALIS, 2018), an international research about principals, teachers and school environments among 31 countries, shows that only 9% of Portuguese school teachers agree that their profession is valued in the society, and this same percentage of teachers are satisfied with their salary. On the other hand, 92% of them feel satisfied with their work, regarding their own sense of performance and attitudes toward their works. Here a doubt can be discussed: are Portuguese

school teachers delivering an average performance proportional to their professional recognition? In other words, if they don't feel appreciated, are they just performing the basics and being satisfied with it? Apart from the salary, can the school management improve the teachers feeling of recognition and therefore enhance their performance? Those are some topics that can be explored through the understanding of what type and how IM strategies can affect OC, and also how motivations may mediate this effect.

Studies confirm that highly engaged workers perform better when handling the same tasks than those who do not share the same feeling (Lai *et al.*, 2020; Uddin, Mahmood and Fan, 2019). In addition, Uddin, Mahmood and Fan (2019) show us that benefits can be expanded beyond the individual context, as engaged employees are more willing to help their colleagues, are more proactive and creative. In the educational field, this aspect is especially important because the teacher's influence goes beyond the classroom.

In Portugal, the average age of teachers is 49 years old and 47% of them are more than 50 years old. This means that Portuguese school system may need to renovate their personnel for the next decade (TALIS, 2018). So if a new generation of teachers is coming, it is necessary to understand how school management can better relate to them. For that, studying the relation between school's IM and teacher's OC and motivations can be one of the tools to increase the school's performance and effectiveness.

The present study aimed to understand certain variables and strategies of IM that school management can adopt to influence the CO of teachers, as well as the theoretical basis of intrinsic and extrinsic motivational elements, in schools of Portugal. It is expected that the study can contribute to bring closer company and employees. After all, an educational institution with an internal dynamic well-structured can make better use of the engagement and productivity of its employees, who have a high power of influence over the students and, consequently, over the school image.

PART I: PRECIDING STUDIES

2. Literature Review

2.1. Internal Marketing

Analyzing the initial concepts of internal marketing (e.g. Sasser and Arbeit, 1976), the philosophy behind the idea is the perception of the organization's job as an internal product and the workers as customers of these. As a result, existing marketing tools and techniques could be used in the internal environment of the organization, to modify the employee-employer exchange management (Lings and Greenley, 2005;Vieira-dos Santos and Gonçalves, 2018). In 1990, Pierce and Morgan suggested operationalizing the internal marketing strategy as a parallel of the external marketing mix: products (jobs and projects), price (what employees give up to complete the job), promotion (internal communication), distribution (meetings to present ideas to employees) (Lings and Greenley, 2005).

Others researches regarding the internal marketing, however, suggested that the market orientation view was a more appropriate one than the marketing mix and this concept is based in the exchange between employee and employer through the application of the *Social Equity Theory* (SET) (Paul and Sahadev, 2018). The SET was proposed by Adams (1963) and states that the worker appraises their job through a comparison of what they put into (effort on the job, time, loyalty to organization, conformity to organization's policies) and what they get out (payment, fringe benefits, status, recognition for good work and sense of accomplishment) of their work (Huseman and Hatfield, 1990; Lings and Greenley, 2005). So, this internal market orientation operationalization is concerned with the generation and dissemination of intelligence regarding the wants and needs of employees, and also the design and implementation of appropriate ways to meet them (Lings and Greenley, 2005; Yildiz and Kara, 2017).

The logic behind internal marketing is that the goal of satisfied customers can only be achieved through the satisfaction of the needs of the internal ones (employees), since they would be more susceptible to reciprocate and deliver the quality of service desired to satisfy the outside customers (Kotler, 2000; Vieira-dos Santos and Gonçalves, 2018). The development of adequate internal networking to motivate the workforce is an essential part of the company's internal marketing, especially in competitive markets (Vieira-dos Santos and Gonçalves, 2018; Yildiz and Kara, 2017). Internal marketing programs can be useful in

developing the organization's competitiveness, through motivating employees and developing desirable work attitudes (e.g. organizational commitment) (Huang, 2019; King, Song and Lee, 2016). The ongoing social, financial and economic scenario boosts the relevancy of how the organization undertakes internal social aspects, and inside communication (as a tool of internal marketing strategy) is a great part of these perceptions (Viera-dos Santos and Gonçalves, 2018). According to King, Song and Lee (2016), internal marketing can be a strategic way to supply the organization with competence and capabilities, while making better use of environmental opportunities.

Literature about internal marketing practices suggests several indicators that can represent these strategies, such as job security, training, rewards, information sharing, empowerment, internal communication, internal market research and reduced status distinction (Huang and Rundle-Thiele's, 2014; Kanyurhi and Akonkwa, 2016; Viera-dos Santos and Gonçalves, 2018); or mostly compensation, communication, training, welfare systems and management support (Kim *et al.*, 2016); in some cases, value of needs and authorized autonomy (Fu, 2013); in others, feedback, internal customer orientation, reward, formal interaction, internal procedures and policies (Panigyrakis and Theodoridis, 2009); or even vision, development and reward (Foreman and Money, 1995). Through this review it is understood that many dimensions can be categorized as internal marketing practices, but one seems to have an important role in most of them: information generation.

In a recent study, Huang and Rundle-Thiele (2015) synthesized the conceptual and operational definitions of internal marketing in the past thirty years, in order to identify the measurement items that can capture those practices. According to their study, during these last three decades, more than 43 definitions were offered by researchers and there are more than 20 different internal marketing scales available. As a large number of authors addresses internal marketing as multi-dimensional factor (just as it was exemplified above), Huang and Rundle-Thiele (2015) synthesize the operational definition as having three great initial functions: communication, training and market research (understanding employee's wants and needs). Still in their review, the authors clarify that internal communication is the most commonly measured dimension and so, should be a significant component of internal marketing. Regarding the training component, it can be divided into four categories: service standards, development programs, training and rewards. As for the market research, the identification of different employee segments and their particular needs can result in

messages with real meaning, therefore is an important element to implement both marketing-like and human resources management.

According to the study of Vieira-dos Santos and Gonçalves (2018), perceived organizational support, internal marketing, and organizational culture are correlated in Portugal institutions of higher educations. In the research of Muriuki, Maru and Kosgei (2016), was noticed a significant relation between internal marketing strategy and employee performance, as well as employee commitment and employee performance, among the staff members of public universities in Kenya. As reported by them, the internal marketing elements have a potential to enhance the awareness so that commitment can be increased and, consequently, the performance. After all, employees more committed to their organization perform better when compared to those who have lower commitment (Kim, Song and Lee, 2016; Manalo, Castro and Uy, 2020; Muriuki, Maru and Kosgei, 2016; Tentama and Pranungsari, 2016). In agreement with Muriuki, Maru and Kosgei (2016, p. 103) “academic staff that are not committed to their workplace are likely to put less effort in the lecture rooms as compared to academic staff with high levels of commitment” and this certainly affects the student’s learning and achievement. Moreover, these authors state that committed employees that are highly motivated to give their time and energy for the organization's goals want to be recognized as it’s primary asset available and also desire to be motivated to be productive in their commitment.

Results from Viera-dos Santos and Gonçalves (2018) explicits that it is not only important for an educational institution to develop a support culture towards their employees but also to use internal marketing to adequately communicate this. Job satisfaction and motivation can be improved by a good use of this sense of transparency, since it is important for the business to take and promote action, just as it is to clarify ambiguities and increase the employee’s confidence in the institution by providing information about those actions (Viera-dos Santos and Gonçalves, 2018). The development of appropriate human resource policies aimed at enhancing employee commitment, using an internal marketing program, should take under consideration the cultural orientations of their workforce, which means to invest in the understatement of what are employee’s values and employees committed to their jobs (Newman and Sheikh, 2012; Viera-dos Santos and Gonçalves, 2018). This is in consonance with the idea that the identification with internal marketing and perceived organizational support are key elements in managing people and can be part of a display of

the organization identity (Paschoal and Tamayo, 2005), since the organization's communication can manifest its main organizational culture (Viera-dos Santos and Gonçalves, 2018). A few studies found a significant relation between perceived organizational support and internal marketing, as well as the correlation between both of them and work attitude (To, Martin and Yu, 2015) and job performance (Guan *et al.*, 2014 - in education context). According to Steers (1977), a company's organizational effectiveness can be interpreted as how high is the employee's OC and how low is their turnover, and IM programs can have a positive effect in the employee's OC what can reduce their turnover (Kim, Song and Lee, 2016).

Both studies, Viera-dos Santos and Gonçalves (2018) and Muriuki, Maru and Kosgei (2016) adapted the scale of Lings and Greenley (2005) – that measures internal market orientation through employee-employee exchange – into the higher education context, in a way to study the operationalization of internal marketing study. The scale developed by Huang and Rundle-Thiele (2015) review, consists of the three main variables discussed in the IM literature: *internal communication*, *training* and *internal market research*. It was developed based in many authors works, including Lings and Greenley (2005), Chang and Chang (2008), Karasa *et al.* (2008), Bearden and Niemeyer (1999) and many others. Please check Huang and Rundle-Thiele (2015) for further understanding. Kadic-Maglajlic, Boso and Micevski (2018) and Huang, Rundle-Thiele and Chen (2018) are examples of studies that used the scale of Huang and Rundle-Thiele (2015) to analyze internal marketing practices. In order to better understand the IM practices of the schools, specially related to information generation, training and internal market research, the present study also used the scale of Huang and Rundle-Thiele (2015).

2.2. Organizational Commitment

One of the most important elements to enhance the productivity and efficiency of any organization is the employee's organizational commitment (OC) (Salleh *et al.*, 2016), because "it reflects the binding force that inspires individuals to take part in a course of actions that are relevant to both the organization and the individual" (Trivellas, 2011, p. 1879). According to a recent review, OC is a factor that links the employees to the organization and cooperates for its success, and although it has been defined in many different ways, it has also been repeatedly recognized as a significant aspect that determines employees behaviour (Yayaha and Ebrahim, 2016). Maier and Brunstein (2001), for instance, refers to it as a state in which the workforce are interested in the objectives, values and targets of the organization. Yamaha and Ebrahim (2016) realized that the various understandment of OC could be viewed in terms of behaviour or attitudes, e.g., respectively as a "state of being in which an individual becomes bound by his actions" (Salancik, 1977, p. 62) or an "attachment of an individual's fund of affectivity and emotion to the group" (Kanter, 1968, p. 507). Mowday *et al.* (1982), however, suggested that both committed attitudes and behaviour are part of the same process, therefore, is more appropriate to involve the exchange between these two stages rather than identifying which occurs first (Yayaha and Ebrahim, 2016).

This is in consonance with the definition of OC suggested by Porter *et al.* (1974), which is the most widely used, and is characterized by three psychological factors: *identification* (confidence and acceptance in the institution's values and goals), *involvement* (willingness to put considerable effort to achieve the organization's goals) and *loyalty* (great desire to continue in the company) (Yayaha and Ebrahim, 2016). Meyer and Allen (1991, 1997) also brought a great contribution to the understatement of OC, the authors identified three common categories concerning the concept: *affective orientation*, *cost-base* and *obligation* (or moral responsibility). Later those researchers referred to it as an *affective commitment* (affective orientation toward the organization), *continuance commitment* (recognition of the cost associated with leaving the organization) and *normative commitment* (moral obligation to stay in the institution) (Yayaha and Ebrahim, 2016). The development of these aspects may reduce the employee's turnover (Yao, Qiu and Wei, 2019) and the

organization's support towards their employees can improve their commitment (Yamaha and Ebrahim, 2016). According to Manalo, Castro and Uy (2020) most researchers study the influence of *affective* and *continuance* commitment.

The *affective commitment* occurs when someone has an affective attachment to the organization, and when this represents a strong feeling the employees are more committed to pursue the organization's goals (Allen and Meyer, 1990. Yayaha and Ebrahim, 2016). According to Yayaha and Ebrahim (2016) review, some studies correlates this type of commitment negatively with the worker's turnover, stress, resignation, absenteeism and work-family conflict, while it relates positively to job performance and organizational citizenship behaviour.

The *normative commitment* origins comes from a feeling of obligation; the moral duty and indebt obligation of the employees to stay in the organization because is the right or moral thing to do,, after all they believe the company expects loyalty from them (Allen and Meyer, 1990; Meyer and Allen, 1991; Yayaha and Ebrahim, 2016). The companies can propose this kind of commitment by becoming a charitable organization (the employees feel proud of their workplace) or investing in the employees professional development, for example, in training (workers feel they are indebt to the institution) (Yayaha and Ebrahim, 2016).

Continuance commitment refers to the perception of the employee's advantages and disadvantages regarding their remaining in the work (Manalo, Castro and Uy, 2020), is other words, is the result of the sense of lack of alternatives employments and the side-bets (Allan and Meyer, 1990). Side-bets are understood as anything valuable to these employees, such as, time, effort, money, self-presentation concerns, expectations of others, satisfying conditions, individual adjustment and more (Meyer and Allen, 1984). This type of commitment can be increased through the accumulation of the side-bets over time (Yayaha and Ebrahim, 2016).

According to Valaei and Rezaei (2016), although affective, continuance and normative commitments have their differences, they are not understood as so highly different kinds. However this doesn't change the fact they are independent types of OC and need to be studied as separate concepts (Valaei and Rezaei, 2016).

In Yamaha and Ebrahim (2016) literature review, many favourable outcomes have been related to OC, such as, job performance, job satisfaction, motivation, organizational citizenship behaviour, and were also negatively related to turnover rate and absenteeism. In the recent study of Manalo, Castro and Uy (2020) focused in the understanding of teacher's motivations and job satisfaction to their commitment and work engagement, in schools in Manila (Filipins), it was stated that:

Secondary school teachers were proven to have high level of organizational commitment due to their high level of affective commitment. Their sense of belongingness and positive feeling that they are part of the organization contributed to their strong commitment to the organization. Then again, the teachers' overall level of organizational commitment is greatly explained by their internalization commitment. Teachers prefer their organization because of the value it stands for. (Manalo, Castro and Uy, 2020, p. 152)

In order to evaluate if those same assumptions could be applied to schools in the western education, the present study target were teachers of portuguese schools. Tentama and Pranungsari (2016) stated that many factors can affect the OC, among these are the personal characteristics, in which the teacher's work motivation and job satisfaction have a great and positive influence over it. Employees with high motivation will also have an energetic commitment to their organization (Burton *et al.*, 2002), and the teacher's work motivation has even a more dominantly influence over the OC than the job satisfaction (Tentama and Pranungsari, 2016). It is necessary to be aware that other variables also affect the OC of teachers, such as, "age, working period, level of education, gender, race", "clarity of duties, role suitability, job challenges" "structural characteristics, working experience, as well as natures and qualities of the experiences in the job" (Tentama and Pranungsari, 2016, p. 44), "congruency, interesting work, clarity of purpose, equity and fairness, feedback and recognition, empowerment and autonomy" (Yamaha and Ebrahim, 2016, p. 203).

Regarding the educational context, the increasing demands for the achievement of a school's goals is directly linked to the teacher's commitment (Runhaar, Konermann and Sanders, 2013), after all his/hers compassion and self-sacrifice is significantly associated with their commitment (Wright, Chrstensen and Isett. 2013). Results from Manalo, Castro and Uy (2020) associated school teacher's high work engagement and dedication to their awareness of how meaningful and purposeful their work is; despite being deeply challenging, they are proud of what they do. Some studies explored the relatedness of training (Bulut, and Culha, 2013; Jehanzeb, Rasheed and Rasheed, 2013; Osman and

Warner, 2020), of leadership style (Keskes, 2014; Yamaha and Ebrahim, 2016) and of motivation (Manalo, Castro and Uy, 2020) to OC. There is a significant and positive effect of motivation in the OC and is especially predicted by the *intrinsic motivation* (Kontoghiorghes, 2016; Manalo, Castro and Uy, 2020). In a different view, the present study aimed to investigate the mediating and moderation effect of motivation (in the IM practices) towards the OC rather than directly linked to OC, because for a school to benefit from a better organizational performance, motivated and committed employees are an essential part of it (Manalo, Castro and Uy, 2020).

2.3. Motivation

According to the German philosopher Arthur Schopenhauer, motivation can be defined as a stimulus capable of moving someone into action or perhaps into a change in a certain action. This is possible because we are pushed by the past through our internal motives and pulled by the future due to our external goals and incentives. This chronological matter can divide motivation into three categories – motive, goal and incentives – that can push or pull someone into behavioural change. (Deckers L. 2018).

A **Motive** is the internal and almost stable disposition to be involved in approaching positive incentives or avoiding the negatives ones (Atkinson, 1958/1983; McClelland, 1987). Those desires, wantings and longings **pushes** individuals through some end-state and can have biological or psychological origins, while **goals** represents the image of a future outcome that **pulls** individuals toward them, over a behaviour guidance necessary for this achievement (Deckers L. 2018). For instance, hunger (motive) pushes someone into eating the same way the need of belonging pushes him or her into socializing, but the relief of eating or having friends is the goal that pulled and guided the person into having the fundamental attitudes that allowed it to happen. According to Atkinson (1958/1983) and McClelland (1987), people's goal can rise from their motives, therefore, the satisfaction that the motive causes is the goal, as it was exemplified before.

Incentives are environmental conditions (an anticipated reward or a repellent event) that contributes to conduct changes by making a goal seem more attractive, in other words, **pulling** the individual into change by contributing to his or hers motivation. Goals and incentives are connected and sometimes the difference between them may not be very accurate, but while goals can be the focus of a motivation, incentives help by adding more value to this goal (Deckers L. 2018). For example, parental approving or having good grades can be incentives for a student's goal of graduating, as the interest rate can be an incentive that pulls someone into paying the bills on time (goal), avoiding late charges. As reported by Deckers (2018), the value system of someone can even influence the pulling capacity of a certain goal or incentive (as the value settled in a university degree or a job position), after all is the mix of push and pull that motivates people into a certain condition, in which motives and goals become linked together.

In consonance with Keltner and Shiota (2003), another special case of **pushing** motivation that needs to take attention are the **emotions** due to its potentiality of behaviour, thoughts, feelings and physiological responses. This combination of channels works in unity to enhance the chances of survival during a challenging environment. The universal characteristic of this integrated reaction of channels is an important aspect of emotions because it implies that people can experience them similarly, which enlightens the relevance of empathy to this discussion.

Empathy stands out as a progressive competence, not only for being able to develop other qualities in the individual, but also in others. The Michaelis dictionary describes it as an "understanding of another's feelings, desires, ideas, and actions." The ability to interpret the same situation from different points of view can be a differentiation element in leadership and communication, under this information-saturated world which we live in. A good crossing between the understanding of endomarketing strategies and human psychology can be a differential instrument to stand out and improve the school's achievements.

According to Kuvaas's *et al.* (2017) research works about the influence of individual financial incentives of employees, there are two types of motivation that affects the link between incentives and performance in the workplace: extrinsics and intrinsics. **Extrinsic motivations** (EMO) are attitudes taken due to the consequence it can provide: to achieve positives or to avoid the negative ones. This type of motivation is relevant for socially prescribed duties, that usually are not intrinsically interesting, for instance, writing a work report (Kuvaas *et al.*, 2017; Taylor, 2014). In the business environment, extrinsic motivations are usually correlated to money gain.

In contrast, **intrinsic motivations** (IMO) guides people toward a self-satisfaction and pleasurable experience for its own, instead of perceiving a reward or to satisfy a limitation (Deci and Ryan, 1985; Ryan and Deci, 2019). Still conforming to Kuvaas *et al.* (2017) and many other authors, this kind of motivation is associated with numerous outcomes in the business world, such as, employee's engagement, productivity and task identification.

These considerations were in consonance with the *Self Determination Theory* (SDT) studies, presented by Deci and Ryan (1985) and Ryan and Deci (2019), in which intentional actions could be classified as autonomous or controlled. **Autonomous actions** involve desires and senses of free-will or choice, while the **controlled** ones are driven by internal or external pressures (sense of compulsion) (Assor *et al.*, 2004; Grolnick *et al.*, 1997). The SDT states that for an optimal human function it is necessary the fulfilment of three basic innate

human psychological needs: *autonomy, competence and relatedness* (Deci and Ryan, 1985; Ryan and Deci, 2000, 2019). Thus, when people find support for these needs, they become intrinsically motivated to assume tasks because it is interesting, enjoyable and inheritably rewarding (Watt and Richardson, 2015). For Kuvaas *et al.* (2017), and in agreement with Deci and Ryan (1985) and Ryan and Deci (2019), intrinsic motivation is viewed as a prototype of autonomy. That is why intrinsically motivated people recognize themselves as promoters of their own role, whereas extrinsically motivated people may understand their behavior in a utilitarian way, as an instrument to an end (Deci and Ryan, 1985; Ryan and Deci, 2019).

During some studies based in SDT on teachers, *autonomous* motivation in teachers (e.g. letting children know that the teacher care about them or being in touch with children and adolescents) was related with positive outcomes, such as perceived accomplishment, teaching self-efficacy, reduced burnout and autonomy supportive teaching-practices (Roth *et al.*, 2007). Other researchers also suggest the association of autonomous teacher motivation with autonomy-supportive teaching practices that provides choice and relevance to the students (Fernet *et al.*, 2012; Pelletier *et al.*, 2002; Roth *et al.*, 2007; Taylor and Ntoumanis, 2007; Taylor *et al.*, 2008; Watt and Richardson, 2015).

