



UC/FPCE_2016

Universidade de Coimbra
Faculdade de Psicologia e de Ciências da Educação

**Knowledge Management and Work Motivation following
Self-Determination Theory: An Empirical Research**

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Dissertação de Mestrado em Psicologia das Organizações e do
Trabalho sob a orientação de Professora Doutora Leonor Pais e
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Knowledge Management and Work Motivation following Self-Determination Theory: An Empirical Research

Purpose: This paper a) aims to investigate the relation between Knowledge Management (KM) and work motivation (following Self-Determination Theory); b) analyses the relevance of proposing profiles of workers; and c) assesses the differences in work motivation as a result of the profiles created.

Design/methodology/approach: This is a quantitative and cross-sectional research. Participants are from Portuguese organizations (N=695). The self-administered questionnaires KMQ-SF and MWMS are used. Correlational analysis, cluster analysis and MANOVA are performed.

Findings: As we advance on the motivation continuum to more autonomous work motivation, the relation to KM strengthens (from negative, to weak and moderate effect sizes) supporting SDT. Four out of ten profiles showed a statistically significant global effect on work motivation: High KM Profile (8.3%), followed by the Low KM Profile (6.4%), the Low/Moderate Formal KM Profile (6.3%) and the Low/Moderate Competitive KM Profile (3.9%).

Research limitations/implications: Limitations concern the fact that: 1) this is a transversal study, and 2) this is a correlational study, which implies that the inference of causality cannot be assumed.

Practical implications: This paper suggests a well-adjusted KM strategy, which may better one's performance and well-being, by strengthening more self-determined motivations and decreasing *Amotivation*. At the same time, hiring new employees based on their autonomous motivation to the specific tasks they will perform can strengthen KM processes.

Originality/value: This paper supports SDT and corroborates the notion that KM and work motivation are related, mainly considering autonomous motivation.

Keywords: *Self-Determination Theory; Knowledge Management; Work Motivation; Knowledge Management Questionnaire; Multidimensional Work Motivation Scale.*

Acknowledgements

Firstly, I would like to express my deepest thanks to my supervisors. Professora Lisete, thank you for your willingness to share your knowledge. Professora Leonor, I deeply admire the work you do and the way you view teaching, Psychology and life. When I grow up I want to be just like you. Thank you for believing in me and guiding me through my rough patches. I would also like to thank Professor Nuno. I wholeheartedly appreciate everything you've done for me and I want you to know how much I value your support. To work with you is to be intrinsically motivated and that is all I could ever ask for during this process. I hope one day, somehow, I can repay you.

Secondly, I would like to thank my family. For everything you have done for me. You have been nothing but supportive through my worst moments, understanding of my absences and inspiring throughout my entire life and especially throughout this extraordinary phase. You have all shaped me into a better person. Mãe, thank you for your friendship and encouragement. Dad, thank you for always knowing what to say to make me feel better. Mark, thank you for always making me smile. Manix, obrigada por todo o teu carinho. Without all of you I have no doubt I would be a disgrace. Thank you to my grandparents, my aunt and uncle and cousins, who even from a distance always support me. A very special thank you to my Grandad Mike, my favorite storyteller. You have the most contagious sense of humor and your wisdom inspires me every day. I love you very much. À Lena e ao Val, por serem um porto de abrigo para toda a família. Vocês são parte de nós. To Ana, Manuela, Patrícia, Nuno, Sofia, Teresinha and João, thank you for being my second family.

I would also like to thank my best friend, Raquel. You have been the foundation of my happiness for many years. You are the best person I know and I adore the way you embrace life in its fullness. I am very lucky to have you by my side.

A special thank you to my friends who have made this process a little less stressful with our study sessions (let's call them that). Catarina, Sofia, Patrícia and Claudia, thanks for the past couple of years. You have been a great part of my life and I am grateful for all our moments together. A special thanks to the one person who has remained constant in my academic life – Eliana. I admire your sweetness and thank you for catching me when I fall. To everyone else who has, in some way, made my days brighter during my Faculty years, a sincere thank you.