According to SDT, different levels of regulation can occur between the extremes of *extrinsic* and *intrinsic* motivation, as an *introjected regulation*, when someone takes in a form of regulation and provides it as a self-imposed (*should I?*), or as an *identified regulation*, when the worth of an activity/behaviour is identified by the individual and he/she engages in it accordingly (Ryan and Deci, 2000, 2019). It is important to clarify that it is possible for an initial *autonomous motivation* to become a *controlled* one, for instance, when the decision of becoming a teacher (an *autonomous* one) ends up with the work being performed through a sense of compulsion or external responsibility (Watt and Richardson, 2015).

Beside from SDT, two other motivational theories were already used to understand teacher's motivation: *Expectancy Value Theory* (EVT) and *Achievement Goal Theory* (AGT) (Osman and Warner, 2020; Watt and Richardson, 2015; Watt, Richardson and Smith, 2017). According to those literatures, the EVT proposes that motivation behaviour is shaped by one's abilities and beliefs (e.g. expectancy for success, *Can I do it?*) and also by the value attached to the task (e.g. purpose for engaging behaviour, *Why do it?*). The values component can be studied as *intrinsic value* (how much the task is enjoyed by the person), *utility value*

(if the task is seen as useful) and *attainment value* (is the task important for achieving the person's goals) (Watt and Richardson, 2015). Originally, *opportunity cost* (what the individual must forego - invest, require or give up - in order to undertake the task) was understood as a subcomponent of value, but recent studies begun to analyze it as a third factor for the EVT (Barron and Hulleman, 2015; Flake, Barron, Hulleman, and Welsh, 2015; Osman and Warner, 2020).. The EVT also postulates that expectancies and values anticipate domain-specific behaviours for achievements, such as performance, effort and persistence (Watt and Richardson, 2015).

Regarding AGT, individuals' behaviour is guided through two basic types of goals: task (or mastery) and ego (performance) goal orientation (Nicholls, 1989; Watt and Richardson, 2015). Further studies, however, included a separate analysis for this last variable, as it should be distinguished the *performance-approach* (individuals motivated to demonstrate their abilities relative to others) from the *performance-avoidance* (who is motivated to avoid demonstrating their relative lack of ability to others) (Watt and Richardson, 2015). Through the notion that a classroom is the teacher's and student's achievement arena, many researchers studied the teacher's goals, identifying orientations focused in *mastery* (acquire and develop professional competence), *ability-avoidance* (avoiding displaying inferior teaching skills), *ability-approach* (demonstrating superior teaching ability), work-avoidance (do the work with little effort as possible) and *relations* (creating caring relations with the students) (Butler, 2007, 2012; Retelsdorf *et al.*, 2010; Watt and Richardson, 2015).

Studies from Butler (2012, 2014) enlightened some positive and negative outcomes of the types of teacher's goals prevalence. This study along with Shim *et al.* (2013) discussed some of the positive outcomes that were related to *mastery goals* (adaptive coping, creation of classroom mastery environment, teacher's and student's engagement) and *relational goals* (providing greater socioemotional support and cognitively stimulating instructions to students). Negative outcomes were related to *performance-avoidance goals* (defensive avoidance of help, self-handicapping, burnout, career dissatisfaction) (Butler, 2012, 2014; Watt and Richardson, 2015). This correlates with the idea that exists an important relation between the teacher's achievement goal, their behaviour in the classroom, pattern of communication and the student's learning and achievement outcomes (Butler, 2007, 2014; Butler and Shibaz, 2008; Watt and Richardson, 2015). Cho and Shim (2013) also found a link between teacher's goals and the work environment: schools perceived as mastery-

oriented environment by the teachers, frequently has their employees adopting mastery goals for teaching, and the same logic happened in schools perceived as performance-oriented.

Traditionally, most investigators assumed that both extrinsic and intrinsic motivations could contribute positively to human actions and that they could be combined (Kuvaas *et al.*, 2017). On the other hand, other studies advocate that despite they can operate simultaneously, one shows prevalence in regard to the other (Gagné and Deci, 2005, Weibel, Rost and Osterloh, 2010). Some studies established a significant and positive relation of school teacher's motivation (especially the *intrinsic*) to work engagement and OC (Manalo, Castro and Uy, 2020; Putra, Cho and Lin, 2017). Kuvaas's *et al.* (2017) research enlightened that the moderating impact of intrinsic motivation in work performance is much preeminent than the extrinsic and even that those two types of motivation are negatively related to each other. This concept is part of an understanding that the two motivational dimensions are separate from each other, so despite extrinsic and intrinsic motivation may coexist during a certain task, one will probably influence more than the other (Deci and Ryan, 2008; Gagné and Deci, 2005; Ryan and Deci, 2019). After all, these two behavioural guidances are logically incompatible and represent a cognitive challenge because you either perform an activity for the pleasure and satisfaction inherent in it or to obtain positive consequences or avoid the negative ones (Kuuvas *et al.*, 2017).

Kuuvas *et al.* (2017) sample analyzed extrinsic and intrinsic motivations of 829 employees in relation with their work performance (data obtained from the 271 supervisors) in four different types of work environment: gas station, finance-sector trade union, medical technology organization and an organization in the financial industry. In their results intrinsic motivation was positively associated with positive outcomes, such as affective organizational commitment and work performances, and negatively associated with negative outcomes, as turnover intention, burnout, continuance commitment and work-family conflict. In the same way, these positive outcomes were negatively or unrelated to extrinsic motivation, while the negative outcomes had a positive association to it. Recent studies also presented the *moderation* effect of motivation in OC, in third sector organizations (Portapiroon and Ford, 2017). In a different point of view, other authors confirmed the *mediation* effect of motivation (specially IMO) in OC, inside bank (Cailler, 2014) and third sector corporations (Ghentani, Seyyedamiri and Foroudi, 2018). These investigations will be more enlightened in chapter 3, the hypothesis theoretical basis.

Nevertheless, the positive influence that extrinsic motivation can have in work performance cannot be excluded. Some studies show that extrinsic incentives can have a positive effect on performance specially during uninteresting tasks (Cerasoli *et al.*, 2014,

Jenkins *et al.*, 1998; Weibel *et al.*, 2010). In a scenario with little potential for intrinsic motivation and in which the positive results and outcomes are easily monitored, the extrinsic motivation can be a great motivator (Kuvvas *et al.*, 2017). Although, in 1998, Cascio (1998) already realized that many jobs were less strictly defined, less routinized and more multidimensional, and this is a trending reality until nowadays. Thus, when work-based, contextual and creative performance is evaluated through a more subjective performance measure or when the job involves a cognitively complex or interesting task with higher potential for intrinsic motivation, the effect of extrinsic motivation is less clear, and a teacher's work can easily be associated with this type of context (Kuuvas *et al.*, 2017).

According to Kennedy (2016) and Osman and Warner (2020), if a teacher went through a professional development program (offered directly or not by the school), the extent to which he/she will implement those objectives in the classroom is influenced by both internal factors (e.g. teachers attitudes, beliefs) and external ones (school's policies, curricular restrictions). Still in Kuvaas's *et al.* (2017) studies is possible to realize that even in moments when intrinsic motivation is weakened, the use of extrinsic motivation strategy such as payment-for-individual-performance can not compensate for this emptiness. Therefore, it is so meaningful to study the psychological interpretation of human's behavior inside a company, so that real engagement means more productivity and results for the institution. This information added up with a strategic and updated knowledge of internal management, especially one making use of a critical internal marketing, can be a potential tool to achieve higher goals, not only for teachers, but to whomever lives they may touch.

PART II: CURRENT RESEARCH

3. Investigation Model

“Post-bureaucratic governance in modern education systems, particularly in Western countries, challenges school leaders in their attempts to promote schooling, and drives them to embrace socio-emotional leadership behaviors with the aim of promoting organizational success” (Berkovick and Eyal, 2017, p. 450). According to these authors, the link between the school’s transformational leadership and the teacher’s commitment and motivation is part of an emotional mechanism that can influence ones behavior of subjective work-related attitudes. Therefore, IM can be a strategic tool to understand this emotional mechanism, and so align both expectations, managers’ and teachers’.

Through literature review and in order to study the relation of those three variables (IM, OC and motivation), the present study elaborated 4 hypothesis, in which the hypothesis number 1, 2 and 3 were subdivide into three more each (regarding the main IM strategies used – IC, IMR and TR). This allowed a specific analysis of the potential use of each strategy type (IC, IMR and TR) in relation with motivation and OC.

3.1. Conceptual Model

In Image 1, the conceptual model for this investigation is presented.

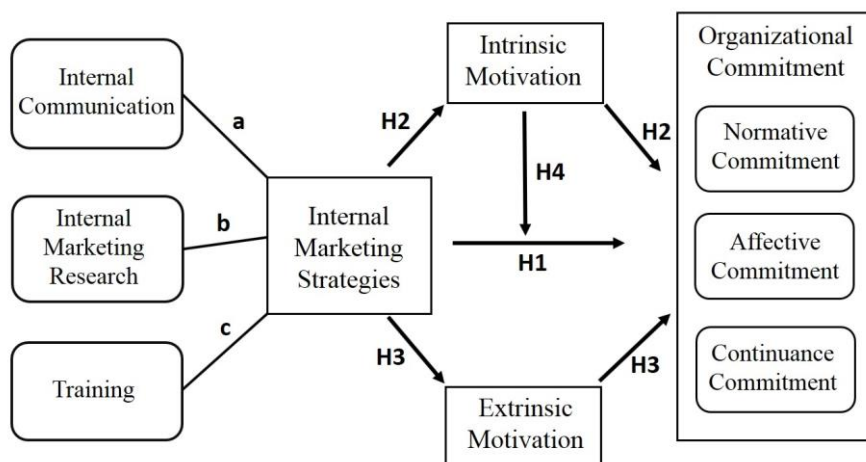


Image 1 - Conceptual Model of Investigation

This conceptual model was created based in models and theories presented by authors discussed in Part I of this document. The IM variable is a second order factor, measured through three strategies: IC, TR and IMR. Although the OC variable is a second order factor of three types latent variables presented in section 2.3 (normative, affective and continuance commitment) , in this study these subdivisions has an descriptive purpose to enlighten which type of OC is more present in the sample.

In this conceptual model, the direct relation between IM and OC is outlined by Hypothesis 1, 1a, 1b and 1c. The mediation effect of IMO in this relation are represented by Hypothesis 2, 2a, 2b and 2c,, while the mediation of EMO, by Hypothesis 3, 3a, 3b and 3c. The moderation effect of IMO between IM and OC is established by Hypothesis 4. As the present investigation, could not find any theoretical evidence for a moderation effect by EMO, this measurement was not included in the study.

3.2. Hypothesis of the Investigation

Hypothesis 1: *Internal marketing* strategies are positively related to teacher's *organizational commitment*.

Nowadays, school's success is highly dependent on teachers who are committed to school's values and objectives (Berkovick and Eyal, 2017). Commitment can often be an indicator more relevant to employee retention than the satisfaction (Yu *et al.*, 2019). As first presented by Meyer and Allen (1991, 1997) – researchers with great contributions in the study of OC and are important references until current days – the OC is a binding force that links the employee to his/hers organization (Berkovick and Eyal, 2017; Yayaha and Ebrahim, 2016). The degree of this physiological link can led teachers to devote more time and energy to the school, after all one's commitment can illustrate his/her intention to provide resources and efforts to make a career in the institution (Berkovick and Eyal, 2017).. According to Kim, Song and Lee (2016), employee's perception of the IM has a positive effect in their OC, in the casino industry. To understand if these same assumptions can be taken to education context, the present study investigated this relation between teachers and school's management attitudes.

The operationalization of IM may involve different techniques of an internal market orientation, to be said, the notion that the satisfaction of outside customers (students) depend on the satisfaction of the inside ones (employees) (Vieira-dos Santos and Gonçalves, 2018). According to the recent study of Vieira-dos Santos and Gonçalves (2018), applied in the context of higher education, in Portugal, there are two main aspects of IM that cannot be set aside: information generation between employees and managers, as well as the knowledge of the wants and need of employees. Those two aspects were analyzed in the present study as IC and IMR. The relation of IC and teacher's OC was investigated in Hypothesis 1a, while the relation between IMR and OC, in Hypothesis 1b.

Teachers personal learning is a complex process that can include “the uptake of formal and informal learning opportunities that deepen and extend teachers’ professional competence, including knowledge, beliefs, motivation, and self-regulatory skills” (Richter *et al.*, 2011, p. 116; *apud* Durksen, Klassen and Daniels, 2017, p. 54). According to motivational studies, one personal resource that can enhance teachers’ engagement is their notion of self-efficacy, in other words, their belief in their capabilities to influence students learning, which can represent a good outcome of schools that implement relevant TR programs (Durksen, Klassen and Daniels, 2017). In order to analyze the relation between school’s TR programs and the teacher’s OC, the Hypothesis 1c was elaborated.

- a. Hypothesis 1a. Schools that practice *internal communication* strategies have teachers with higher *organizational commitment*
- b. Hypothesis 1b. Schools with *internal market research* strategies have teachers with higher *organizational commitment*
- c. Hypothesis 1c. Schools with *training* development strategies have teachers with higher *organizational commitment*

Hypothesis 2: Teacher’s *intrinsic motivation* can positively mediate the effect of the school’s *internal marketing strategies* in teacher’s *organizational commitment*

Some studies have already related a few management strategies (especially IM) to improvement in the employee’s competences and OC, by motivating them (Berkovich and

Eya, 2017; Kim, Song and Lee, 2016; Manalo, Catro and Uy, 2020). Those studies used motivation as a direct variable to be measured and influenced. In order to present a different view of the use of this variable, the present study wants to understand if teacher's motivation can have a *mediating* effect in the relation of IM strategies towards OC. For example, "teachers' motivation plays a crucial role in determining what happens after teachers participate in professional development" and important outcomes can come from this relation, such as changing teaching practices. (Osman and Warner, 2020, p. 2).

Besides, according to Durksen, Klassen and Daniels (2017), teachers that engage in professional activities outside the classroom can have an indirect effect of their intrinsic motivation within the classroom, so IM can be an interesting tool to evaluate if the teachers are willing to engage in those types of activities. After all, IM aims to bring closer employee's and employer's satisfaction, so information generation and dissemination (IC) and IMR are important parts of this process. Then, the Hypothesis 3a and 3b aimed to study this relation (Yu *et al.*, 2019). One factor that can influence teacher's implementation of a training section is their motivation, for instance, if they perceive the value inherited in this implementation (Kennedy, 2016; Osman and Warner, 2020). To analyze the third aspect more used in IM strategies (the TR), the Hypothesis 3c was investigated.

- d. Hypothesis 3a. Teacher's *intrinsic motivation* can positively mediate the effect of the school's *internal communication strategies* in teacher's *organizational commitment*.
- e. Hypothesis 3b. Teacher's *intrinsic motivation* can positively mediate the effect of the school's *internal market research strategies* in teacher's *organizational commitment*
- f. Hypothesis 3c. Teacher's *intrinsic motivation* can positively mediate the effect of the school's *training strategies* in teacher's *organizational commitment*.

Hypothesis 3: Teacher's *extrinsic motivation* can negatively mediate or have no effect of the school's *internal marketing strategies* in teacher's *organizational commitment*.

In Kuvaas's *et al.* (2017) studies the confirmation of the negative association between *extrinsic* and *intrinsic* motivation among 829 employees of different work sectors (finance, medical technology and gas station) suggests those motivational dimensions are separate from each other. Gheitani *et al.* (2018) confirmed the mediator and positive effect of IMO in OC, when related to Islamic work ethics. Therefore, it is interesting to understand the *mediation* effect of IMO that may exist in OC with IM strategies as distinct dependent variable. In addition to this, as Kuuvas *et al.* (2017) explained the cognitive difference between IMO and EMO, the investigation of the difference that may exist in the EMO *mediation* effect can enrich the study, so this mediator will also be analyzed.

As presented in the Hypothesis 3c, teacher's motivation is a crucial variable for the success or failure in teacher's implementation of formal development programs, because the ones with a great sense of motivation are more susceptible to extend their learning into the classroom and adopt new practices into their teaching (Osman and Warner, 2020). As declared in Kuvaas *et al.* (2017) research, although *intrinsic* and *extrinsic* motivation can operate simultaneously, one seems to be predominant. Therefore, in a complementary understanding of the Hypothesis 3c, this Hypothesis 4c aimed to study the opposite relation. In the same way, to analyse if extrinsic motivation can also influence the relation of IMR and TR with the teacher's OC, the hypothesis 4a and 4b were studied.

- g. Hypothesis 3a. Teacher's *extrinsic motivation* can negatively mediate or have no effect in the school's *internal communication strategies* in teacher's *organizational commitment*
- h. Hypothesis 3b. Teacher's *extrinsic motivation* can negatively mediate or have no effect in the school's *internal market research strategies* in teacher's *organizational commitment*.
- i. Hypothesis 3c. Teacher's *extrinsic motivation* can negatively mediate or have no effect in the school's *training strategies* in teacher's *organizational commitment*

Hypothesis 4: Teacher's *intrinsic motivation* can positively moderate effect of school's *internal marketing* strategies in teacher's *organizational commitment*.

Some studies presented the moderation influence of motivations into many employees outcomes, including OC, in different types of workplaces (Ghentani, Seyyedamiri and Foroudi, 2018; Kuuvas *et al.*, 2017). Portipiroon and Ford (2017) confirmed the moderating relation of IMO in public service motivation¹ and OC, and also analyzed how closely the relation of public service motivation and IMO actually is, even though these are empirically distinct concepts. Public service motivation “reflects one’s personal desire to engage in meaningful public service that would benefit citizens, community, or society and such a desire is likely to be fulfilled through public service jobs”, therefore is a very altruistic motivation (Portipiroon and Ford, 2017, p.228).

According to Bergmark *et al.* (2017), European and US scholars have presented extrinsic (e.g salary, status), intrinsic (e.g. passion for teaching, expertise) and altruistic (e.g. make a difference in society) motives for choosing a teaching career, in which these last two appear more frequently, suggesting that intrinsic and altruistic are the main motives, while extrinsic is a complementary one. In this condition, Cailler’s (2014)² and Portipiroon and Ford (2017) studies can also contribute to the education context as teacher’s motivations also present a great value of altruism.

² Cailler’s (2014) investigation clarified the *mediation* role of IMO between public service motivation and OC.

4. Methodology

It is important to acknowledge that social researches are only an approximation to reality. Despite of the method of data collection, including the survey, all of them have limitations when used alone and can provide different impressions of the reality (Newman, 2014). Groves (1996), once claimed that surveys are quantitative beasts, due to their statistical nature. The present study used this type of data collection in order to evaluate the hypothesis presented in the former chapter.

The sample studied were teachers of schools in Portugal. An invitation with the online enquiry was sent to the principal of 710 groups of schools (*Agrupamento de escolas*), that are officially regulated by the General Directorate of Education (*Direção Geral de Ensino*) of the country. The purpose and benefits of the study were explained to the principals, along with the invitation to collaborate with it, by distributing the enquiry among the teachers of their institution. Anonymity of the answers was assured, so that the teachers could voluntarily be part of this empirical work. The data was processed with SPSS/AMOS 25 programs and analyzed, so that results were discussed.

4.1. Sample and Population

According to Carmo and Ferreira (2008), *population* can be defined as a group in which the elements have one or more characteristics in common with each other, and that can differ them from other groups. The present investigation, used school teachers of Portugal as its population of study. As declared by Newman (2014), most empirical studies use the *sampling* technique in order to create a representative sample that closely reproduces the aspects of interest in this larger collection of cases, a.k.a. population. After all, “every scientific enterprise tries to find out something that will apply to everything of a certain kind by studying a few examples, the results of the study being, as we say, ‘generalizable’ ”. (Becker, 1998, p. 67).

In most surveys, the number of elements in a population is too large to allow an investigation of every part of it, and that is why the researchers can diminish cost and time

by selecting to study just a certain part of this population, called *sample* (Carmo and Ferreira, 2008). If sampled correctly, the data observed in details and the results extracted from it, can be generalized to the total population (Newman, 2014).

There are two basic types of sampling techniques: of probability (every element of the sample have a real, known and non-null chance of being part of the sample) and non-probability (the non-null and known chance in not guaranteed because the sample elements may need to have a specific criteria that can be important to the study) (Carmo and Ferreira, 2008). According to Newman (2014), probability samples are often used in quantitative researches and was the chosen method for this investigation. The individuals were asked to voluntarily join this study of working teachers in schools of Portugal. The sample contain a total of 385 people with this criteria.

4.2. Data Collection Method

According to Newman (2014), the survey is the information-gathering technique most used in social sciences studies and can have many forms, as phone interviews, questionnaires, Internet opinion polls and others. According to the author, it is common for a survey to contain questions measuring many variables at once and, therefore allowing the researcher to collect descriptive information and testing multiple hypothesis. In the same way, the present study prepared an online inquiry to gather all the information needed.

Something to be taken into consideration when collecting the data is the ease information transference from the questionnaire to a computer-readable format for statistical analysis (Newman, 2014). Therefore, this investigation prepared an online enquiry, using the platform named as Lime Survey, with permission granted by the University of Coimbra.

4.3. Survey

In a context in which the researcher aims to better understand the beliefs and behaviors of a group of individuals, through a self-reported method, the survey are highly appropriated (Newman, 2014). The present study divided the inquiry in 5 parts:

- Context Information (age, gender, time of work, academic degrees, level of payment) – entitled as “Initial Information”
- Motivation Scales – entitled as “About Yourself”
- Internal Marketing Scales – entitled as “About the School”
- Commitment Scales – entitled as “About the Work”
- Social Desirability Scales – entitled as “Final Information”

The conceptualization of the variables studied in this investigation (*Motivation*, *Internal Marketing Strategies* and *Organizational Commitment*) were operationalized into 46 questions; according to an expected process of writing and rewriting the questions for better clarity and completeness (Newman, 2014). The scales chosen to measure the variables in the inquiry will be explained in the next section 4.5.

4.4. Scales

All scales used in this study enquiry were based on existing ones, however they were adapted to suit the samples of teachers, using the translation methodology proposed by Behling and Lay (2000), in which 3 random people were asked to translate all questions from Portuguese into English and then other 3 were asked to do the reverse translation (from Portuguese into English). All questions were a 5-point Likert scale from (1)“I strongly disagree” to (5)“I strongly agree”, measuring identification. The variables studied were employee’s features, such as, *Intrinsic motivation*, *Extrinsic motivation*, and *Organizational commitment*, and the school management position towards these teachers, studied through the *Internal marketing strategies* adopted and perceived by the educators. As this research uses self-reported measures that may lead to socially desirable responses, we used the social desirability to control for those effects, including only items with factor loading ≥ 0.39 ,

resulting in an 13 item list (Reynolds, 1982). All scales used and their respective translations can be checked in Table I and Table II, in the appendix.

The *Intrinsic motivation* was measured according to the scale developed by Kuvaas and Dysvik (2009) and consisted of 6 items, with statements as “My job is meaningful” and “The tasks that I do at work are themselves representing a driving power in my job”. This scale was chosen because it seems to agree with the definition of IM, known as a fulfilled and pleasurable experience of its own (Deci and Ryan, 1985). *Extrinsic motivation*, was measured through 4 item list by Dysvik et. al (2013), as the core of tangible incentives are clearly present in sayings as “If I am supposed to put in extra effort in my job, I need to get extra pay”.

The *Internal Marketing* strategies was measured through Huang and Rundle-Thiele (2015) scale of 18 items. Those researches developed a scale after their literature review of the tools used to measure IM. In their work they concluded that 3 aspects of IM are the main focus of research: IC, IMR and TR. For the present study, those same aspects were adapted into the school context.

The *Organizational commitment* was measured through a 19 items list from Delobbe and Vendenberghe (2000) that evaluates this variable according to the three types of OC presented by Meyer and Allen (1991, 1997): affective (8 items), continuance (6 items) and normative (6 items). The present study was based in the adapted list of Neves *et al.* (2018) applied to working nurses of public hospitals in the central and northern region of Portugal, and Valaei and Rezaei (2016).

4.5. Pre-test

Something essential is for the questions of the survey “to be equally clear, relevant, and meaningful to all respondents”, but if the sample have individuals with heterogeneous background a dilemma of misinterpretation of words and meanings may exist (Newman, 2014, p. 322). In order to optimize this, the first version of the enquiry must pass through a *pre-test* process, to assure its applicability and the clarity of its main goals of evaluation (Carmo and Ferreira, 2008).

The pre-test consists of a small group of people that will have access to the survey, so the researchers can listen to their interpretations and suggestions, helping identifying and eliminating potential problems. When these people are at least a little familiar with the theme of the survey or/and have some characteristic in common with the sample group, the pre-test can have a more enhanced result. But is important to highlight that those people and their answers are not part of the final sample of the study (Carmo and Ferreira, 2008).

4.6. Statistical Data Analyzes

Once all data was collected, the statistical analysis was performed using the software *IBM SPSS 25* and *AMOS 25*, in which the license was provided by the Faculty of Economics, University of Coimbra.

As the conceptual model of this research aims to understand the simultaneous and multiple relations between the variables, the analysis was applied according to *the Structural Equation Modeling* (SEM), due to its suitability for this type of study (Hair *et al.*, 2009). This type of study combines *factorial analysis* and *multiple regression*. The multiple regression is an interesting way to investigate objectively both the degree and the aspect of the relation between the dependent (OC) and independent variables (IM, EMO and IMO), enabling the examination of the magnitude, signal and statistical significance of the regression coefficient of each independent variable (Hair *et al.*, 2009).

4.6.1 Sample Characteristics

In order to characterize the sample profile, some control variables were analyzed, such as the *age* (20ish, 30ish, 40ish, 50ish or more), *gender* (women or man), *years working as a teacher* (0-5, 6-10, 11-15, 15-20, 20 or more), *years working as a teacher in the present school* (0-5, 6-10, 11-15, 15-20, 20 or more) *level of academic study* (college, specialization, master, doctoral or pos-doctoral degree), *level of payment* (unsufficient, sufficient, satisfactory or really well paid). This last variable was studied through a qualitative

parameter to avoid apprehension of the sample group to answer it, so as a reference they received the following information: Assign as "sufficient" an amount in which you can pay the bills and have little leisure. Those variables are important to contextualize the social background and to understand if there is a pattern to the sample's results.

Teachers in later stage of their professional life can have the tendency to be less effective in their work, hence less committed; they can often report feelings of disenchantment, fatigue, or being trapped, which can indicate declining levels of motivation; therefore it is interesting to understand if the *years working as a teacher* and *years working as a teacher in the present school* (and implicitly the *age*) variables are part of the different motivational factors affecting teachers working behavior in Portugal (Durksen, Klassen and Daniels, 2017; Manalo, Castro and Uy, 2020).

Unsatisfactory working conditions is another factor that can lead to unmotivated teachers, such as "low and irregular payment of salaries, low status of the teaching profession in the society, insufficient opportunities for career and personal advancement, poor working environment including high teacher-student ratio, and inadequate fringe benefits" (Manalo, Castro and Uy, 2020, p.134). So in order to investigate if teacher's satisfaction towards their *level of payment* and if the opportunities that they may have had to develop their knowledge through postgraduate education (*level of academic study*) can also influence their work attitudes, those aspects were included in the present context of school education, in Portugal.

In this study most of the 385 teachers are women. In the Table 1, we can observe that 296 of them are women (76,9%) and 89 (23,1%) are men.

Table 1 - Teacher's Profile: Gender

Gender	Absolute Frequency	Relative Frequency
Female	296	76,9%
Male	89	23,1%
Total	385	100%

Regarding the age distribution, the teachers were asked to classified themselves into an age range and it was noticed that most have 50 years old or more, specifically 238 people (61,8%). The second most frequent age distribution was between 40 and 49 years old, with 130 (33,8%) people. This sample have few younger teachers, only 16 (4,2%) of them have

between 30 and 39 years old and only 1 (0,2%) have between 20 and 29 years old. In the Table 2 below, those values can be checked.

Table 2 - Teachers Profile – Age

Age	Absolute Frequency	Relative Frequency
20 – 29 years old	1	0,2%
30 – 39 years old	16	4,2%
40 – 49 years old	130	33,8%
50 years old or more	238	61,8%
Total	385	100%

The notion of how long is the teaching career of the volunteers, was also evaluated through a range of years. Most of them have 20 years or over of time working as teachers, in a total of 319 (82,9%) individuals, while only 41 (10,6%) are teachers in the past 16 – 20 years. In the Table 3, it can be noticed that shorter careers are little representative in this sample: 19 (4,9%) are teachers for 11 – 15 years, 5 (1,3%) have 6 – 10 years of experience and only 1 (0,3%) of them initiated their work in the past 5 years.

Table 3 - Teachers Profile - Time of Career

Time of Teaching Career	Absolute Frequency	Relative Frequency
0 – 5 years	1	0,3%
6 – 10 years	5	1,3%
11 – 15 years	19	4,9%
16 – 20 years	41	10,6%
20 years or more	319	82,9%
Total	385	100%

To analyze the time of contribution of the teachers in the present school, the same range of working years of Table 3 was used. The major part started working in the present school for the past 5 years, which comprehend 154 (40,0%) teachers. In contrast, the next majority of 88 (22,9%) teachers have been working in the school for 20 years or more. In Table 4 it can be analyzed that between those intervals of years, 44 (11,4%) individuals are working for 6

– 10 years in the school, while 57 (14,8%) are working for 11 – 15 years and 42 (10,9%) are working in the institution for the past 16 – 20 years.

Table 4 - Teacher's Profile - Time of Contribution in the Present School

Time of Teaching Career	Absolute Frequency	Relative Frequency
0 – 5 years	154	40,0%
6 – 10 years	44	11,4%
11 – 15 years	57	14,8%
16 – 20 years	42	10,9%
20 years or more	88	22,9%
Total	385	100%

The academic background of the participants in this survey is mainly composed of workers with university graduation, a total of 231 (60,0%) people. Beside those, 53 (13,8%) teachers have some specialization degree, 94 (24,4%) have master degree, only 7 (1,8%) have doctoral degree (PhD) and none have post-doctoral. View Table 5 below.

Table 5 - Teacher's Profile - Academic Background

Level of Education	Absolute Frequency	Relative Frequency
Graduation	231	60,0%
Specilization	53	13,8%
Master	94	24,4%
PhD	7	1,8%
Post-Doctoral	0	0%
Total	385	100%

In order to analyze the level of payment in the sample, the quality value applied to understand the perception of the teacher's financial compensation for their work shows that most of them consider it just "not sufficient" and "sufficient". Respectively, those are 154 (40,0%) and 150 (39,0%) individuals. In Table 6, it can be observed that only 79 (20,5%) teachers consider their payment as "satisfactory" and only 2 (0,5%) "very well paid".

Table 6 - Teacher's Profile - Level of Payment

Payment Level	Absolute Frequency	Relative Frequency
Not Sufficient	154	40,0%
Sufficient	150	39,0%
Satisfactory	79	20,5%
Very Well Payed	2	0,5%
Total	385	100%

4.6.1 Estimation Technique

The scales used in this investigation to analyze motivations (IMO and EMO), IM strategies and OC already have an inter-relation studied and confirmed between the observed variables, as it was specified in the Table I of the appendix (Kuvaas and Dysvik, 2009; Dysvik *et. al.*, 2013; Huang and Rundle-Thiele, 2015; Delobbe and Vendenberghe, 2000). Therefore, an *Exploratory Factor Analysis* (EFA) was not necessary to explore the correlations between factors of a same measurement model, and so the present study performed and a *Confirmatory Factor Analyses* (CFA), with *maximum likelihood estimation*, within each variable, in order to confirm if the inter-relation and covariance of those latent variables presented by the authors (IMO, EMO; IC, TR, IMR; AC, NC, CC) can be applied in this model (Hair *et al.*, 2009).

In a CFA or SEM study several post-analysis must take place in order to understand if the hypothesized model is a good fit for the data observed, in special the examination of residuals and coefficients of the hypothesized relations (Schreiber *et al.*, 2006). “The researcher examines the significance of individual structural paths representing the impact of one latent construct on another or the latent construct on the observed variable, as is the case with CF” (Schreiber *et al.*, 2006, p.327).

The first step was to correctly evaluate the specification for the models used in this investigation (Hair *et al.*, 2009). To do so, every model was analyzed separately, examining the covariances between each latent variable known and their respective observed variables, a construct known as first-order model factor. Those first-order models exists when the

covariances between the measured items are explained with a single latent variable (Hair *et al.*, 2009). To be more specific: one analysis was applied for IM strategies scale and its latent variables (IMR, IC and TR); another one for OC and its latent variables (CC, AC and NC); and one more for motivations and its latent variables (IMO and EMO).

After this first test, is important for every investigator to acknowledge problems of adjustment and take corrections actions, which is better explained in next section 4.7.3. (Hair *et al.*, 2009). Subsequently to this good fit model of covariant latent variables, a second-order factor model was tested within the respective group of latent variables, in other words, IM strategies, OC and motivations. The same adjustment process was applied to enable a better fit construct.

The second-order factor model is an analysis that is applied in investigations more and more, even though this kind of measurement model is not a recent one. An analogy for this type of study, is that the covariances between the latent variables are evaluated the same way a first-order factor model evaluates the covariances between the observed variables. Therefore, it can be said that the first-order factors acts as indicators to the second-order factors (Hair *et al.*, 2009).

4.6.3 Statistical Assumptions for Multivariate Techniques

The data interpretation must take into consideration the nature of its distribution, especially in an investigation that aims to comprehend the interaction between two or more variables (Hair *et. Al*, 2009).

A *Normality* test indicates the form of distribution of this data, regarding an individual metric variable and its correspondence with the *normal* distribution, which is the standard reference for statistical methods. When the variables present a non-normality distribution, the impact of this violation can be measured according to sample size and the shape of this transgressive distribution. The *kurtosis* measurement indicates the height of this variance, as an “elevation” (positive values) or “flatness” (negative values) of the distribution compared to normal. The statistical test below can assess the normality of the sample. The critical values of the z distribution most commonly used are ± 2.58 (in a level of significance of 0.01). (Hair *et al.* 2009).

$$z_{kurtosis} = \frac{kurtosis}{\sqrt{\frac{24}{N}}}$$

Another important analysis to be made about the sample are the existence of atypical observations (*outliers*). Those are unusual values in a variable (high or low), or an odd combination of values along variables, which make an observation become marginal in relation to the others (Hair *et al.*, 2009). An outliers cannot be categorically characterized as beneficial nor problematic, but its context of analysis should be evaluated due to the types of information it can provide (Hair *et al.*, 2009). If beneficial, it can provide indicative characteristics of the population that wouldn't be discovered. Otherwise, if problematic, it can distort the statistical tests because they are not representative of the population (Hair *et al.*, 2009).

In a multivariate analysis, the D^2 measurement of Mahalanobis is an indicative of the evaluation of each observed variable with all the set of variables. It measures in a multidimensional way the distance of the item from the average center of all observations, and can provide a single value for each one (Hair *et al.*, 2009). High values can represent observations too far from the average distribution of all observations. This indicator has statistical properties to analyze this significant interpretation of *outliers* (Hair *et al.*, 2009).

Another supposition that needs to be evaluated is the presence or not of *homoscedasticity* that can explain the dependence between the variables studied. This parameter is based on the idea that the dispersion (variance) of the dependent variable's values should be relatively similar with each value of the predictive variables (Hair *et al.*, 2009). In this case, OC's dispersion should have a similar configuration when analyzed separately with the dependent variable IM, IMO and EMO (Hair *et al.* 2009).

a. Present Study Reports

In a first moment, the present study performed directly CFA analysis with *maximum likelihood estimation*, in AMOS 25, to evaluate the adjustment quality of the measurement models, as it was previously explained in section 4.7.1. Within those tests, the sample variables were investigated, presenting a normal distribution (images VI, VII and VIII in the

Appendix). The Kurtosis and Skewness values for every variable were within the limits of $\pm 1,0$ which are acceptable, as Table 7 shows. The closest those values are to zero, the more close to a normal distribution the variables are (Hair *et al.*, 2009). The $z_{kurtosis}$ was calculated, through the formula presented in section 4.7.2., and the values obtained are also displayed in Table 7. According to Hair *et al.* (2009), for a significance level of 0,01 the critical values are $\pm 2,58$ and for a level of significance of 0,05 it can be $\pm 1,96$. With data of Table 7, it can be noticed that almost every variable have no kurtosis issues, within a level of significance of 0,05, with the exception of the variable NC.

Tabela 7. Sample's variables skewness and kurtosis

Variables	Skewness	Kurtosis	Z Kurtosis
IMO	-0,701	0,281	1,125
OC	- 0,565	- 0,084	- 0,336
IM	- 0,317	- 0,365	- 1,462
IC	- 0,397	- 0,037	- 0,148
TR	- 0,273	- 0,447	- 1,790
IMR	- 0,235	- 0,589	- 2,359
AC	- 0,635	- 0,098	- 0,392
NC	- 0,051	- 0,854	- 3,420
CC	- 0,568	- 0,204	- 0,817

“A histogram is a graphical representation of a single variable representing the frequency of occurrences (data values) within data categories. The frequencies are graphically represented to examine the form of the distribution of values.”(Hair *et al.*, 2009, p. 53). In this is used to evaluate the normality of the variable, the normal distribution can be overlapped in the histogram graphic, in order to compare the desired distribution (normal) with the real one (histogram). In the appendix, Image VI, VII and VIII have those visual analysis, confirming a good normal distribution for each variable.

Simultaneously, to the normality assessment, the D^2 Mahalanobis measurement was performed individually between each variable (*Internal Marketing* - IM, *Organizational Commitment* - OC and *Intrinsic Motivation* - IMO) (Hair *et al.*, 2009), revealing a few number of *outliers* in the sample (see Table IV, in appendix). Is a common practice between

investigators to exclude some *outliers* for a better fit of the sample into the assumptions. However, as declared by Hair *et al.* (2009), the investigator should always ensure that there are enough observations per estimated parameters, to avoid an “over-adjustment” of the sample, and consequently generating so specific/adjusted relations in it that those can’t be generalized into the population. In consonance with what was explained above, the atypical observations are not necessarily problematic, but it can be indicators of cases to be studied individually in this sample, as a singular characteristic of them may be causing those variations. Thus, the present study decided not to eliminate these outliers, as no observation is extreme in a sufficient number of variables to be considered non-representative of the population (Hair *et al.*, 2009). The each-case evaluation was not desirably implemented due to a limitation of time and specific information (for instance, the school in which the specific volunteer work, it’s type of IM strategy, his/hers time of work in the school, his/hers relation with school policies and mission etc).

The homoscedasticity is something desirable because it means that the variance of the dependent variable being explained by the relation with the independents ones is not concentrated in a limited part of independent values. Tests for homoscedasticity with two variables metrics, found in methods such as multiple regression, are best performed through graphical analysis (Hair *et al.*, 2009). In the subsequent images 2, 3 and 4, the plotting homoscedasticity test made through linear regression, is SPSS, between every independent variables (IM, EMO and IMO) and the dependent variable (OC) can be visualized.

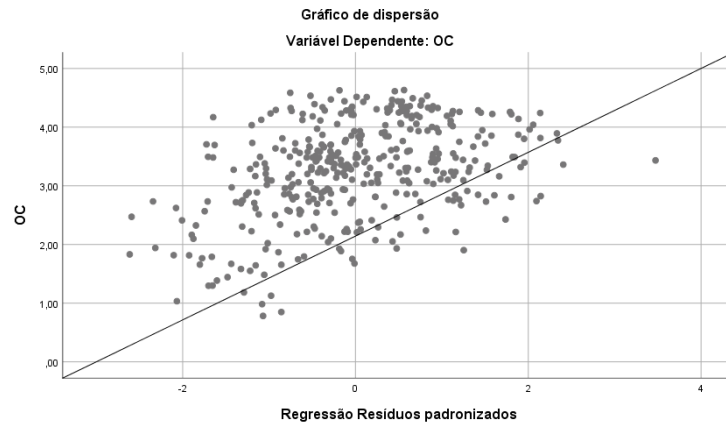


Image 2. Homoscedasticity Plot for IM with OC

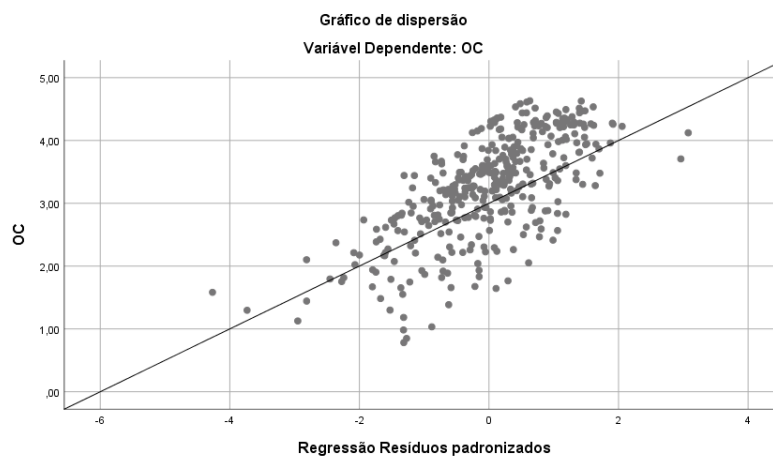


Image 3. Homoscedasticity Plot for IMO with OC

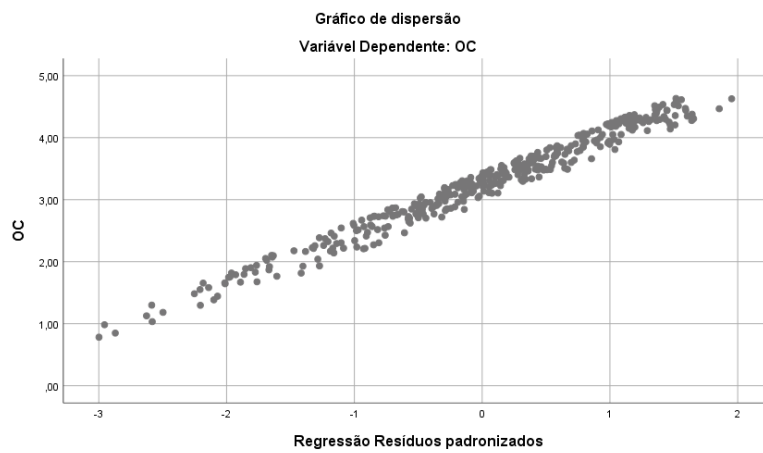


Image 4. Homoscedasticity Plot for EMO and OC

A *common method bias* test was performed, in SPSS program, in which no rotation and a single factor extraction was set up. In this type of test, values lower than 50% of total variance explained are acceptable. As a single factor, the observed variables of this study have a 35,98% of total variance explained, therefore the inter-correlations of the variables of IM, IMO and OC are not sufficiently high between each other, in order to create a bias in the results. A common latent factor analysis (in AMOS 25) was also performed, and every regression weight tested 0.04, with a squared common variance of 0.16% (Balakrishnan and Dwivedi, 2021; Gaskin, 2011). Those results suggest that CMB is not a concern in this data.