To Paul, the love of my life, a huge thank you. Throughout our years together you have made me stronger. I love you deeply and I hope you know how much I appreciate every day we have together. Thank you for putting up with my moody self, my messy ways and my weird requests. We have been through a lot but it's going to get easier now. This is for you.

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Introduction

The aim of the present study is to assess the relation between Knowledge Management (KM) and work motivation. More precisely, the goal of this research is to evaluate if and how each of the constructs' dimensions are associated. The understanding of KM and work motivation is essential for practitioners targeting a useful and conscious organizational strategy and for researchers advancing our understanding of the processes underlying work motivation and its association to KM.

Whenever we study KM we are examining one of the most important mechanisms that make an organization's wheels turn. By allowing an organization to be dynamic in the ever-changing business world, KM is of the upmost importance to organizations everywhere on the globe (Armistead, 1999; Durst & Wilhelm, 2012; Jiménez-Jiménez, Martínez-Costa, & Sanz-Valle, 2014; López-Nicolás & Meroño-Cerdán, 2011; Yang, 2008). Organizational knowledge is "an unending resource which, unlike others, increases the more it is used" (Cardoso, 2007a, p. 45) and it is, consequently, a distinction factor and a vital element for maintaining organizational value (Cardoso, 2003, 2007a, 2007b; Castro, Júnior, & Pinto, 2012; Civi, 2000; Pais & dos Santos, 2015).

Davenport and Prusak (1998) define knowledge as the "fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information" (p. 5). The perspective that KM is a number of efforts to improve and advance organizational circumstances that catalyze all processes and practices related to knowledge, in order to fulfill organizational objectives (Cardoso, 2007a), is the one adopted in this article. For the abovementioned efforts to be fruitful, there is a fundamental need for the existence of an organizational culture that thrives on the creation, sharing and use of knowledge (Janz & Prasarnphanich, 2003; Rai, 2011) and of organizational actors that have been motivated to work (Pais, 2014).

Work motivation has also been a core focus of organizational and work psychology for several years (Steers, Mowday, & Shapiro, 2004) and is essential to organizational endurance. The fact that work motivation relates to many other embedded aspects of organizations, such as teams (Othman, Abdullah, & Ahmad, 2009; Rousseau & Aubé, 2013), leadership (Miniotaité & Bučiūnienė, 2013), performance and employee development (Kuvaas & Dysvik, 2009), and organizational commitment (Choong, Wong, & Lau, 2011), makes it clear why so much attention has been given to this topic. Ryan and Deci (2000) define motivation as concerning "energy, direction, persistence and equifinality – all aspects of activation and intention" (p. 69). This definition shares three denominators with others: they are mainly aware of aspects or events that energize, channel and sustain behavior over a period of time (Steers et al., 2004). To understand how human behavior in organizations, and therefore performance, is determined, we may turn to contemporary work motivation theories that direct their efforts to clarifying these denominators. Ryan and Deci's (2000) self-

determination theory (SDT) and its applications to work motivation (Gagné & Deci, 2005) is one of the most recent approaches and the one adopted in this article.

In spite of the vast amount of research done on KM in the last twenty years, the relation between KM and work motivation is still under researched. Accordingly, in this study, our focus is to analyze and investigate which KM dimensions are more and less correlated to work motivation, and of these, which are positive, negative or null.

I – Theoretical Background

Knowledge Management

KM has been widely studied throughout the last twenty years and its relevance for researchers and practitioners has been widely established (e.g. Gu, 2004; Mårtensson, 2000; Matayong & Mahmood, 2013; Patil & Kant, 2014; Ponzi, 2002; Ragab & Arisha, 2013; Serenko, 2013; Wallace, Van Fleet, & Downs, 2011). For example, it has been studied in relation to performance (Reich, Gemino, & Sauer, 2014), teams (Sung & Choi, 2012), leadership (Chi, Lan, & Dorjgotov, 2012) and employee turnover (Fidalgo & Gouveia, 2012).