4.6.4 Model's Quality Adjustment Analysis

To assess the model fit, researchers can use a numerous of predictive, comparative, parsimonious and other fit indicators, the most common seem to be Normed Fit Index (NFI), Non-Normed Fit Index (NNFI, also known as TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), Goodness-fit index (GFI) and root mean square error of approximation (RMSEA) and the ratio of χ^2/df (qui-square/degree of freedom) (Schreiber *et al.*, 2006; Marôco, 2010). In Table 8, the indicators and their respective reference values used in this present study can be accessed.

Table 8. Value of Reference for statistics indicators

Indicators	Reference Values	Authors
Absolute/Predictive Fit		
χ^2/df	~1 really good > 5 unacceptable	Marôco (2010)
Comparative Fit		
NFI	$\geq 0,9$ acceptable	Schreiber <i>et al.</i> , 2006
CFI	$\geq 0,9$ acceptable	Schreiber <i>et al.</i> , 2006
Other		
RMSEA	$\leq 0,08$ acceptable	Schreiber <i>et al.</i> , 2006

4.6.5. Quality Adjustment for Measurement Models

In Table 9, the results of the first run were compared with the reference models, and so an adjustment of the model was necessary, using the modification indices. Expressive numbers of a modification indices (>15,0) suggests the adjustment of the model can be improved if the error's covariance of the specified variables are added (Hair *et al.*, 2009).

Table 9 - Model Fit Indicators for Internal Marketing Strategies

Indicators of Adjustment	Original Model of Measurement	Model Adjusted after Modification Indices
χ^2/df	3,695	2,327
NFI	0,901	0,942
CFI	0,926	0,966
RMSEA	0,084	0,059

The same path analysis of IM strategies model was applied into Motivations and OC models. The fit model values for the original and adjusted models of each model, can be checked below, in Table 10 (Intrinsic Motivations) and Table 11 (Organizational Commitment).

Table 10 - Model Fit Indicators for Intrinsic Motivation

Indicators of Adjustment	Original Model of Measurement	Model Adjusted after Modification Indices
χ^2/df	4,330	2,214
NFI	0,923	0,964
CFI	0,940	0,980
RMSEA	0,093	0,056

The OC model showed modification indices with great values, for instance 110,994 for the errors of items CC6 – CC7 or 97,477 for the covariance of errors between items NC1 – NC2. Therefore, after the adjustment of the OC model with modification indices with values above 15,0 and the exclusion of a non-significant variable (CC3, with *p value regression weight* as 0,514), the conceptual structure of the model can be validated as an empirical model of measurement (Hair *et al.*, 2009), as Table 11 shows.

Table 11 - Model Fit Indicators for Organizational Commitment

Indicators of Adjustment	Original Model of Measurement	Model Adjusted after Modification Indices
χ^2/df	4,804	2,170
NFI	,884	,952
CFI	,906	,973
RMSEA	,100	,055

4.6.6 Structural Models Reliability

To evaluate the quality of adjustment of the structural model created is necessary to analyze the data in a level of the entire set model and also in a level of the measurement and structural model (Lisboa *et al.*, 2012). In the previous section, the model fit specifications for each measurement model was clarified.

The global structure model created is available in Image 5. Its CFA was analyzed, with fit model results of $\chi^2 (1143) = 2198.476$, $p < 0.01$; $\chi^2/df = 1.923$; RMSEA= 0.049 ; NFI = 0.834 ; CFI = 0.912. Those values explicit a good adjustment of the model, comparing how well the theoretical model is able to reproduce the covariance estimated of the theory with the ones observed in the sample (the reality) (Hair *et al.*, 2009).

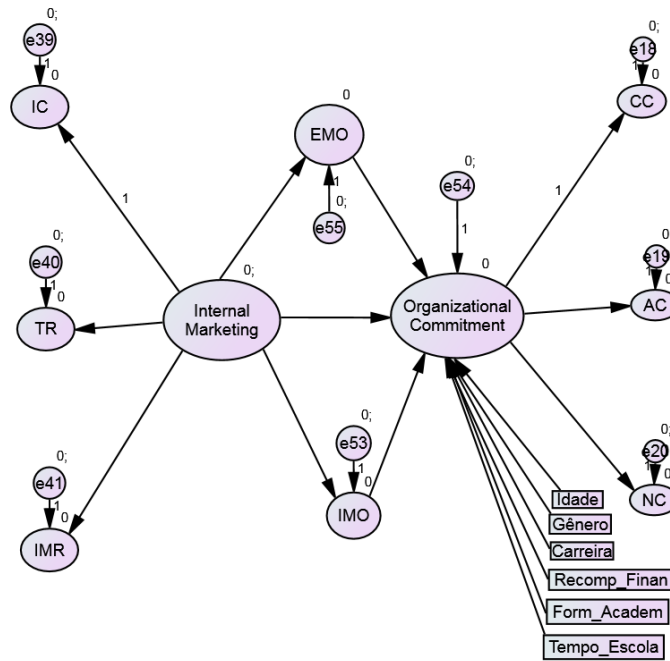


Image 5. Global Mediation Structure Model

Although the global adjustment of the model presented a favorable fit index, the investigation of the degree of consistency between the multiple measures (observed variables) and the latent variables, showed some inconsistency. This analysis is necessary to ascertain whether the individual indicators of the scale measures the same construct (Hair *et al.*, 2009).

The *individual item-reliability* calculated in AMOS 25 is specified as *Standardized Regression Weights* (SRW). Prior to the analysis of this value, is necessary to investigate if the relation between each item and its respective latent variable is a statistical significant one. For that, the *p-value* is checked in the *Regression Weight* list, which all were significant.

When evaluating the estimate SRW, is important to notice that the higher it's value is, the greater is the explanation power of the regression equation and, consequently, the better is the prediction of the dependent variable (in this case, OC). In other words, great values enhances the chance that the regression model was properly applied and estimated. Values over 0,5 are a good estimation (Hair *et al.*, 2009). Through the analysis of Table 12, the precarious power of explanation of items CC2, CC4, CC6 and ME1 was noted, so those variables were cut out of the structural model.

Table 12 - *Single-item* reability of observed variables.

Observed Variable		Latente Variable	SRW
AC1	<---	Affective_Commitment	,934
AC2	<---	Affective_Commitment	,829
AC3	<---	Affective_Commitment	,900
AC4	<---	Affective_Commitment	,873
AC5	<---	Affective_Commitment	,733
CC1	<---	Continuance_Commitment	,797
CC2	<---	Continuance_Commitment	,318
CC4	<---	Continuance_Commitment	,835
CC5	<---	Continuance_Commitment	,239
NC1	<---	Normative_Commitment	,416
NC2	<---	Normative_Commitment	-,673
NC3	<---	Normative_Commitment	-,685
NC4	<---	Normative_Commitment	-,787
NC5	<---	Normative_Commitment	-,892
NC6	<---	Normative_Commitment	-,904
CC6	<---	Continuance_Commitment	,240
IC6	<---	Internal_Communication	,691
IC5	<---	Internal_Communication	,756
IC4	<---	Internal_Communication	,776
IC3	<---	Internal_Communication	,792
IC2	<---	Internal_Communication	,726
IC1	<---	Internal_Communication	,737
TR6	<---	Training	,885
TR5	<---	Training	,818
TR4	<---	Training	,707
TR3	<---	Training	,704
TR2	<---	Training	,654
TR1	<---	Training	,731
IMR6	<---	Internal_Market_Research	,544
IMR5	<---	Internal_Market_Research	,755
IMR4	<---	Internal_Market_Research	,679
IMR3	<---	Internal_Market_Research	,890
IMR2	<---	Internal_Market_Research	,935
IMR1	<---	Internal_Market_Research	,790
MI6	<---	Intrinsic_Motivation	,667
MI5	<---	Intrinsic_Motivation	,804
MI4	<---	Intrinsic_Motivation	,590
MI3	<---	Intrinsic_Motivation	,851
MI2	<---	Intrinsic_Motivation	,855
MI1	<---	Intrinsic_Motivation	,842
ME4	<---	Extrinsic_Motivation	,623
ME3	<---	Extrinsic_Motivation	,857

ME2	<---	Extrinsic_Motivation	,569
ME1	<---	Extrinsic_Motivation	,434

The exogenous constructs act as independent factors in the model structure, in other words, it can have correlation with another construct but not in a dependent way (Hair *et al.*, 2009). In this model, the exogenous variables are the control's (*age, gender, time of carrer, time in school, academic background and level of payment*), that were associated with the dependet variable (OC), in order to anlyze if these correlactions exists. The estimation of the regression weights of those exogenous variables, clarified that the only significant relation between OC was the "time of contribution in the present school" (at 99,9% of confidence), "gender" (at 99,5%) and "levl of payment" (at 98%), therefore the others were no longer significant to be part in the equation (Table 13).

Tabela 13 - Control Variables for OC

Endog. Variabl.		Exog. Variabl.	Estimate	S.E.	C.R.	P	Label
OC	←	Time in School	,083	,017	5,029	***	Sig 99,9%
OC	←	Level_Paym	-,079	,034	-2,336	,019	Sig 98%
OC	←	Academ_Backg	,017	,029	,591	,554	<i>Not Sig</i>
OC	←	Age	-,027	,044	-,603	,547	<i>Not Sig</i>
OC	←	Carrer	,018	,041	,439	,661	<i>Not Sig</i>
OC	←	Gender	-,175	,062	-2,815	,005	Sig 99,5%

Note: (***) means *p value* < 0,001

In Parallel with the *individual-item reliabilty*, is necessary to analyze a statistical significance of the variable inside the intire model construct. The *composite reliability* (CR) is one indicator for this type of study. It denotes the degree to which the construct items indicates the latent construct, evaluating the consistency of all scale (Ghetani *et al.*, 2018) and values above 0,7 are suggested (Lisboa *et al.*, 2012). The alpha Cronbach is the measure mostly used for reliability, and usually the lower limit level for acceptance is 0,7 and in exploratory researches it can be lowered to 0,6 This reliability analysis is also an indicator for the convergent validation, as the items that are indicators of a construct should converge or share a high proportion in common with it. (Hair *et al.*, 2009). In table 13, the alpha

Cronbach is highlighted, in the diagonal part, proving the reliability of the variables included in the equation (IMO, OC and IM), as well as the inadequacy of the EMO to be part of the equation (EMO's alpha Cronbach < 0,7).

The *average variance extracted* (AVE) reflects the overall variance in the indicators measured by the latent construct, and recommended values are the ones above 0,5, even though some scholars suggest 0,4 as standard value (Ghetani *et al.*, 2018; Lisboa *et al.*, 2012). Lower levels would suggest that items have more errors than variance explained by the latent variables constructs.

In Table 14, some incongruences can be seen. The CR value for OC is less than the recommended 0,7 and also less than OC's AVE value, what can compromise respectively the reliability and convergent validation. EMO's AVE value is below 0,5, creating more disruption in the convergence validation of the latent variable.

Table 14 - Correlation Matrice and Reliabilty indicators

	IMO	OC	IM	EMO	CR	AVE
IMO	0,775				0,899	0,601
OC	0,667	0,860			0,616	0,739
IM	0,602	0,865	0,896		0,924	0,803
EMO	-0,270	-0,143	-0,091	0,639	0,723	0,409

To further investigate these issues, the covariance between the latent variables can explicit that EMO has no significant relation (under $p < 0,01$) with OC, as it can be seen in Table 15. Even though it presents some significant correlation with IM (at 98% of confidence), the absence of *collinearity* between EMO and OC is a statistical justification for EMO to be disregarded in the final structural equation (Hair *et al.*, 2009). Therefore, the hypothesis 3, 3a, 3b and 3c of EMO mediator effect in the relation between IM and OC will not be tested.

Table 15 - Variables Covariance

			Estimate	S.E.	C.R.	P
OC	↔	IM	,446	,052	8,642	***
OC	↔	IMO	,444	,056	7,942	***
OC	↔	EMO	-,103	,045	-2,281	,023
IM	↔	IMO	,288	,040	7,288	***
IM	↔	EMO	-,047	,032	-1,477	,140
IMO	↔	EMO	-,181	,046	-3,965	***

Note: (***) means *p value* < 0,01

The discriminant analysis of a model is another important aspect to be included, as it can specify how one construct can differ from another, therefore with a high discriminant validation it can be assumed that a variable is unique and can measure data that others can't. One way to analyze this is by comparing the squared correlation of two variables with their respective AVE, in which these individuals AVE must have a higher value for the discrimination to be validated (Hair *et al.*, 2009). The result test can be checked in the Table 16.

Table 16 - Discriminat Validation

Correlations		Estimated	Estimated		
1	2	Correlation	Correlation²	AVE 1	AVE 2
IMO	OC	0,667	0,445	0,601	0,739
IMO	EMO	-0,270	0,073	0,601	0,409
IMO	IM	0,602	0,364	0,601	0,803
IM	OC	0,865	0,748	0,803	0,739
IM	EMO	-0,091	0,008	0,803	0,409
OC	EMO	-0,143	0,020	0,739	0,409

Note: (***) means *p value* < 0,01

As table 16 shows, most variables have a valid discriminant test, with exception of the relation between IM \leftrightarrow OC, in which the squared estimated correlation have a greater value than OC's AVE. In this type of situation a two variable model can be tested, in order to compare its χ^2 calculated with another χ^2 generated with the same two model variable, but with the correlation fixed in 1. If the χ^2 of the free model have a lower value than the χ^2 of the fixated model, it indicates that this correlation is statistically different from 1, therefore exist discriminant validity in the model (Fornell and Larcker, 1981). The model was created and the χ^2 values were obtained and compared. As a result, there can is valid discrimination between the variables because the free model $\chi^2 = 1024,789$, while in the fixated correlation model $\chi^2 = 1076,272$.

According to Hair *et al.* (2009), the *multicollinearity* is an implicit ponderation that may exist between the independent variables of the construct, and if it's high enough the predictive effect of one or more variables can compromise the construct results. Alin (2010) presents reference numbers for some collinearity indicators, such as *Variance Inflation factors* (VIF), *Eigenvalues* and *Condition Index*, that was calculated through a Linear Regression method of the dependent variable (OC) and the independent variables (IM, EMO and IMO), is SPSS program. Two Constructs were created and compared: construct 1 used IM, EMO and IMO as independent variables and construct 2 used IM and IMO (as EMO have previously showed to be problematic in being part of this study).

Table 17 - Collinearity Diagnosis of variables

Reference Numbers	Construct 1	Construct 2
VIF < 5,0	IM = 1,779 IMO = 1,855 EMO = 1,063	IM = 1,777 IMO = 1,777
Eigenvalues must not be close to 0,00	3,785 0,175 0,023 0,017	2,952 0,030 0,018
Condition Index < 15,0	1,000 4,651 12,867 14,758	1,000 9,941 12,811

Table 17 have the results of the collinearity diagnose test performed with the variables. In it, when the EMO variable is not part of the construct, the indicators showed better fitting into the reference values, another indication for this variable to be taken out of the final construct.

With all observations reported above, the final structure model is displayed in Image 6.

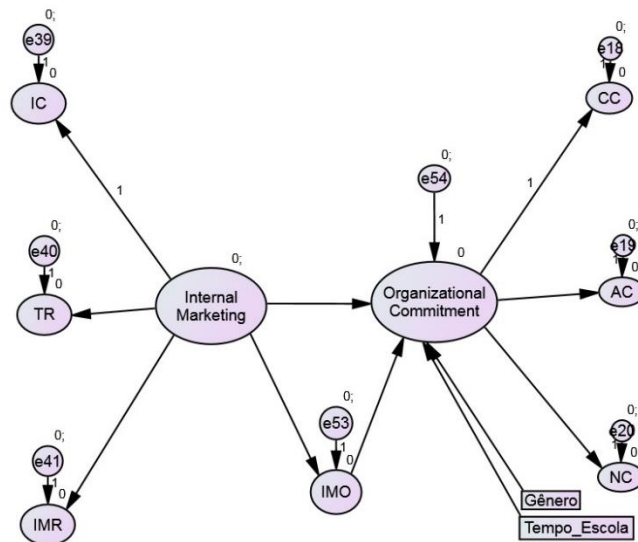


Image 6. Final Structure Model

5. Results

Theoretical basis for motivation has noticed that *Intrinsic Motivation* (IMO) and *Extrinsic Motivation* (EMO) are negatively related to each other, because of their cognitive incompatible nature, therefore, IMO and EMO confirmatory factor analysis for their moderation and mediation effect were performed as different variables (Kuvaas's et al., 2017). Relevant indicators explained in chapter 4, demonstrated the inefficacy of EMO to mediate the relation of IM and OC, therefore the Hypothesis 4 was already confirmed. For the remaining hypothesis, the final fit model index of the structural model (Image 6) is disposed in Table 18.

Table 18 - Fit Model Indicators for Structural Model.

Statistical Indicators	Structure Model
χ^2/df	1,831
NFI	0,898
CFI	0,951
RMSEA	0,047

The first relation to be analyzed was the relation between IM strategies and OC, without the presence of the mediator (IMO). To do so, the structural equation of this study was analyzed through a regression that included only the variables of *Internal Marketing* (IM) and *Organizational Commitment* (OC), and another with *Internal Communication* (IC), *Internal Market Research* (IMR), Training (TR) (correlated with each other) and IM. The results showed a significant relation between every pair, at a confidence level of 99%. In table 19, the significance and factor weight (SRW) for each relation of **Hypothesis 1, 1a, 1b** and **1c** is presented, in which all are statistically significant (p value < 0,01).

Table 19 - Relation of IM and OC, without IMO

Hyp.	Relation	SRW	P	Statistical status
1	IM ← OC	0,860	***	Significance 99%
1a	OC ← IC	0,346	***	Significance 99%
1b	OC ← IMR	0,228	***	Significance 99%
1c	OC ← TR	0,314	***	Significance 99%

Note: (***) means p value < 0,01

The mediation effect exists when a third variable intervenes in the relationship of two related factors (Hair *et al.*, 2009). The diagram below (Image 7), extracted from Hair *et al.* (2009), represents a mediation effect of variable M in the relation of K and E. A mediation can be *partial* or *total*. To analyze this is necessary to compare the mediation model structure (K→M→E) with the direct relation model in which the mediation variable is not included (K→E).

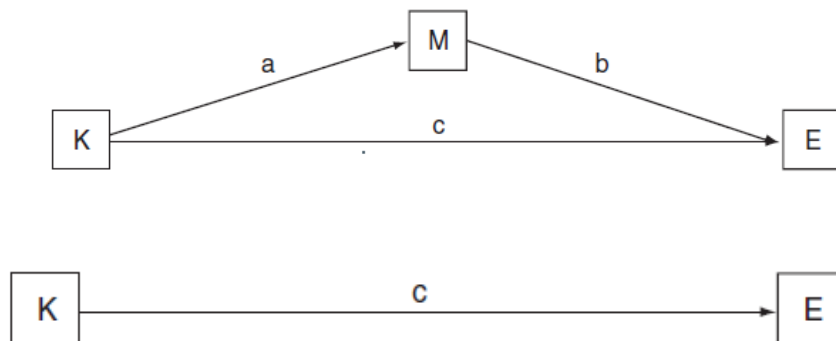


Image 7. Mediation (up image) and direct (down image) effect.

The following assumptions must be taken into considerations:

1. K relates significantly with M
2. K relates significantly with E
3. M relates significantly with E.

Those assumptions presented in Hair *et al.* (2009) are corroborated in Table 18, as the p -value for each of these relations have a statistical significance. In a *total* mediation effect, the relation between K→E is reduced in such a way that is not significantly different from

zero, when in the presence of the mediator. Empirically is more common to observe *partial* mediation, in which the presence of the mediator M, the direct relation of K→E is reduced, but it still have statistical significance (Hair *et. al*, 2009).

In a mediation scenario, the *direct*, *indirect* and *total* effect of the relations can be measured. *Direct* effects are the single connection between 2 factors (e.g. effect *a*, *b* or *c* of image 7, analyzed separately). An *indirect* effect is a sequence of two or more direct effects, for instance, the indirect effect in Image 7 would be K→M→E relation. This measurement can be calculated by multiplying the estimated relation of K→M and M→E. The *total* of a construct is the sum of the *directs* and *indirects* relations present in it (Hair *et. al*, 2009). With the results of Table 20, the statistical significance of the global **Hypothesis 2** is confirmed.

Table 20 - IMO mediation in IM and OC relation

Relation	SRW total	SRW direct	SRW indirect	P	Statistical status
IMO ← IM	,602	,602	0,000	***	Significance 99%
OC ← IM	,857	,708	0,148	***	Significance 99%

Note: (***) means *p value* < 0,01

The indirect effect of IMO mediation value was calculated through a multiplication between the direct effect of IM → IMO (0,602) and IMO → OC (0,247), resulting in approximately 0,148. Image 8 is disposed below to facilitate the visualization of those relations and their respective standardized regression weight values.

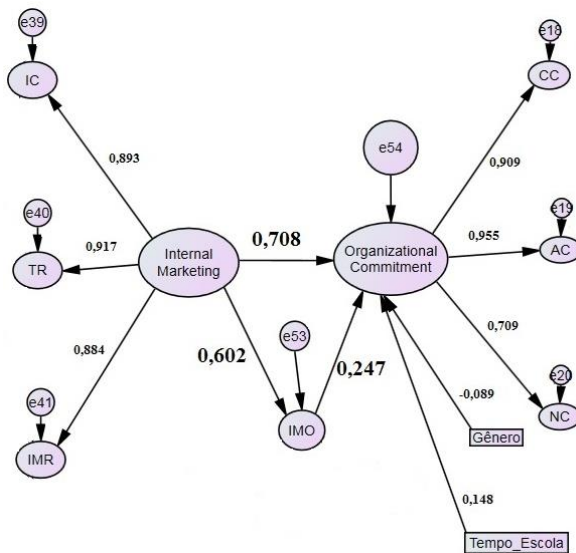


Image 8. Structural Modeling Equation to analyze the mediation effect of IMO in the relation of IM and OC, and those respective standardized regression weight values.

To evaluate the direct, indirect and total effect of each IM component (IMR, IC and TR), the construct with all three variables being mediated through IMO (and still correlated with each other) was analyzed. In Image 9, the direct effect of IC, TR and IMR in both IMO and OC were painted in blue to facilitate this visualization.

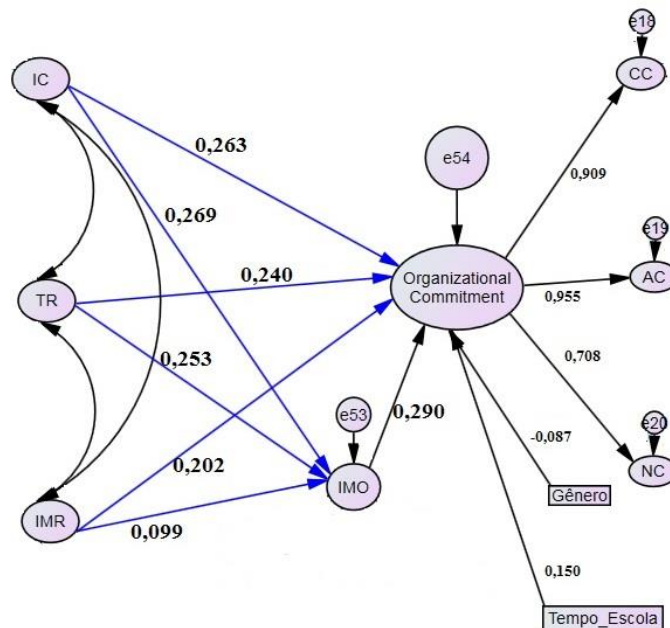


Image 9. Structural Equation Model for the mediation effect of IMO in the relation of IC, TR and IMR with OC, and those respective standardized regression weight values.

The results of those interactions are in Table 21. Through this essay, it can be confirmed the significant relation between the mediation effect of IMO in the relation between IC and OC, at a 98% confidence (**Hypothesis 2a**); and also the relation of TR and OC, mediated through IMO, at a 97% of confidence (**Hypothesis 2c**). However, “small indirect effects (lower than 0,08) are rarely of interest and hardly add something to substantial conclusions” (Hairl *et al.*, 2009, p.662), so Hypothesis 2a and 2c should not be confirmed. Even so, thought this is possible to understand that the direct effect of IM in OC is rather stronger than the indirect effect, mediated by IMO. Regarding the mediation effect in IMR, as there is no significant relation between IMO and IMR, **Hypothesis 2b** is certainly denied.

Table 21 -IMO Mediation Relations between IMR, IC and TR with OC

Hyp.	Relation	SRW total	SRW direct	SRW indirect.	P	Statistical status
2 ^a	IMO ← IC	,269	,269	0,000	0,015	Significance 98%
	OC ← IC	,341	,263	0,078	***	Significance 99,9%
2 ^b	IMO ← IMR	,099	,099	0,000	,328	Not Significant
	OC ← IMR	,230	,202	0,029	,005	Significance 99,5%
2 ^c	IMO ← TR	,253	,253	0,000	0,031	Significance 97%
	OC ← TR	,314	,240	0,073	0,003	Significance 99,7%

Note: (***) means *p value* < 0,01

In the same way as was studied Hypothesis 2, the indirect effect of IMO in each IM component (IC, TR and IMR) with OC was calculated through the multiplication between the direct effect of each component (IC, TR and IMR) with IMO and the direct effect of IMO and OC. Table 22 shows the values of those relations, from which the indirect effect was calculated.

Table 22. Standardized regression weight values obtained from the structural equation model presented in image 9.

	Direct Effect	Direct Effect	Indirect Effect
IM components		OC ← IMO	(IMO mediation)
IMO ← IC	0,269		0,078
IMO ← TR	0,253	0,290	0,029
IMO ← IMR	0,099		0,073

To test **Hypothesis 4** (moderation effect of IMO), the variable's data of the final structural global model (Image 6) analyzed and adjusted in AMOS 25, was imputed into the SPSS data base, in order to create an interaction variable of IM and IMO (named Int_Mktg_IMO), respectively, the independent variable and the moderator. A path analysis model was applied in these part of the study (Image 10). A moderation effect is effective when a third variable or construct can change the relation between two other variables. The relationship of these variables can change according to the level of the moderated variable (Hair *et al.*, 2009).

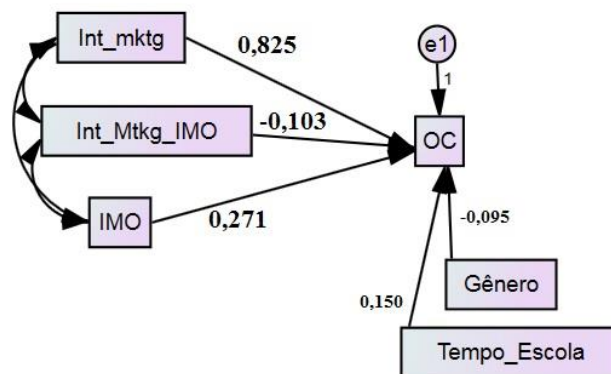


Image 10. Path analysis test of the moderation effect that IMO may have in the relation of IM and OC, with the respective standardized regression weight values.

Usually this is a harder interpretation because the moderator is more strongly correlated with one of the variables. So when the moderator doesn't present a significant linear relation with the predictor, the moderation effect is more easily analyzed (Hair *et al.*, 2009). In Table 14, it can be analyzed the correlation between all variables of the study, in which $OC \leftrightarrow IMO$ (0,667), $IMO \leftrightarrow IM$ (0,602) and $IM \leftrightarrow OC$ (0,865). According to this results, although there is a clear high correlation between $IM \leftrightarrow OC$, the IMO (moderate factor) have a similar correlation with the two factors to be analyzed.

The correlation obtained through the *path analysis* test are $IMO \leftrightarrow Int_Mktg$ (0,661), $Int_Mktg \leftrightarrow Int_Mktg_IMO$ (0,909) and $IMO \leftrightarrow Int_Mktg_IMO$ (0,890), check Table 23. In the *path analysis*, the direct effect of IMO had a statistical significance (*p value* < 0,001) with $SRW = 0,271$ between ($OC \leftarrow IMO$), as well as the direct effect of IM, with a $SRW = 0,825$ between ($OC \leftarrow IM$). However, the moderation effect ($OC \leftarrow IM \times IMO$ or as presented in the model of Image 10, $OC \leftarrow Int_Mktg_IMO$) have no statistical significance as the *p value* < 0,331, with a $SRW = - 0,103$, as it is displayed in Table 23.

Table 23 - Standardized Estimates for Moderation Regression, through Path Analysis test.

Variables		Standardized Estimates	<i>p value</i>	Statistical status
Independent	IM	0,825	***	99% Significance
Moderator	IMO	0,271	***	99% Significance
Interaction Ind x Mod	IMO x IM	-0,103	0,331	Not significant

Note: (***) means *p value* < 0,001

Table 24. Correlations between variables of moderation in path analysis test.

Correlated Variables	Standardized Estimates	<i>p value</i>	Statistical status
IMO \leftrightarrow IM	0,661	***	99% Significance
IM \leftrightarrow IMO x IM	0,909	***	99% Significance
IMO \leftrightarrow IMO x IM	0,890	***	Not significant

Note: (***) means *p value* < 0,001

These results reject the Hypothesis 4, in which a positive moderation effect of IMO was expected. Instead, the direct effect of OC←IMO and OC ←IM is rather stronger than the moderation effect of OC ← IM x IMO. The model fit of these regression is $\chi^2 (7) = 10,711$, $p < 0,00$; $\chi^2/fd = 1,530$; RMSEA= 0,037; NFI = 0,996 ; CFI = 0,998. The plot of these relations, created with the unstandardized estimates (view Table 20) of these regression is available in Image 11.

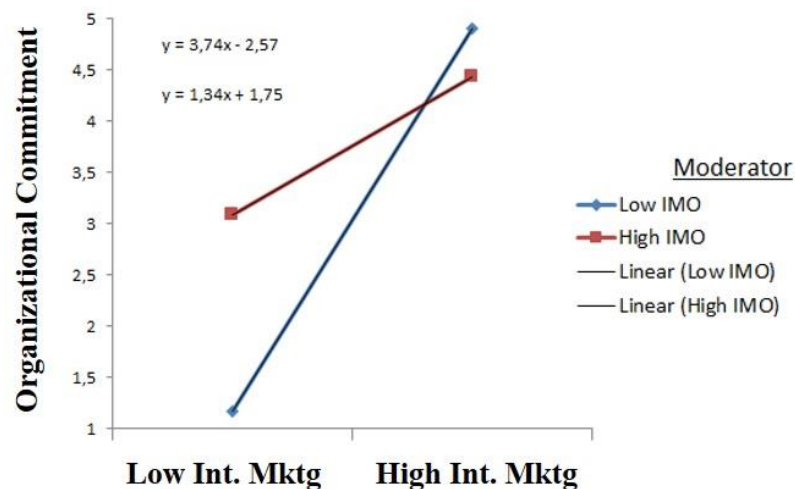


Image 11. Plot of IMO moderation effect in the relation of OC← IM.

As the *path analysis* test was used to study the moderation effect of IMO, this same type of investigation was applied into mediation analysis, enabling results comparisons and, therefore enriching discussion upon the matter. In Image 12, the path analysis test performed and the standardized regression weight values are disposed, in which every relation presented a statistically significance of 99% ($p \text{ value} < 0,001$). The direct, indirect and total effect of those relations can be checked in Table 25.

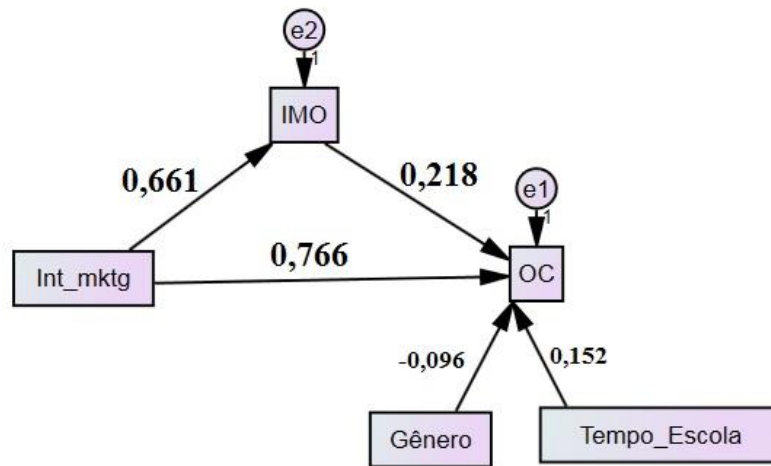


Image 12. Path Analysis test for mediation effect of IMO in the relation of IM and OC, with the standardized coefficients displayed above each relation.

Table 25. Path Analysis results of IM and OC relation, mediated through IMO.

Relation	SRW total	SRW direct	SRW indirect	P	Statistical status
IMO ← IM	,661	,661	0,000	***	99% Significance
OC ← IM	,910	,766	0,144	***	99% Significance

The investigation of the predictive influence over each type of direct and indirect effect of IMO into IM strategy (IC, TR and IMR) and OC relations was also tested through regression based *path analysis*, as it can be seen in Image 13. *Structural model equation* and regression based *path analysis* can produce similar, though not identical results, therefore, a comparison between both methods can be interesting (Grapetine, 2000).

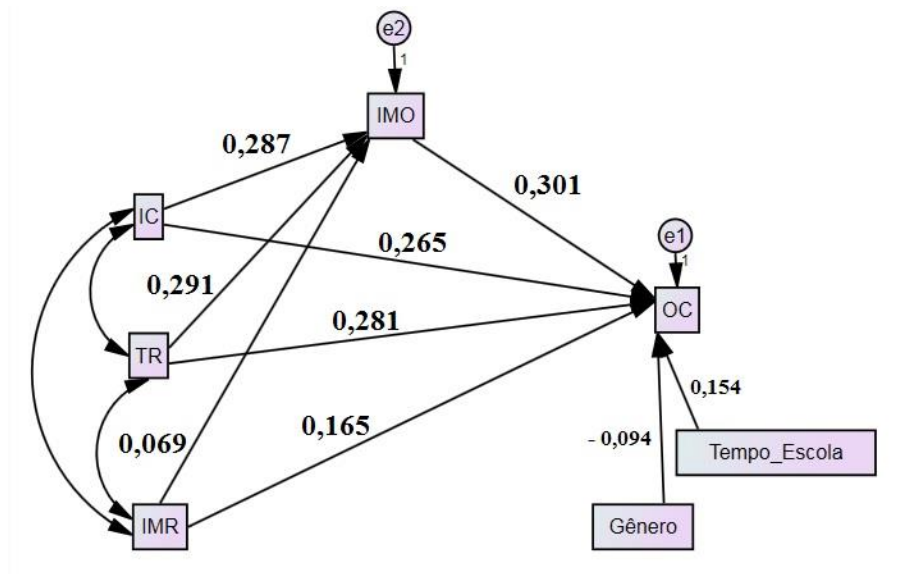


Image 13. Path Analysis test for mediation effect of IMO in the relation of each IM strategy (IC, TR and IMR) in OC, with the standardized coefficients displayed above each relation.

In the previous test (Image 12), every relation of the regression resulted in a statistical significance of at least 98% (p value < 0,001), with exception of the relation between IMR and IMO, as data of the following Table 26 shows. The IMR presented no statistically significant relation with IMO, in consonance with results of Table 21, and therefore the mediation effect of IMO in the relation of IMR and OC is also not proved through *path analysis* test.

Table 26. Standardized coefficients of IMO mediation regression in the relation of each IM strategy (IC, TR and IMR) with OC, through Path Analysis test.

Relation	SRW	P	Statistical status
IMO ← IC	0,287	0,002	99,8% Significance
IMO ← TR	0,291	0,003	99,7% Significance
IMO ← IMR	0,069	0,418	Not significant
OC ← IMO	0,301	***	99% Significance
OC ← IC	0,265	***	99% Significance
OC ← TR	0,281	***	99% Significance
OC ← IMR	0,165	***	99% Significance

Note: (***) means p value < 0,001

In Table 27, the direct, indirect and total effects of IMO mediation of this analysis was calculated in the same way as it was explained during presentation of the results in Table 21 and 22. Although, different from results obtained from *Structural Modeling Equation* method (Table 17), the results of Hypothesis 2a and 2c from *Path Analysis* test obtained the minimum indirect coefficient (at least 0,08) for the mediation of IMO to be considered in the relation of both IC and TR with OC (Hair *et al.*, 2009).

Table 27. Direct, indirect an total effect of IMO mediation in the relation of each IM strategy (IC, TR and IMR) with OC, through path analysis study.

Hyp.	Relation	SRW total	SRW direct	SRW indirect.	P	Statistical status
2a	IMO ← IC	0,287	0,287	0,000	0,002	99,8% Significance
	OC ← IC	0,352	0,265	0,086	***	99,9% Significance
2b	IMO ← IMR	0,069	0,069	0,000	0,418	Not Significant
	OC ← IMR	0,186	0,165	0,021	***	99,9% Significance
2c	IMO ← TR	0,291	0,291	0,000	0,003	99,7% Significance
	OC ← TR	0,369	0,281	0,088	***	99,9% Significance

Note: (***) means *p value* < 0,001

Hair *et al.* (2009, p.662) stated that “small indirect effects (lower than 0,08) are rarely of interest and hardly add something to substantial conclusions”, therefore they should not be considered. The indirect effect of IMO in IC relation with OC, through *structural equation model* test has a coefficient of **0,078** (displayed in Table 21), and through *path analysis* test it’s coefficient has a value of **0,086** (as Table 27 shows). In the same way, the indirect effect in TR relation with OC has a value of **0,073** though *structural equation model* test (check Table 21) and a value of **0,088** through *path analysis* test (check Table 27).

When analyzing separately the results of *structural equation model*, the indirect effect of IMO in IC and TR relation with OC may have been neglected. However, *path analysis* tests was performed in every mediation hypothesis so that discussion could be enriched with another method of data analysis. The difference in those coefficient values between the two types of analysis is of 0,008 (result of 0,086 - 0,078) for the indirect effect

of IMO in the relation of IC and OC, and of 0,015 (result of 0,088 – 0,073) for the indirect effect of IMO in the relation of TR and OC. The difference of those coefficients values between the two methods are lower than 0,02.

The present study decided not to consider and interpret the mediation effect of IMO in IC relation with OC and in the relation of TR and OC. This is based in academic observations that when both methods are comparable, *structural equation model* are preferable because the covariance matrix of dependent and independent variables are incorporated, as well as random measurement errors are taken into account, therefore, the coefficient estimates are more valid (Grapetine, 2000). Kelcey (2019) noticed that full information estimation of measurement and structural parameters in *structural equation model* can produce biased parameter estimates in small (fewer than 100 or 200) or medium (about 200 to 300 or less) samples sizes. Since that is not the case of this study (than contains a sample 385 teachers), Hypothesis 2a and 2c were denied.

The overall result of every Hypothesis tested in this study is available, below, in table 28.

Table 28 - Hypothesis Test's Results

	Hypothesis	Result
H1	<i>Internal marketing</i> strategies are positively related to teacher's <i>organizational commitment</i>	Accepted
H1a	Schools that practice <i>internal communication</i> strategies have teachers with higher <i>organizational commitment</i>	Accepted
H1b	Schools with <i>internal market research</i> strategies have teachers with higher <i>organizational commitment</i>	Accepted
H1c	Schools with <i>training</i> development strategies have teachers with higher <i>organizational commitment</i>	Accepted
H2	Teacher's <i>intrinsic motivation</i> can positively mediate the effect of school's <i>internal marketing</i> strategies in teacher's <i>organizational commitment</i>	Accepted
H2a	Teacher's <i>intrinsic motivation</i> can positively mediate the effect of the school's <i>internal communication</i> in teacher's <i>organizational commitment</i>	Denied
H2b	Teacher's <i>intrinsic motivation</i> can positively mediate the effect of the school's <i>internal market research</i> in teacher's <i>organizational commitment</i>	Denied
H2c	Teacher's <i>intrinsic motivation</i> can positively mediate the effect of the school's <i>training</i> in teacher's <i>organizational commitment</i>	Denied
H3	Teacher's extrinsic motivation can negatively mediate or have no effect of the school's internal marketing strategies in teacher's organizational commitment	Not tested
H4	Teacher's <i>intrinsic motivation</i> can positively moderate effect of school's <i>internal marketing</i> strategies in teacher's <i>organizational commitment</i>	Denied

6. Discussion

The confirmation of Hypothesis 1 clarifies the positive and significant relation between school's IM strategies and teacher's *organizational commitment*, in Portugal. Through the results presented in Table 18, a more specific comparison of the potential influence between each type of strategy (*internal communication*, *internal market research* and *training*) can be made. *Internal market research* has the lowest standardized coefficient (0,228), inferring that this is the least effective *internal marketing* method to influence teacher's *organizational commitment*. Although *internal communication* (0,346) and *training* (0,314) have more similar results, the school's *internal communication* shows prevalence into the *organizational commitment*.

In the appendix, Table II have a percentage of each answer evaluated with the scales used in this study. Through this analysis, at least 40,0% of the sample *agrees* the school have a communication system accessible to every employee (40,52%), appropriate (45,19%) and with a consistent style (41,04%). Within this sample, communication seems to be an important element in the school's management, along with teacher's training, as 43,64% *agrees* and 22,08% *strongly agrees* that their work institution focus effort in employee's training. Therefore, is a reasonable justification for *internal communication* and *training* to have superior effects.

Regarding *internal market research* survey, 38,19% of the sample *agreed* with the statement that school's principal and coordinators gathers teacher's feedback orally; and that they interact directly with teachers in order to identify issues they may have (31,43%). Respectively, others 11,69% and 13,50% *strongly agreed* with those same statements. In a different way, 25,19% of the sample *disagreed* and 19,22% *strongly disagreed* that the school invest a huge effort in *internal market research*. Through this descriptive analysis, it can be assumed that although there is an open and direct communication (mainly orally) between teachers and the school's management in Portugal, most of those institutions lack *internal market research* from their employees, what may explain why this type of *internal marketing* strategy has the lowest potential for influence in *organizational commitment*.

As it was discussed in section 2.2, *internal marketing* strategies are some multidimensional practices that the administrative sector can take, and it can reaches better environmental opportunities and provide the organization with more competence and capabilities (King, Song and Lee, 2016) In this concept, the *internal market research* can

have a great importance as part of the *internal marketing* program, especially if the school's human resources policies aims to enhance the worker's *organizational commitment* (Newman and Sheikh, 2012; Viera-dos Santos and Gonçalves, 2018). The understatement of teacher's committed to their jobs, their values, wants and needs, through *internal market research*, can improve this (Newman and Sheikh, 2012; Viera-dos Santos and Gonçalves, 2018), after all employees committed to their organization perform better than the ones who are less committed (Kim, Song and Lee, 2016; Muriuki, Maru and Kosgei, 2016; Tentama and Pranungsari, 2016).