One of the more inclusive models that conceptualize KM is Cardoso's (2003, 2007a). The author, in an attempt to consolidate the diverse contributions from multiple American, European and Japanese authors, has reached a representation of organizational knowledge and KM that entails 6 groupings and 6 phases, respectively.

The six groupings of organizational knowledge proposed by Cardoso (2003, 2007a) reflect its: (1) levels of knowledge; (2) components; (3) dimensions; (4) an outline of nuclear characteristics; (5) instrumentality; and (6) types. The instrumentality and types of organizational knowledge are essential to our understanding of related organizational processes. As a result, these last two groupings are the most mentioned in other KM models (Coelho, 2015).

Furthermore, Cardoso (2003, 2007a) discusses six processes of KM: (1) *creation and acquisition*, (2) *attribution of meaning*, (3) *sharing and diffusion*, (4) *organizational memory*, (5) *measurement of organizational knowledge* and (6) *retrieval*. More recently, Cardoso and Peralta (2011) have added *use of knowledge* as a seventh process of KM. These processes are structured bearing the organization's goals in mind and are, therefore, set to certain performance standards (Pais, 2014).

Cardoso's model was the framework behind the creation of a questionnaire used to evaluate people's perceptions of KM. This questionnaire (which was revised in 2014 by Pais), has been applied in several recent studies using diverse samples and in numerous economic sectors (Brito, Cardoso, & Gomes, 2005; Cardoso & Peralta, 2011; Cardoso, Gomes, & Rebelo, 2005; Cardoso, Meireles, & Peralta, 2012). From this questionnaire and abovementioned research, a tetradimensional model of

KM was created, which is the model used in the present study. Thus, the first dimension under consideration is *Knowledge Centered Culture*. This dimension includes practices, procedures and rules embedded in the organization and that should be followed by the employees (Pais, 2014). The second dimension is named *Competitive Orientation*, which can be defined as the use of knowledge in a competitive manner, targeting the exterior of the organization (Pais, 2014). The third dimension includes the formally implemented KM practices, focusing on explicit knowledge, termed *Formal KM Practices* (Pais, 2014). The fourth dimension complements the third, as it comprises “spontaneous interactions that aid the social construction of knowledge and is predominantly related to tacit knowledge” (Coelho, 2015, p. 9), called *Informal KM Practices* (Pais, 2014).

Work Motivation

One of the recent and insightful approaches to work motivation is Ryan and Deci’s (2000) self-determination theory (SDT). Much research has been carried out on this approach (e.g. Gagné & Deci, 2005; Gagné et al., 2015; Gagné, 2009; Grant & Berry, 2011; Guntert, 2015; Krieger & Sheldon, 2015; Stone, Deci, & Ryan, 2009; Trépanier, Fernet, & Austin, 2014). In short, SDT has been used to identify several distinct types of motivation, positioned on a self-determination continuum. This continuum ranges from amotivation to intrinsic motivation. The first is the complete lack of self-determination and the second is always self-determined. Extrinsic motivation is located between the two and is, in turn, divided into four types: external, introjected, identified and integrated (in order of degree of self-determination) (Ryan & Deci, 2000; Gagné & Deci, 2005). However, only the seven types of motivation explicit in Gagné et al.’s (2015) study: amotivation, extrinsic (material and social), introjected, identified and intrinsic motivations, will be taken into consideration for the purpose of this research. This is so, due to the theoretical and practical difficulty we find in distinguishing between integrated and intrinsic motivations. The same difficulty was faced by other authors (Gagné et al., 2015) and they assumed the closeness of identified and integrated work motivation, at least when operationalizing it.