The mediation effect of teacher's *intrinsic motivation* in the relation of school's *internal marketing* strategies and teacher's *organizational commitment* was confirmed as positive one (0,148), and is presented in Table 20. On the other hand, when each component of this *internal marketing* strategies – *internal communication*; *internal market research*; and *training* – was analyzed separately the indirect effect of those mediators had lower significant values – respectively, 0,078; 0,029; and 0,073. The *internal market research* didn't even had a statistical significance for the mediation effect of *intrinsic motivation*.

This may suggest that *intrinsic motivation* can indeed mediate the effect of *internal marketing* in *organizational commitment*, but when used as a combination of different types of strategies is more effective. Therefore, if a school uses only *internal communication* as their *internal marketing* strategy, the mediation effect of *intrinsic motivation* may not interfere in the result of teacher's *organizational commitment*.

A highly committed worker can invest more time and energy to pursue the organizations goals, and also have a motivation in his/hers recognition as an important asset to the company (Muriuki, Maru and Kosgei, 2016). Teachers are no exception, they likely put more effort into the lecture rooms when feeling more committed (Muriuki, Maru and Kosgei, 2016). Therefore is relevant to understand what type of commitment may be more present within the academic staff and use a strategic *internal marketing* to fulfil this necessity in them.

In the case of this sample, *affective commitment* is the most relevant. Therefore if the connection those teachers have with their workplace are mostly emotional, “promoting positive emotions around workplace events solves the cognitive dissonance and the mental distress produced by experiencing negative emotions at work while remaining in the organization.” (Berkovich and Eyal, 2017, p.23). According to those authors, as teacher's

professional identity is an essential part for their *organizational commitment*, this is a notably crucial point in education.

In the results of Hypothesis 4 test, a negative moderation effect of *intrinsic motivation* was noticed. Although this hypothesis was denied, the plot in Image 11 shows how potent the *intrinsic motivation* can be to improve *organizational commitment*, in a scenario with lack of *internal marketing* practices. Though, when *internal marketing* strategy is correctly applied, is effective in increasing teacher's *organizational commitment*, and therefore, improving the school's competitiveness, as investigations of Huang (2019) and King, Song and Lee (2016) suggests, in which motivation and others work attitudes were studied.

The divergent relation between *intrinsic* and *extrinsic* motivation of employees was proved in studies like Kuvaas *et al.* (2017), in distinct contexts: gas station, finances and medical technology organization. In a similar way, the present investigation observed a positive correlation between *intrinsic motivation* and both school's *internal marketing* strategies and teacher's *organizational commitment*, as it was presented in Table 15, while the *extrinsic motivation* correlation was so statistically unjustified that the final structural model of regression analysis did not include this variable (Image 6). Those results are in consonance with Kuvaas *et al.* (2017) suggestions of the cognitive incompatibility between those two types of motivations. According to these authors, even in situations when the intrinsic motivation of a worker is not being fulfilled in his/her workplace, is not possible to compensate this with extrinsic motivational attitudes (e.g. increasing bonus).

Is important to recognize the dominant motivation of teachers, because it can be a useful tool to promote effective management strategies between teachers and school administration, specially *intrinsic motivation* as it is associated with numerous positive employee's outcomes (Kuuvas *et. al*, 2017; Roth *et al.*, 2007). According to Table II, in the appendix, notably over 40,0% of the sample *agrees* their job is exciting, a motivation in itself and enjoyable; and at the same time 53,77% *strongly agrees* that their profession is meaningful. This verifies a considerable level of *intrinsic motivation* present within the subjects of this study.

According to SDT, intrinsically motivated people acknowledge them as promoters of their own role, rather than assets to and end (Deci and Ryan, 1985; Ryan and Deci, 2019), therefore they may consider work tasks as interesting, enjoyable and inheritably rewarding

(Watt and Richardson, 2015). In Roth *et al.* (2007) studies about SDT on teachers, positive outcomes are related to these type of autonomous motivation (e.g. teaching self-efficacy, reduced burnout). Then, if Portugal schools have teachers who are intrinsically motivated, the administration can elaborate strategies to bring the hole school community together and obtain from their employees the best productivity and skills.

When analyzing more data from Table II, is clear the highly affective commitment teachers of this sample have towards their school, as most part of them *agreed* or *strongly agreed* with the first three statements of this affective commitment evaluation. Putting those two type of answers together, 67,53% of them feels a strong sense of belonging to the school, 71,69% are emotionally attached to it and 63.39% feels as “part of the family” where they work.

In section 2.3 it was discussed that a worker commitment can also be by a moral duty (normative commitment) or by a material necessity (continuance commitment). The moral obligation that teachers have with the school also seems to be relevant: 21,82% *disagreed* and 23,38% *strongly disagreed* they don't have a moral obligation to remain in the school; and others 28,57% *agreed* and 23,11% *strongly disagreed* that the school deserves their loyalty. The financial necessity does not seem to be a relevant connector of those teacher's with their current job, because only 14,55% *agreed* and 6,75% *strongly agreed* they would have few alternatives of work, if leaving the current school.

CONCLUSION

The direct influence of IM in teacher's OC was noticed, with a more relevant effect of IC (0,346) and TR (0,314) than of IMR (0,228), proving Hypothesis 1, 1a, 1b and 1c. The analysis of those scales, allowed an inference to be made: although there is an open communication (mainly orally) between teachers and schools' coordinators and principal, there is a lack of information gathering from the schools management toward their workers, in other words, a vulnerable strategy of IMR.

A mediation effect of IMO between the relation of IM and OC was noticed, proving Hypothesis 2. However, when each IM strategy studied (IC, TR and IMR) was analyzed separately, there was no statistical significance in the results, rejecting Hypothesis 2a, 2b and 2c. Through this, it was inferred: (i) the direct influence of IM into OC is rather stronger than the effect mediated through IMO; and (i) the IMO mediation effect is effective when IM uses a multidimensional strategy.

Despite the fact no positive moderation effect of IMO into the relation of IM and OC was proven (rejecting Hypothesis 4), the plot in Image 11 shows how IMO can improve OC, when lacking IM strategies. In consonance with data from Hypothesis 1 and 2, this same plot supports the understanding that in a situation of good IM practices being applied, the direct effect of IM into OC is greater than the moderation effect of IMO in this relation. Therefore, IM is rather more efficient to improve teacher's OC than the mediation nor the moderation effect of IMO.

In section 4.2 the sample profile was presented through 6 types of characteristics, but only Gender and Time of Contribution in the Present School showed relevance in the regression equation of this study. Among the 385 volunteers of this investigation, 79,9% are female and 23,1% are male; most of them are recent employees at their school of work, since 40,0% have been working there for 0 – 5 years, 11,4% for 6 – 10 years, 14,8% for 11 – 15 years, 10,9% for 16 – 20 years and 22,9% for 20 years or more. Therefore, most of these teachers are either a recent staff (40,0%) or have built their career in this school (22,9%).

Regarding the type of commitment, the affective commitment have a greater influence over those workers. Therefore, positive emotions and a sense of belongingness can enhance the connections between teachers and their school. As most of them have a relevant

IMO, schools that may have a strategy to fulfill those needs and feelings of self-accomplishment, could improve their teachers' OC.

Previous literature declared the EMO and IMO as different dimensions capable to influence humans' behavior, and so the present study used them as different variables to mediate the relation of IM and OC. Nonetheless, the EMO influence in this relation was statistically unjustified, making it necessary to withdraw it from the final regression equation, and, consequently, Hypothesis 3, 3a, 3b and 3c were not tested. After all, if there is no significant direct relation of EMO, there cannot be an evaluation of a mediation one. On the other hand, IMO seems to be present in most of those teachers. In a total of answers marked as *agree* or *strongly agree*, most of them understands their job as exciting (56,88%), a motivation in itself (56,37%), enjoyable (54,55%) and meaningful (83,12%).

The data was collected between September 2020 and October 2020, therefore the pandemic COVID-19 scenario may or may not have influence the results. Therefore if similar investigations are applied in a post COVID-19 environment, the results comparisons is advised. A longer data collection interval could also have reached a larger sample, optimizing even more the results. This study didn't segregated the teacher's answers between the country regions, therefore any variation in the education system between them could not be analyzed. The first-order variables of OC (*affective*, *normative* and *continuance commitment*) were not separately studied in the regression equation as the first-order variables of IM were (*internal communication*, *training* and *internal market research*). So a more complex analysis of the effect the types of IM strategies can have in each type of OC was not done.

For further studies, a larger sample than 385 teachers should be considered, as well as the application of this type of study in other countries, in order to evaluate possible cultural impacts. Regarding the application in Portugal, future studies can investigate if there is any difference of those factors between the regions of the country, as this research data wasn't concentrated into a specific region. The use of different metrics to analyze those same variables can create other constructs to be tested and more results to enlighten the discussions about these topic, especially one than can evaluate the use of IM strategies in a more diverse and deeper way. After all, the direct influence of IM strategies in teacher's OC was confirmed, and IM strategies can be applied in many ways. Also, the direct influence of IMO into OC or other work outcomes would be an interesting view to be analyzed.

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[APA 6th referencing style]

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[APPENDIX]

Table I. Scales of variables studied (motivation, IM and OC) and their respective translation into Portuguese.

		Original Scales	Translation into Portuguese
INTRINSIC MOTIVATION		My job is very exciting	Meu trabalho na escola é muito estimulante.
		My job is so interesting that it is a motivation in itself	Meu trabalho é tão interessante que é, em si, uma motivação.
		The tasks that I do at work are enjoyable	As tarefas que desempenho no trabalho são prazerosas.
		My job is meaningful	Minha profissão tem muito significado.
		The tasks that I do at work are themselves representing a driving power in my job	As tarefas que desempenho no trabalho representam uma força impulsionadora na minha profissão.
	Sometimes I become so inspired by my job that I almost forget everything else around me	Por vezes me sinto-me tão inspirado(a) no meu trabalho que quase esqueço tudo mais que me rodeia.	
EXTRINSIC MOTIVATION		External incentives such as bonuses and provisions are essential for how well I perform my job	Incentivos externos, tal como bónus e condições materiais são essenciais para o bom desempenho do meu trabalho.
		It is important for me to have an external incentive to strive for in order to do a good job	É importante para mim ter um incentivo externo para me esforçar no sentido de fazer um bom trabalho.
		If I had been offered better pay, I would have done a better job	Se tivessem me oferecido um melhor vencimento, teria feito um trabalho melhor.
		If I am supposed to put in extra effort in my job, I need to get extra pay	Se é suposto fazer um esforço extra no meu trabalho, preciso que me façam um pagamento extra.
INTERNAL COMMUNICATION		My organization communicates a clear brand image to me.	Minha escola transmite-me uma boa imagem de marca.
		There is an internal communication program for all employees in my organization.	Existe um sistema interno de comunicação para todos os funcionários da minha escola.
		All communication materials reflect a consistent style in my organization.	Todos os materiais de comunicação refletem um estilo consistente da escola.
		Employees at all levels understand the direction and key priorities of my organization.	Funcionários de todos os níveis compreendem a direção e as prioridades fundamentais da escola.
		In my organization, communications are appropriate.	Na minha escola, a comunicação com os funcionários é apropriada.
		Messages that I receive are aligned with business wide communication.	As mensagens que recebo estão de acordo com uma comunicação empresarial geral.

INTERNAL MARKET RESEARCH	TRAINING	My organization focuses efforts on training employees.	A escola direciona esforços para a formação dos professores.
		My organization provided an orientation program for me.	Minha escola providenciou um programa de formação para mim.
		The training in my organization has enabled me to do my job well.	A formação na minha escola capacitou-me para um melhor desempenho da minha profissão.
		My organization teaches me why I should do things.	A minha escola ensina-me a razão de eu dever fazer as coisas.
		Skill and knowledge development happens as an ongoing process in my organization	Na minha escola o desenvolvimento de capacidades e de conhecimentos acontece como um processo contínuo.
		My organization provides support to develop my communication skills in order to achieve organizational goals.	Minha escola apoia o desenvolvimento das minhas capacidades de comunicação no sentido de atingir os objetivos dela.
INTERNAL MARKET RESEARCH	MARKET RESEARCH	My organization gathers employee feedback.*	Diretores e coordenadores recolhem oralmente a opinião dos professores.
		My organization regularly seeks employee suggestions.	Minha escola procura regularmente sugestões dos professores.
		My organization collects data on employee complaints.	Minha escola recolhe os dados de queixas dos professores.
		My organization does a lot of internal marketing research.	Minha escola faz imensas pesquisas de “marketing” interno.
		My organization talks with me to identify issues that I may have.	Diretores e coordenadores interagem diretamente comigo e outros professores identificar questões que eu posso ter.
My organization surveys employees at least once a year to assess the quality of employment *	Pelo menos uma vez por ano, minha escola, me questiona por escrito para avaliar a qualidade do emprego.		
AFFECTIVE COMMITMENT	AFFECTIVE COMMITMENT	I feel a strong sense of belonging to my organization.	Me sinto fazendo parte dessa instituição.
		I feel ‘emotionally attached’ to this organization.	Me sinto emocionalmente conectado(a) a essa escola.
		I feel like ‘part of the family’ at my organization.	Me sinto fazendo “parte da família” como professor(a) dessa escola
		I talk up this organization to others as a great organization to work for.	Eu falo desta escola a outras pessoas como sendo uma boa organização para nela se trabalhar.
		I really feel as if this organization’s problems are my own.	Na realidade sinto os problemas dessa escola como se fossem os meus.

Note. *The specific quotes were adapted to include two different types of internal information generation (face-to-face and written) that are important aspects of the internal communication (Lings and Greenley, 2005; Vieira-dos Santos and Gonçalves, 2018).

CONTINUANCE
COMMITMENT

Right now, staying with my organization is a matter of necessity as much as desire.

Neste momento, manter-me nessa escola é tanto uma questão de necessidade material quanto de vontade pessoal.

It would be very hard for me to leave my organization right now, even if I wanted to.

Seria materialmente muito penalizador para mim, neste momento, sair dessa instituição, mesmo que o quisesse fazer.

If I had not already put so much of myself into this organization, I might consider working elsewhere

Se não tivesse dado tanto a essa instituição, atualmente poderia considerar a possibilidade de trabalhar em outra.

I would be very happy to spend the rest of my career with this organization.

Ficaria muito feliz em passar o resto da minha carreira nessa escola.

I feel that I have few options to consider leaving this organization.

Acredito que há poucas alternativas para poder pensar em sair dessa escola.

One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice – another organization may not match the overall benefits I have here.

Uma das principais razões para eu continuar a trabalhar nessa escola é que a saída iria requerer um considerável sacrifício pessoal, porque outra instituição poderá não cobrir a totalidade de benefícios que tenho aqui.

One of the few consequences of leaving this organization would be the scarcity of available alternatives.

Uma das consequências negativas para mim se saísse dessa instituição resulta da escassez de alternativas de emprego que teria disponíveis.

NORMATIVE
COMMITMENT

I do not feel any obligation to remain with my current employer.

Sinto que não tenho qualquer dever moral em permanecer nessa escola.

Even if it were to my advantage, I do not feel it would be right to leave my organization now

Mesmo que fosse uma vantagem para mim, sinto que não seria correto deixar essa escola no presente momento.

I would feel guilty if I left my organization now.

Sentir-me-ia culpado(a) se deixasse essa escola agora.

This organization deserves my loyalty.

Essa escola merece minha lealdade.

I would not leave my organization right now because I have a sense of obligation to the people in it.

Nesse momento eu não deixaria essa escola pois sinto que tenho uma obrigação pessoal com as pessoas que fazem parte dela.

I owe a great deal to my organization.

Sinto que tenho um grande dever com essa instituição.

Table II. Descriptive analysis of survey answers

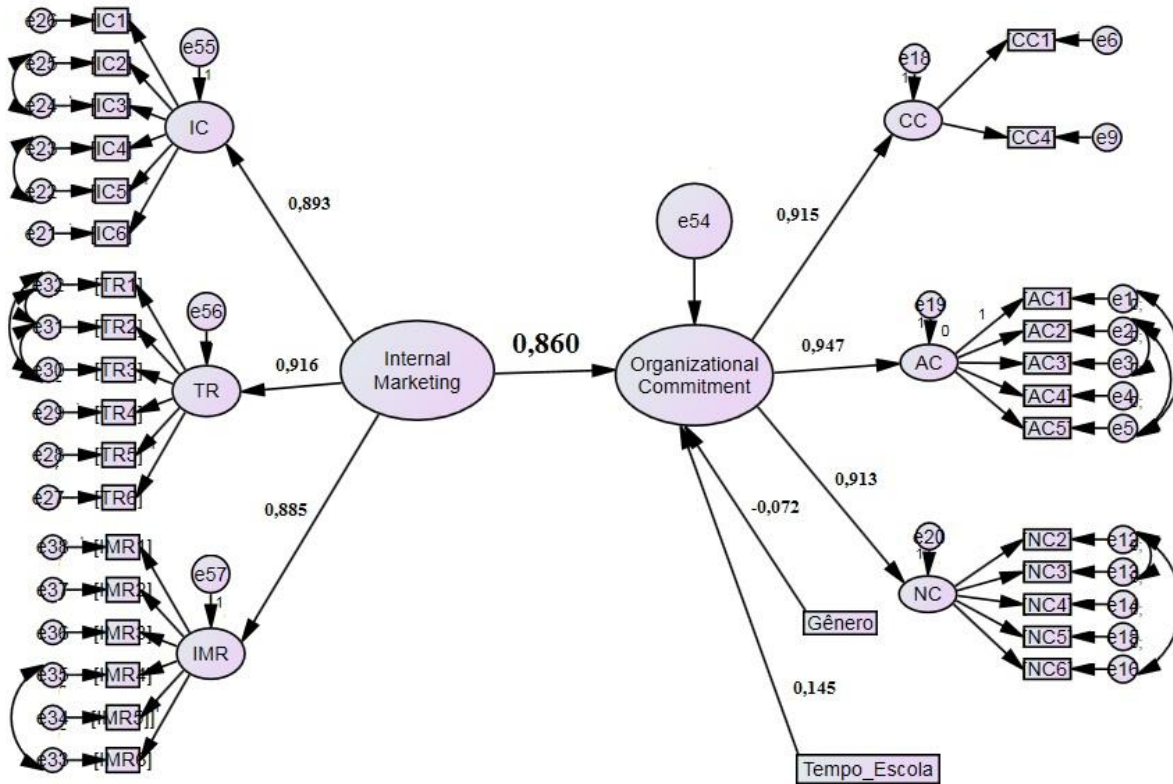
		Quotes applied in survey*	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Disagree
INTRINSIC MOTIVATION		My job in this school is very exciting	4,94%	10,91%	27,27%	45,19%	11,69%
		My job is so interesting that it is a motivation in itself	5,71%	12,47%	25,45%	44,94%	11,43%
		The tasks that I do at work are enjoyable	5,45%	12,99%	27,01%	44,68%	9,87%
		My profession is meaningful	2,34%	4,94%	9,61%	29,35%	53,77%
		The tasks that I do at work are themselves representing a driving power in my profession	4,42%	10,91%	31,43%	39,22%	14,03%
		Sometimes I become so inspired by my job that I almost forget everything else around me	9,35%	19,48%	25,97%	31,43%	13,77%
EXTRINSIC MOTIVATION		External incentives such as bonuses and provisions are essential for how well I perform my job	11,43%	13,25%	21,30%	28,57%	25,45%
		It is important for me to have an external incentive to strive for in order to do a good job	12,47%	18,96%	27,53%	24,66%	16,36%
		If I had been offered better pay, I would have done a better job	31,95%	27,27%	20,26%	14,03%	6,49%
		If I am supposed to put in extra effort in my job, I need to get extra pay	28,57%	24,16%	16,88%	19,22%	11,17%
INTERNAL COMMUNICATION		My organization communicates a clear brand image to me.	3,90%	7,53%	30,65%	41,5584416	16,36%
		There is an internal communication program for all employees in my organization.	4,16%	8,83%	26,23%	40,5194805	20,26%
		All communication materials reflect a consistent style in this school.	2,86%	14,55%	34,03%	41,038961	7,53%
		Employees at all levels understand the direction and key priorities of my organization.	4,42%	18,96%	34,81%	33,5064935	8,31%
		In this school, communications are appropriate.	3,38%	10,91%	26,75%	45,1948052	13,77%
		Messages that I receive are aligned with business wide communication.	5,71%	11,69%	36,36%	37,1428571	9,09%

INTERNAL MARKET RESEARCH	TRAINING	The school focuses efforts on training employees.	2,86%	9,35%	22,08%	43,64%	22,08%
		This school provided an orientation program for me.	17,66%	21,30%	26,75%	27,01%	7,27%
		The training in my school has enabled me to do my job well.	11,43%	15,58%	33,77%	30,39%	8,831%
		This school teaches me why I should do things.	12,47%	26,23%	36,88%	19,48%	4,94%
		Skill and knowledge development happens as an ongoing process in this school.	6,49%	12,47%	30,65%	39,48%	10,91%
		My school provides support to develop my communication skills in order to achieve organizational goals.	7,79%	18,44%	32,47%	31,69%	9,61%
INTERNAL MARKET RESEARCH		Principal and coordinators gathers teachers feedback orally.	7,79%	17,40%	24,94%	38,18%	11,69%
		The school regularly seeks teachers suggestions.	8,57%	19,22%	25,97%	33,51%	12,73%
		This school collects data on teachers complaints.	9,87%	21,82%	30,39%	28,83%	9,09%
		The school does a lot of internal marketing research.	19,22%	25,19%	43,64%	9,610%	2,34%
		Principal and coordinators talks with me and other colleagues to identify issues that we may have.	9,87%	17,14%	28,05%	31,43%	13,51%
AFFECTIVE COMMITMENT		The school surveys employees, through a written method, at least once a year to assess the quality of employment.	27,01%	20,78%	22,60%	19,22%	10,39%
		I feel a strong sense of belonging to my institution.	3,38%	9,09%	20,0%	39,48%	28,05%
		I feel 'emotionally attached' to this school.	5,45%	5,97%	16,88%	42,34%	29,35%
		I feel like 'part of the family' at my school.	5,97%	10,91%	19,74%	34,29%	29,09%
		I talk up this school to others as a great organization to work for.	4,94%	7,53%	22,08%	38,70%	26,75%
		I really feel as if this institution's problems are my own.	5,71%	12,208%	27,27%	37,66%	17,14%

CONTINUANCE COMMITMENT	Right now, staying with this school is a matter of necessity as much as desire.	8,05%	9,87%	21,04%	36,36%	24,68%
	It would be very hard for me to leave this institution right now, even if I wanted to.	15,06%	14,81%	25,45%	25,19%	19,48%
	If I had not already put so much of myself into this institution, I might consider working elsewhere	20,52%	22,60%	35,58%	14,55%	6,75%
	I would be very happy to spend the rest of my career with this school.	7,53%	12,47%	27,79%	26,23%	25,97%
	I feel that I have few options to consider leaving this school.	13,77%	17,14%	27,01%	27,53%	14,55%
	One of the major reasons I continue to work for this school is that leaving would require considerable personal sacrifice – another organization may not match the overall benefits I have here.	18,44%	20,0%	28,052%	21,04%	12,47%
	One of the few consequences of leaving this school would be the scarcity of available alternatives.	25,19%	22,08%	24,94%	16,36%	11,43%
NORMATIVE COMMITMENT	I do not feel any obligation to remain with the current school.	23,38%	21,82%	28,05%	16,36%	10,39%
	Even if it were to my advantage, I do not feel it would be right to leave my school now	16,88%	22,08%	27,79%	20,78%	12,47%
	I would feel guilty if I left this school now.	29,09%	23,12%	22,08%	16,88%	8,83%
	This school deserves my loyalty.	9,35%	13,51%	25,45%	28,57%	23,12%
	I would not leave this school right now because I have a sense of obligation to the people in it.	17,40%	17,41%	29,35%	21,04%	14,81%
	I owe a great deal to this institution.	19,74%	17,92%	30,91%	19,22%	12,208%

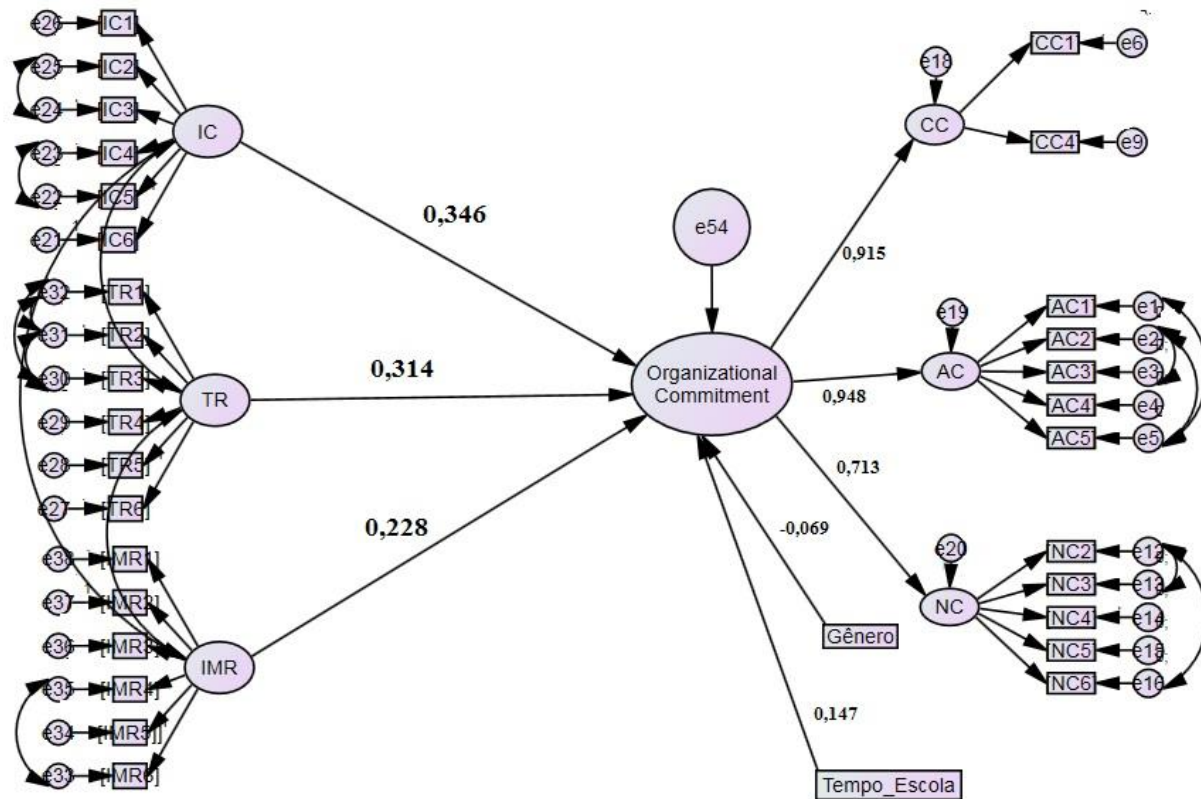
Note. *The quotes were translated from the Portuguese version applied in the survey into English, by the current student, in order to contextualize the few differences in the vocabulary used to analyze the sample.

Image I. Structural Equation Modeling for IM relation with OC, without the IMO mediator, with the respective standardized regression weight values. Next to the image, the model fit indicators of these construct can be analyzed.



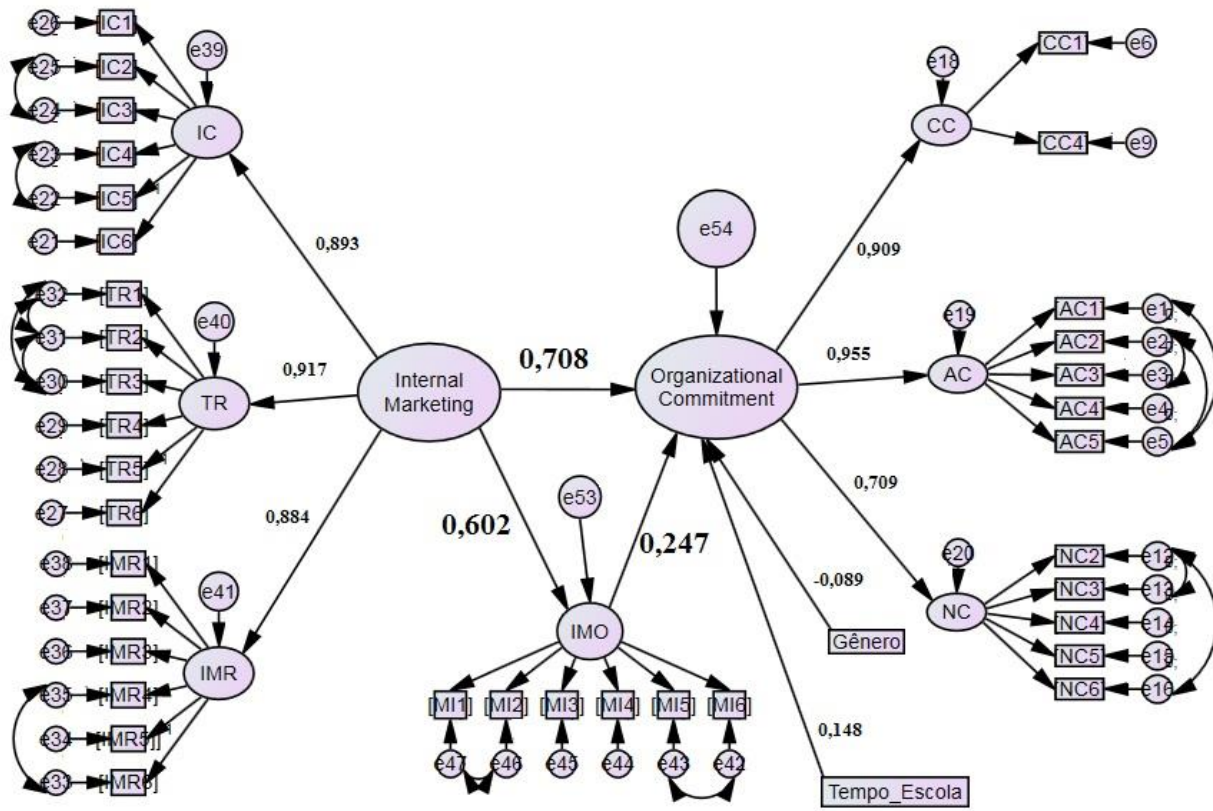
Statistical Indicators	Structure Model
χ^2/df	1,996
NFI	0,907
CFI	0,951
RMSEA	0,051

Image II. Structural Equation Modeling for IC, TR and IMR relation with OC, without the IMO mediator, with the respective standardized regression weight values. Next to the image, the model fit indicators of these construct can be analyzed.



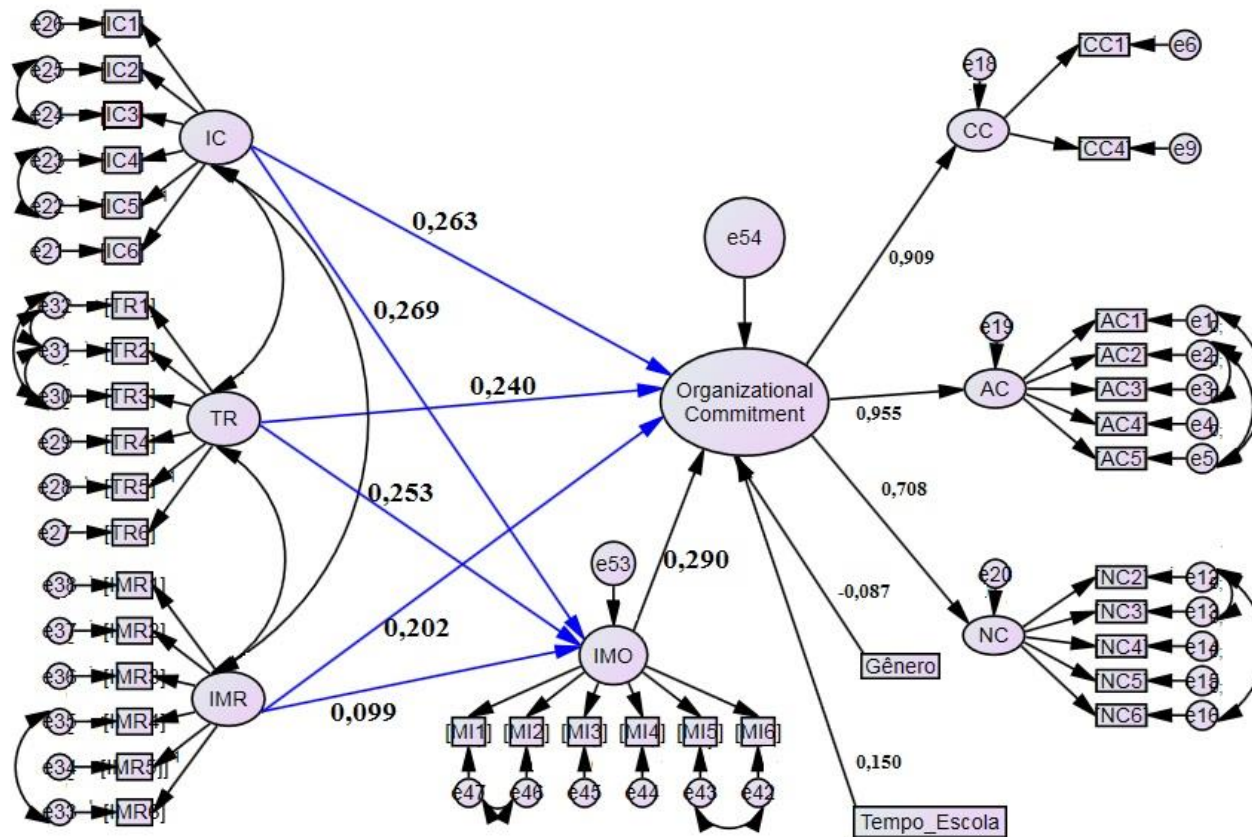
Statistical Indicators	Structure Model
χ^2/df	2,003
NFI	0,907
CFI	0,951
RMSEA	0,051

Image III. Structural Equation Modeling for mediation effect of IMO in the relation of IM and OC, with the respective standardized regression weight values. Next to the image, the model fit indicators of these construct can be analyzed.



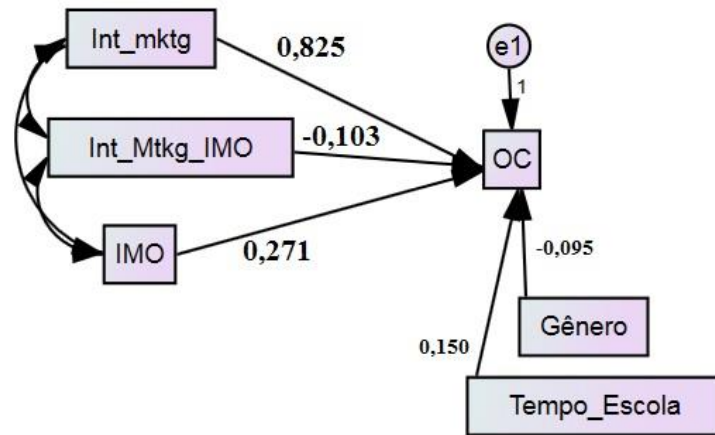
Statistical Indicators	Structure Model
χ^2/df	1,831
NFI	0,898
CFI	0,951
RMSEA	0,047

Image IV. Structural Equation Modeling for mediation effect of IMO in the relation of IC, TR and IMR with OC, in which the respective standardized regression weight values are displayed. The direct effect of IC, TR and IMR with OC and IMO was highlighted in blue in order to facilitate the visualization. Next to the image, the model fit indicators of these construct can be analyzed.



Statistical Indicators	Structure Model
χ^2/df	1,840
NFI	0,898
CFI	0,950
RMSEA	0,047

Image V. Path Analysis method to evaluate the moderation effect of IMO in the relation of IM with OC, in which the respective standardized regression weight values are displayed. Next to the image, the model fit indicators of these construct can be analyzed.



Statistical Indicators	Structure Model
χ^2/df	1,530
NFI	0,996
CFI	0,998
RMSEA	0,037

Image V.a. Path Analysis method to evaluate the mediation effect of IMO in the relation of IM with OC, in which the respective standardized regression weight values are displayed. **V.b.** Path Analysis method to evaluate the mediation effect of IMO in the relation of IC, TR and IMR with OC, in which the respective standardized regression weight values are displayed

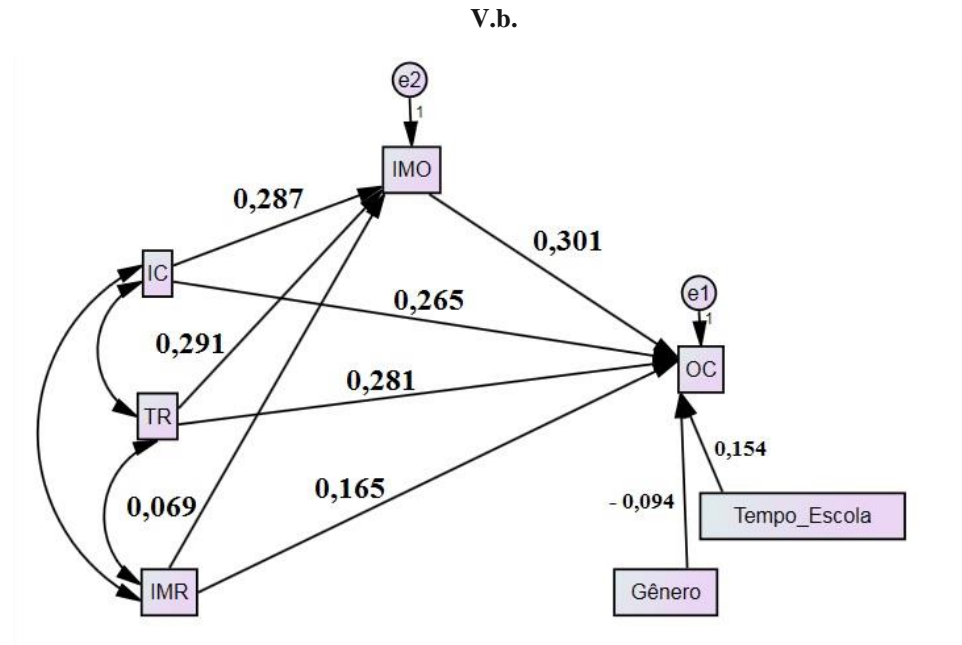
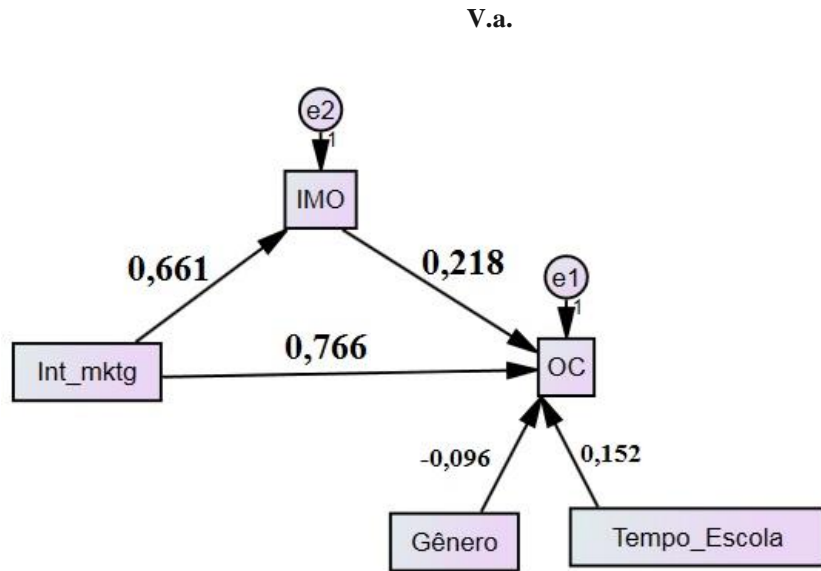


Table III. Normality Assessment (kurtosis)

Variable	kurtosis	c.r.
Gênero	-0,373	-1,496
Tempo_Escola	-1,494	-5,984
MI1	0,071	0,285
MI2	-0,111	-0,446
MI3	-0,115	-0,461
MI4	1,707	6,835
MI5	-0,098	-0,392
MI6	-0,838	-3,356
IMR1	-0,637	-2,55
IMR2	-0,778	-3,115
IMR3	-0,764	-3,06
IMR4	-0,417	-1,671
IMR5	-0,754	-3,021
IMR6	-1,145	-4,584
TR1	0,067	0,267
TR2	-1,021	-4,088
TR3	-0,613	-2,457
TR4	-0,563	-2,254
TR5	-0,21	-0,84
TR6	-0,584	-2,341
IC1	0,221	0,885
IC2	0,014	0,057
IC3	-0,183	-0,734
IC4	-0,464	-1,859
IC5	0,044	0,178
IC6	-0,043	-0,172

NC6	-0,989	-3,962
NC5	-1,023	-4,098
NC4	-0,778	-3,117
NC3	-1,027	-4,113
NC2	-0,999	-4
CC4	-0,716	-2,866
CC1	-0,352	-1,409
AC5	-0,332	-1,329
AC4	0,1	0,401
AC3	-0,363	-1,453
AC2	0,566	2,265
AC1	0,007	0,028
Multivariate	269,72	47,993

Image VI. Frequency histogram of IMO (VIa), OC (VIb) and IM (VIc) variables superimposed with a normal distribution.