As mentioned above, SDT has been applied in numerous research areas and contexts, one of them being work and organizations. SDT states that goal attainment is more likely when efforts are autonomous, rather than when they are controlled externally, and that each of the types of motivation has specific consequences on one’s performance (Ryan & Deci, 2000). Bearing this in mind and since we hypothesize that KM dimensions may have an association with work motivation and on the accomplishment of organizational goals, it is important to consider whether, when and why different types of motivation may influence performance. Cerasoli, Nicklin, and Ford (2014), in their meta-analysis studying 40 years of research, have tried to further our understanding of this matter. They conclude, amongst other things, that (1) there is a positive relation between intrinsic motivation

and performance, meaning that it would be unexpected for one to perform poorly at a task from which one derives personal satisfaction or enjoyment; and (2) intrinsic motivation is a better predictor of quality rather than quantity performance. As a matter of fact and in several studies, autonomous motivation has been positively associated to a better performance or work effort (e.g. Bidee et al., 2013; Callahan, Brownlee, Brtek, & Tosi, 2003; Grant, 2008; Li, Wei, Ren, & Di, 2015; Moran, Diefendorff, Kim, & Liu, 2012).

SDT also suggests that pursuing intrinsic goals has positive effects on well-being because they stimulate the satisfaction of the basic psychological needs for autonomy, competence, and relatedness (Burton, Lydon, D'Alessandro, & Koestner, 2006; Deci & Ryan, 2008; Ilardi, Leone, Kasser, & Ryan, 1993; Ryan & Deci 2000). On the other hand, pursuing extrinsic goals is thought to have negative effects on well-being, as they are less directly satisfying of autonomy, competence and relatedness (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). For example, extrinsic goals tend to be aimed at external displays of worth and associated with disproportionate social comparisons (Lyubomirsky & Ross, 1997) and unsteady self-esteem (Kernis, Brown, & Brody, 2000).

The link between Knowledge Management and Work Motivation

Firstly, we consider that KM, like many other contextual variables (e.g. reward systems (Kunz & Linder, 2012), performance appraisal (Ali, Mahdi, & Malihe, 2012), leadership (Oostlander, Güntert, & Wehner, 2014) and organizational climate (Gök, 2009)) may influence one's drive to work by allowing individuals to find more or less response to their needs. It is also possible to argue the influence of work motivation on KM and, in fact, both directions of relation are possible. Employees search for organizations that are congruent with their values and motivations. Workers motivated by knowledge development and KM will prefer knowledge-intensive jobs and will, consequently, reinforce KM through the way they act within the organization.

Secondly, we consider it is important to study the relation between KM and motivation to work due to the lack of research in this area. That is, the literature on KM and motivation is strongly directed towards the motivation to share knowledge and not the motivation to work (Amin, Hassan, Ariffin, & Rehman, 2011; Bartol & Srivastava, 2002; Huang, Chiu, & Lu, 2013; Hwang, 2008; Lin, 2007; Liu & Fang, 2010; Pais & dos Santos, 2015; Tangaraja, Rasdi, Ismail, & Samah, 2015; Wang & Hou, 2015; Welschen, Todorova, & Mills, 2012; Wu & Zhu, 2012; Yoon & Rolland, 2012).

Thirdly, considering that *Intrinsic Motivation* and *Extrinsic Motivation* have different effects on performance and well-being, we posit that it is essential to understand to what degree KM dimensions may be associated to one's motivation. Thus, our research and the understanding of KM's relation to work motivation may contribute to the design of KM and work motivation strategies directed at both variables (performance and well-

being). In fact, the understanding of that relation may have implications concerning the configuration of KM and work motivation management. The following aspects can be taken into account: a) which KM dimensions are more associated to *Intrinsic Motivation* and other more autonomous motivations such as *Introjected* and *Identified* motivations, contributing to a greater well-being and performance; b) in what way KM dimensions with stronger correlations to *Extrinsic Motivations* (if there are any) contribute to the weakening of well-being and deterioration of performance; and c) which work motivation dimensions are more strongly associated to KM thus enabling knowledge processes within organizations.

With this understanding it may be possible to create coherent and positive KM systems, which consider each dimension both individually and collectively, balancing each of them for the best possible outcome. Likewise, strategies focusing on autonomous motivation rather than extrinsic motivation can foster knowledge development and KM in organizations. This appreciation of KM's relation to motivation may give practitioners a better understanding of a useful and conscious KM and work motivation strategies. It may also give researchers a deeper approach to both constructs for a better understanding of the relations between them.

II – Objectives and Hypothesis

Objectives

Our first objective, as mentioned above, is to assess the correlation between KM dimensions and work motivation dimensions. Taking this in consideration, all the following hypotheses only refer to our first objective. Our second goal is to analyze the existence of differentiated clusters of workers, given the scores of KM dimensions. Lastly, our aim is to compare the work motivation scores in the different KM clusters, thus defining different profiles. In order to reach these two goals, 10 configurations of clusters are taken into consideration in the present study. Two of them are set as the extremes levels (all KM dimensions high – High KM Profile – and low – Low KM Profile). Other two vary in regards to *Competitive Orientation*: High Competitive KM (where *Competitive Orientation* is high and all other dimensions of KM are low) and the opposite of this, Low/Moderate Competitive KM (where *Competitive Orientation* is low or moderate and all other dimensions of KM are high). The remaining 6 profiles follow the same structure: High Formal KM and Low/Moderate Formal KM, High Informal KM and Low/Moderate Informal KM, and High Cultural KM and Low/Moderate Cultural KM.

Hypotheses

There is evidence that, in general, individuals seek development, including expanding their knowledge (Kuvaas & Dysvik, 2009). On the other hand, completely disinvested workers and, therefore, in an amotivation

state, will contribute to the weakening of KM processes as a consequence of the manner in which they do their tasks. Therefore, we predict that all KM dimensions will be negatively correlated to *Amotivation*.

H1: Knowledge Centered Culture is negatively correlated to Amotivation

H2: Informal KM Practices is negatively correlated to Amotivation

H3: Formal KM Practices is negatively correlated to Amotivation

H4: Competitive Orientation is negatively correlated to Amotivation

We also predict that *Extrinsic Motivation* (and specifically *Extrinsic Social Motivation* and *Extrinsic Material Motivation*), which is related to being driven by external consequences (e.g. avoiding punishment or obtaining rewards), will not be correlated to *Knowledge Centered Culture*. We consider this to be true mainly due to the fact that the work context (e.g. the organizational culture) will not change one's tendency to seek external rewards. The reverse may actually be observed: organizations with a higher *Knowledge Centered Culture* may frown upon certain strategies for *Extrinsic Motivation* (social or material). However, a culture revolving around knowledge may improve the way one looks at his or her tasks, as it helps employees make sense of their jobs (Thomas, Sussman, & Hendersson, 2001). This results in a greater appreciation of one's job, which leads us to predict, on the other hand, a positive correlation between this KM dimension and *Introjected, Identified and Intrinsic Motivations* (Lekiqi, 2012; Parker et al., 2003).

H5: Knowledge Centered Culture is not correlated to Extrinsic Motivation

H6: Knowledge Centered Culture is not correlated to Extrinsic Material Motivation

H7: Knowledge Centered Culture is not correlated to Extrinsic Social Motivation

H8: Knowledge Centered Culture is positively correlated to Introjected Motivation