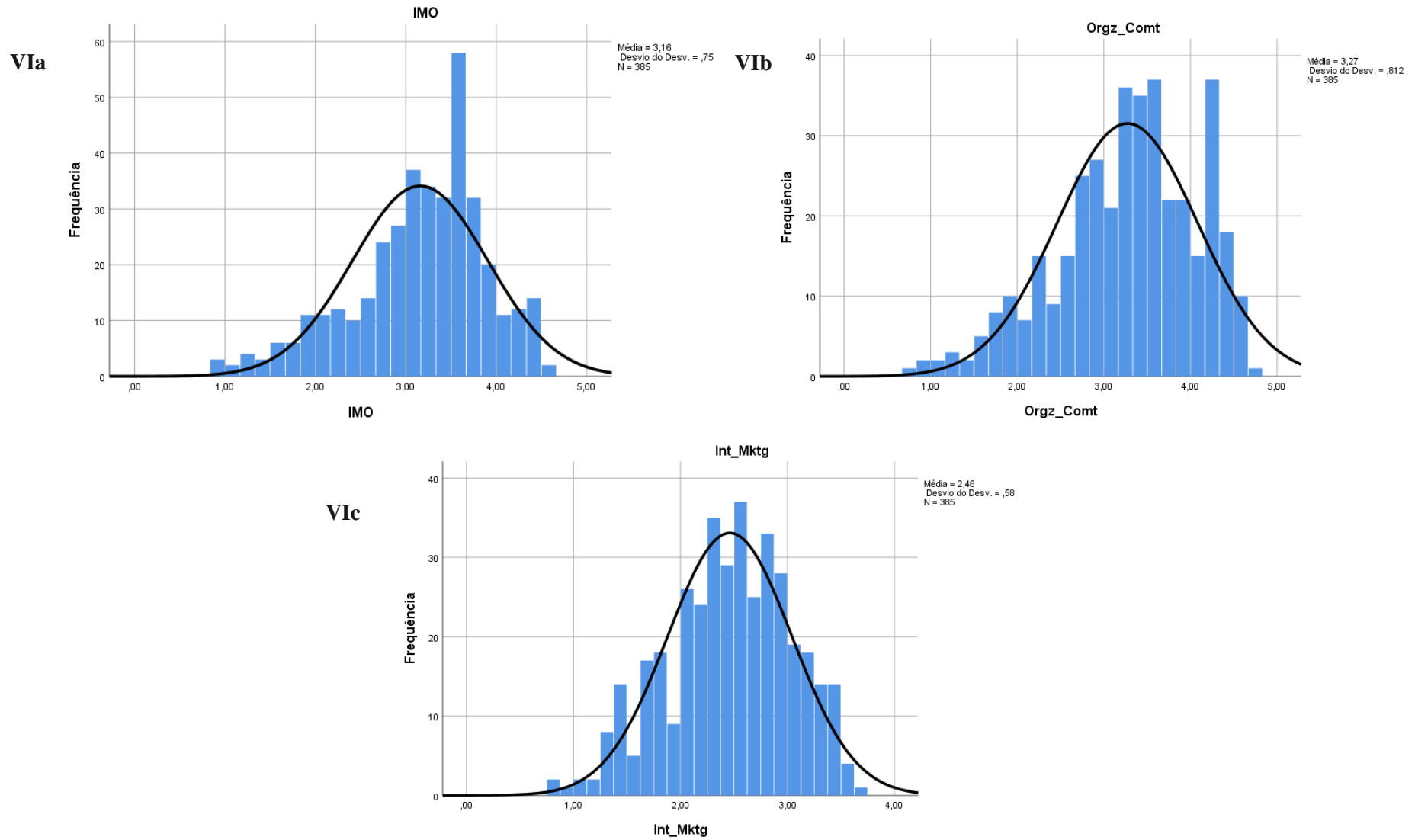


Image VII. Frequency histogram of IC (**VIIa**), TR (**VIIb**) and IMR (**VIIc**) variables superimposed with a normal distribution.

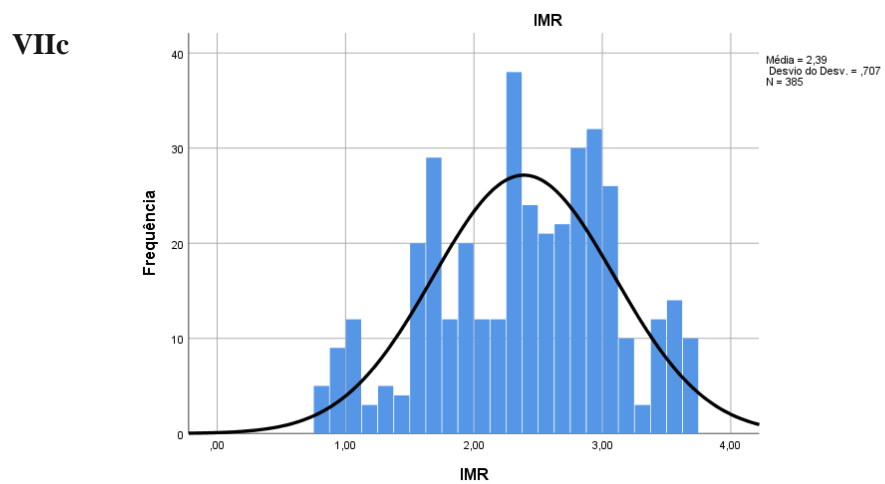
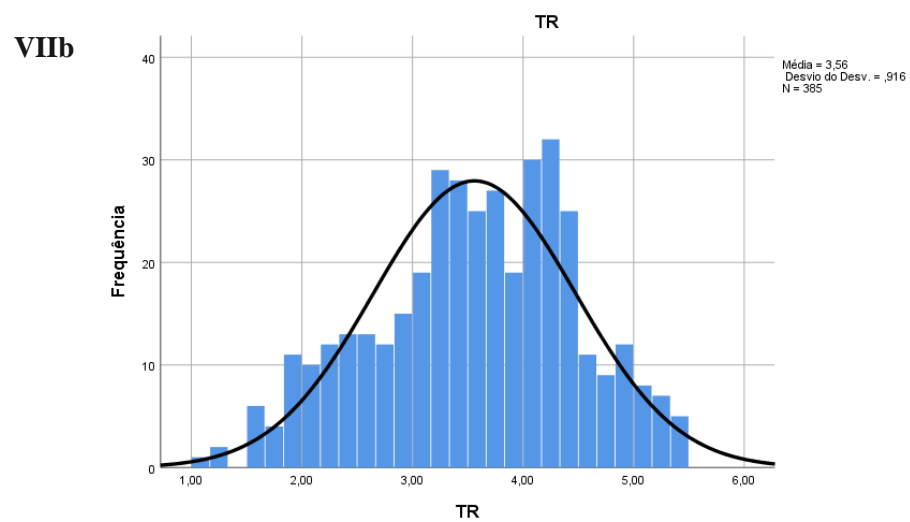
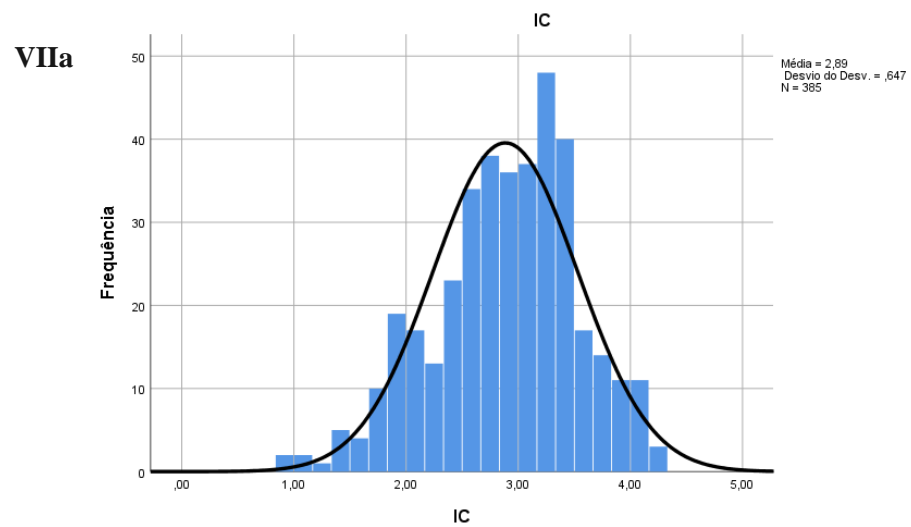


Image VIII. Frequency histogram of AC (VIIIa), NC (VIIIb) and CC (VIIIc) variables superimposed with a normal distribution.

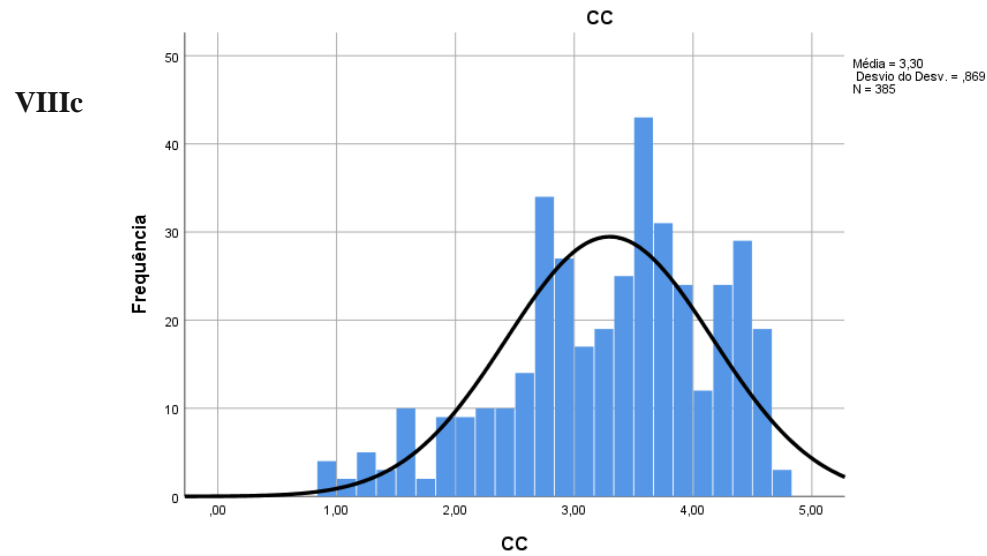
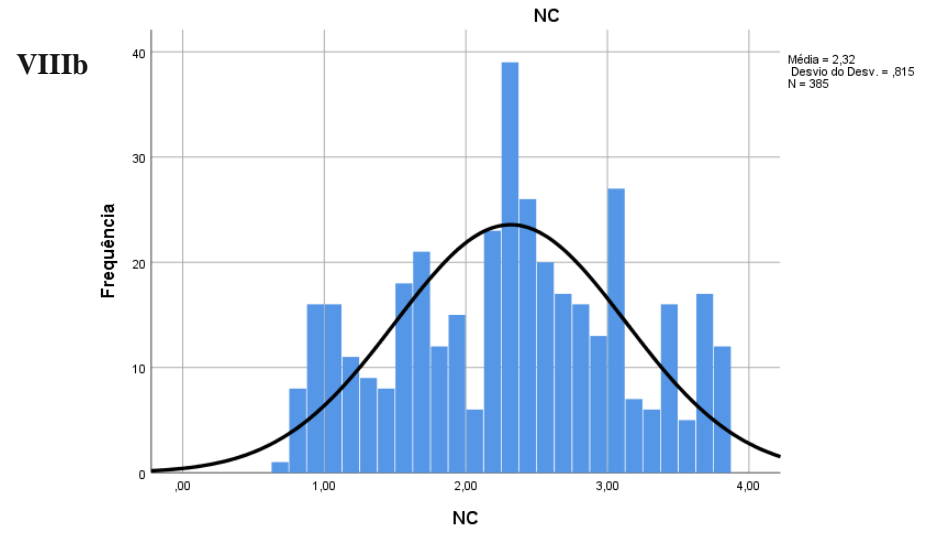
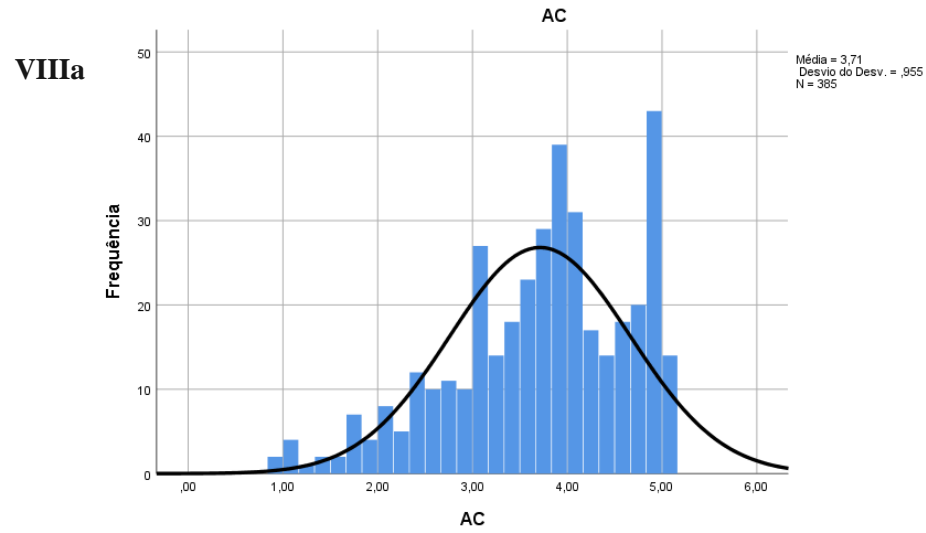


Table IV. D² Mahalanobis indicator for Internal Marketing (IM), Organizational Commitment (OC) and Intrinsic Motivation (IMO) variables, and their respective *p* values, in which values lower than 0,005 are the ones that have the potential to be considered *outliers* (Hair *et al.*, 2009), and are highlighted in grey.

INTERNAL MARKETING				ORGANIZATIONAL COMMITMENT				INTRINSIC MOTIVATION			
Observed variable	Mahalanobis D ²	p1	p2	Observed variable	Mahalanobis D ²	p1	p2	Observed variable	Mahalanobis D ²	p1	p2
349	94,456	,000	,000	345	77,624	,000	,000	349	50,328	,000	,000
71	64,298	,000	,000	299	52,316	,000	,000	159	35,983	,000	,000
239	60,320	,000	,000	239	46,587	,000	,000	373	33,985	,000	,000
263	57,605	,000	,000	228	46,045	,000	,000	326	25,644	,000	,000
7	49,342	,000	,000	264	45,570	,000	,000	316	25,303	,000	,000
35	48,829	,000	,000	40	43,963	,000	,000	239	22,483	,001	,000
275	46,540	,000	,000	349	41,338	,000	,000	224	22,367	,001	,000
10	44,902	,000	,000	344	38,797	,001	,000	321	21,797	,001	,000
105	44,829	,000	,000	312	38,686	,001	,000	71	21,467	,002	,000
112	44,582	,000	,000	18	36,833	,001	,000	372	21,182	,002	,000
301	43,730	,001	,000	366	35,603	,002	,000	47	20,660	,002	,000
345	43,435	,001	,000	301	35,538	,002	,000	366	20,587	,002	,000
269	42,294	,001	,000	231	35,382	,002	,000	44	19,603	,003	,000
292	42,144	,001	,000	112	35,085	,002	,000	272	18,749	,005	,000
227	40,826	,002	,000	128	34,821	,003	,000	367	18,482	,005	,000
255	39,596	,002	,000	81	34,224	,003	,000	327	17,878	,007	,000
253	38,644	,003	,000	293	33,938	,003	,000	100	17,855	,007	,000
272	38,175	,004	,000	132	33,739	,004	,000	352	17,580	,007	,000

36	37,553	,004	,000	292	33,690	,004	,000	158	17,567	,007	,000
4	37,219	,005	,000	374	33,120	,005	,000	183	16,644	,011	,000
128	36,927	,005	,000	256	31,890	,007	,000	99	15,858	,015	,000
333	36,922	,005	,000	17	31,641	,007	,000	266	15,581	,016	,000
229	36,372	,006	,000	222	31,117	,008	,000	292	15,182	,019	,000
30	36,033	,007	,000	332	30,760	,009	,000	228	15,117	,019	,000
47	36,031	,007	,000	12	30,444	,010	,000	229	14,817	,022	,000
293	35,902	,007	,000	234	29,537	,014	,000	143	14,615	,023	,000
247	35,710	,008	,000	368	29,410	,014	,000	168	14,476	,025	,000
316	35,289	,009	,000	269	29,326	,015	,000	348	14,394	,026	,000
95	34,722	,010	,000	253	29,278	,015	,000	3	14,246	,027	,000
326	34,655	,010	,000	363	29,275	,015	,000	284	13,787	,032	,000
102	34,553	,011	,000	372	28,795	,017	,000	18	13,732	,033	,000
262	33,779	,013	,000	321	28,311	,020	,000	2	13,603	,034	,000
374	33,599	,014	,000	65	28,259	,020	,000	253	13,483	,036	,000
233	33,593	,014	,000	188	28,224	,020	,000	127	13,165	,040	,000
164	33,256	,016	,000	71	27,492	,025	,000	358	13,148	,041	,000
378	33,018	,017	,000	73	27,167	,027	,000	336	12,697	,048	,000
42	32,007	,022	,000	175	27,165	,027	,000	308	12,321	,055	,001
342	31,250	,027	,000	224	27,146	,028	,000	7	12,311	,055	,000
343	31,083	,028	,000	258	27,143	,028	,000	83	12,311	,055	,000
203	30,909	,029	,000	183	27,040	,028	,000	311	12,311	,055	,000
31	30,886	,030	,000	275	26,989	,029	,000	368	12,311	,055	,000
353	30,604	,032	,000	83	26,879	,030	,000	148	12,145	,059	,000
224	30,341	,034	,000	143	26,210	,036	,000	278	12,111	,060	,000

271	30,260	,035	,000	371	25,912	,039	,000	68	12,006	,062	,000
284	30,167	,036	,000	271	25,847	,040	,000	169	11,913	,064	,000
273	30,077	,037	,000	78	25,844	,040	,000	42	11,519	,074	,001
166	30,051	,037	,000	290	25,612	,042	,000	345	11,440	,076	,001
331	29,748	,040	,000	326	25,588	,043	,000	251	11,302	,079	,001
84	29,733	,040	,000	95	25,092	,049	,000	213	11,263	,081	,001
321	29,621	,041	,000	315	25,028	,050	,000	264	10,836	,094	,012
104	29,560	,042	,000	4	24,902	,051	,000	223	10,806	,095	,009
86	29,553	,042	,000	291	24,776	,053	,000	111	10,720	,097	,010
332	29,320	,045	,000	184	24,370	,059	,000	84	10,675	,099	,009
184	29,166	,046	,000	294	24,328	,060	,000	256	10,664	,099	,006
174	29,085	,047	,000	213	24,253	,061	,000	94	10,658	,100	,004
76	29,079	,047	,000	47	24,143	,063	,000	173	10,511	,105	,008
40	29,036	,048	,000	323	24,132	,063	,000	233	10,346	,111	,015
132	29,026	,048	,000	237	24,099	,063	,000	95	10,321	,112	,012
21	28,856	,050	,000	169	23,806	,068	,000	93	10,316	,112	,008
267	28,834	,050	,000	242	23,680	,071	,000	124	10,284	,113	,007
39	28,763	,051	,000	98	23,574	,073	,000	315	10,047	,123	,023
295	28,568	,054	,000	174	23,192	,080	,000	80	10,021	,124	,019
90	28,525	,055	,000	200	23,047	,083	,000	40	10,013	,124	,014
380	28,451	,056	,000	114	22,992	,084	,000	154	9,919	,128	,018
2	28,409	,056	,000	50	22,956	,085	,000	283	9,724	,137	,042
103	28,269	,058	,000	194	22,913	,086	,000	192	9,682	,139	,040
170	28,264	,058	,000	335	22,573	,094	,000	37	9,634	,141	,039
264	27,853	,064	,000	210	22,539	,094	,000	126	9,576	,144	,041

294	27,757	,066	,000	3	22,536	,094	,000	374	9,534	,146	,039
352	27,673	,067	,000	254	22,531	,095	,000	115	9,461	,149	,045
223	27,663	,067	,000	57	22,329	,099	,000	172	9,372	,154	,057
44	27,294	,074	,000	378	22,150	,104	,000	98	9,254	,160	,085
190	27,262	,074	,000	318	22,050	,107	,000	65	9,108	,168	,139
383	27,086	,077	,000	148	21,872	,111	,000	5	8,959	,176	,218
136	26,939	,080	,000	142	21,853	,112	,000	227	8,939	,177	,197
261	26,105	,097	,000	44	21,683	,116	,000	166	8,830	,183	,256
148	25,912	,102	,000	30	21,629	,118	,000	375	8,757	,188	,287
372	25,842	,103	,000	115	21,608	,119	,000	178	8,560	,200	,467
350	25,405	,114	,000	158	21,314	,127	,000	254	8,502	,204	,489
12	25,249	,118	,000	127	21,080	,134	,000	66	8,460	,206	,491
259	25,065	,123	,000	14	20,984	,137	,000	188	8,442	,207	,464
115	24,808	,130	,000	316	20,960	,138	,000	385	8,268	,219	,634
62	24,521	,139	,000	155	20,959	,138	,000	305	8,252	,220	,606
327	23,999	,155	,001	35	20,876	,141	,000	149	8,163	,226	,669
231	23,899	,158	,001	331	20,813	,143	,000	17	8,134	,228	,659
172	23,869	,159	,001	104	20,774	,144	,000	8	8,095	,231	,661
78	23,821	,161	,001	348	20,717	,146	,000	226	8,060	,234	,660
251	23,675	,166	,001	68	20,662	,148	,000	238	8,050	,234	,627
155	23,185	,184	,011	355	20,580	,151	,000	293	7,999	,238	,646
83	22,951	,192	,025	89	20,487	,154	,000	328	7,999	,238	,600
249	22,921	,194	,022	192	20,451	,155	,000	164	7,977	,240	,583
169	22,831	,197	,025	278	20,416	,157	,000	51	7,951	,242	,570
178	22,825	,197	,019	250	20,394	,157	,000	128	7,915	,244	,571

308	22,785	,199	,017	80	20,195	,165	,000	176	7,842	,250	,621
290	22,777	,199	,013	51	20,161	,166	,000	157	7,790	,254	,646
183	22,552	,208	,030	105	20,056	,170	,000	363	7,687	,262	,730
314	22,536	,209	,024	82	19,746	,182	,000	346	7,651	,265	,733
142	22,521	,210	,020	279	19,556	,190	,001	153	7,567	,272	,790
381	22,476	,212	,018	93	19,515	,191	,001	257	7,286	,295	,956
70	22,387	,215	,021	260	19,415	,196	,001	309	7,193	,303	,974