H9: Knowledge Centered Culture is positively correlated to Identified Motivation

H10: Knowledge Centered Culture is positively correlated to Intrinsic Motivation

We also consider that *Informal KM Practices* will have a positive correlation to *Extrinsic Motivation* since the informal conversations or situations at work, which should be used for KM purposes, may be used with ulterior motives. These informal opportunities may be used for purposes of promotion, social acceptance, or simply to make a good impression in the future (Gangsted & Snyder, 2000). Moreover, we predict a stronger correlation between *Informal KM Practices* and *Extrinsic Social Motivation* rather than between *Informal KM Practices* and *Extrinsic Material Motivation*, given our need for relatedness (Ryan & Deci, 2000). So much so that the positive correlation of this KM dimension to *Extrinsic Social Motivation* may be enough to make up its null correlation to *Extrinsic Material Motivation*, adding to our earlier prediction of a positive correlation

to *Extrinsic Motivation* as a whole. On the other hand, the greater amount of internal conversations about tasks and the organization there are, the more sense making exists and the stronger the correlation to *Introjected*, *Identified* and *Intrinsic Motivations* (Haskins, 1996).

H11: Informal KM Practices is positively correlated to Extrinsic Motivation

H12: Informal KM Practices is not correlated to Extrinsic Material Motivation

H13: Informal KM Practices is positively correlated to Extrinsic Social Motivation

H14: Informal KM Practices is positively correlated to Introjected Motivation

H15: Informal KM Practices is positively correlated to Identified Motivation

H16: Informal KM Practices is positively correlated to Intrinsic Motivation

In addition, when one works in organizations with *Formal KM Practices*, certain expectations of training, certification, rewards for their career growth and consequent status or reputation in the workplace are created (Flynn & Philbin, 2014). We therefore predict a positive correlation between *Formal KM Practices* and *Extrinsic Motivation* as a whole. Besides, *Formal KM Practices*, by providing meetings, training sessions, etc., may be: a) positively correlated to *Extrinsic Material Motivation* due to its connection to rising through the ranks and b) positively correlated to *Extrinsic Social Motivation* given its association to being well regarded by co-workers or bosses. Further, these formal practices, as they are opportunities for personal and professional development, may also contribute to higher *Introjected*, *Identified* and *Intrinsic* motivations (Dysvik & Kuvaas, 2008).

H17: Formal KM Practices is positively correlated to Extrinsic Motivation

H18: Formal KM Practices is positively correlated to Extrinsic Material Motivation

H19: Formal KM Practices is positively correlated to Extrinsic Social Motivation

H20: Formal KM Practices is positively correlated to Introjected Motivation

H21: Formal KM Practices is positively correlated to Identified Motivation

H22: Formal KM Practices is positively correlated to Intrinsic Motivation

Concerning *Competitive Orientation*, it is anticipated that this dimension shows a positive correlation to all work motivation factors (see the description of the instrument below), except *Amotivation* as previously mentioned. People strive for a positive social identity that is achieved by being part of groups that are in a constructive way distinctive from significant out-groups (Scheepers, 2009). When groups are challenged (e.g.

by competing with other groups or, in this case, organizations) they are more likely to react by remaining committed to the group (Ellemers, Spears, & Doosje, 1997), and by increasing the effort to improve the group's position (Ouwkerk, De Gilder, & De Vries, 2000). In other words, we predict that the greater the *Competitive Orientation*, the lesser the *Amotivation* will be, because one will be motivated to work in order to beat the team's or the organization's opponent. Competition will also enhance one's drive for contributing to the group's advances and gains, as a member of the organization, resulting in a positive correlation between *Extrinsic Motivation* and *Competitive Orientation*. The prestige gained from one's colleagues or one's community for being part of the victorious group, the consequent social acceptance and the dissolution of any previous shame for not pulling one's share of the weight, may result in a positive correlation between *Competitive Orientation* and *Extrinsic Social Motivation*. The prestige gained from one's colleagues or one's community for being part of the victorious group and the attachment strength between organizational members in a competitive context result in higher motivation to pursue the group's aim (Amiot & Aubin, 2013; Ozeki, 2015; Pantaleo, Miron, Ferguson, & Frankowski, 2014). Therefore, we predict a positive correlation between *Competitive Orientation* and *Extrinsic Social Motivation*. Similarly, the financial bonuses one may receive for being in the winning team may, for example, translate into a positive correlation between *Competitive Orientation* and *Extrinsic Material Motivation* (Manolopoulos, 2008).

We also predict that *Introjected* and *Identified* motivations will be positively correlated to *Competitive Orientation* because competition (and winning) may enhance the feeling of self-worth and strengthen ideas such as "it is important to make an effort so this organization has better services/products for their clients" (Gagné et al., 2015). These ideas result in a sense of pride for doing well by comparison to the group's or the organization's competitors. Furthermore, work motivation seems to be dependent on the level of self-categorization which is salient (Haslam, Powell, & Turner, 2000). In a competitive orientation context the organizational level of self-categorization becomes more salient and the organizational aims motivate individuals to work. Finally, we also consider that *Intrinsic Motivation* will be positively correlated to *Competitive Orientation*, as a consequence of the internal pleasure one feels when he/she wins. Considering that there are qualitatively different forms of competition (Fülöp, 2009), its positive correlation to *Intrinsic Motivation* is predicted at least when in a constructive competition (Tjosvold, Johnson, Johnson, & Sun, 2006).

The predicted positive correlations between all work motivation dimensions (except *Amotivation*) and KM dimensions can also be made based on the idea that strongly motivated to work individuals will make an effort while performing their jobs, and through this, contribute to the KM improvement.

H23: Competitive Orientation is positively correlated to Extrinsic Motivation

H24: Competitive Orientation is positively correlated to Extrinsic Material Motivation

H25: Competitive Orientation is positively correlated to Extrinsic Social Motivation

H26: Competitive Orientation is positively correlated to Introjected Motivation

H27: Competitive Orientation is positively correlated to Identified Motivation

H28: Competitive Orientation is positively correlated to Intrinsic Motivation

Hypotheses that concern Extrinsic Motivation (material and social; H6, H7, H12, H13, H18, H19, H24 and H25), are summarized in Figure 1.2. All other hypotheses are represented in Figure 1.1.

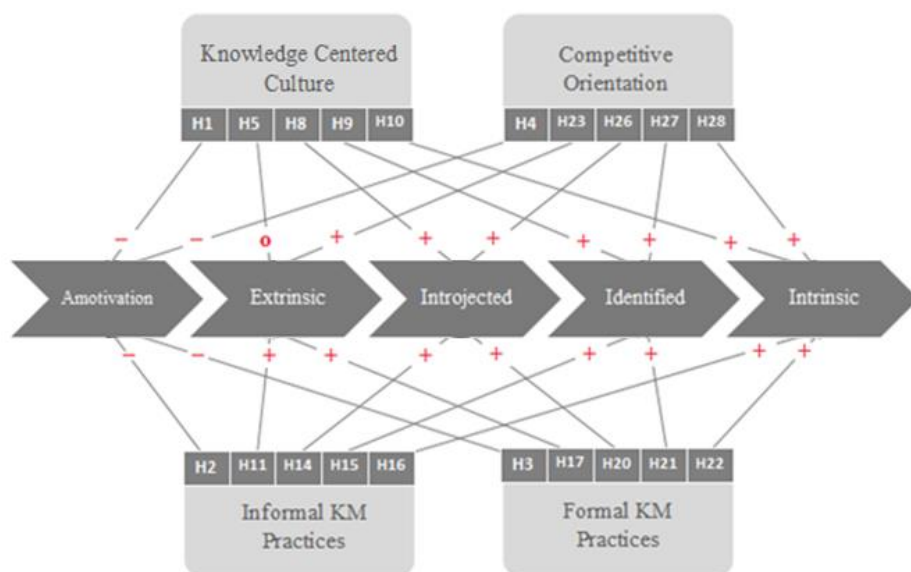


Figure 1.1. Hypotheses; Positive relation (+), Negative relation (-), Null relation (0).

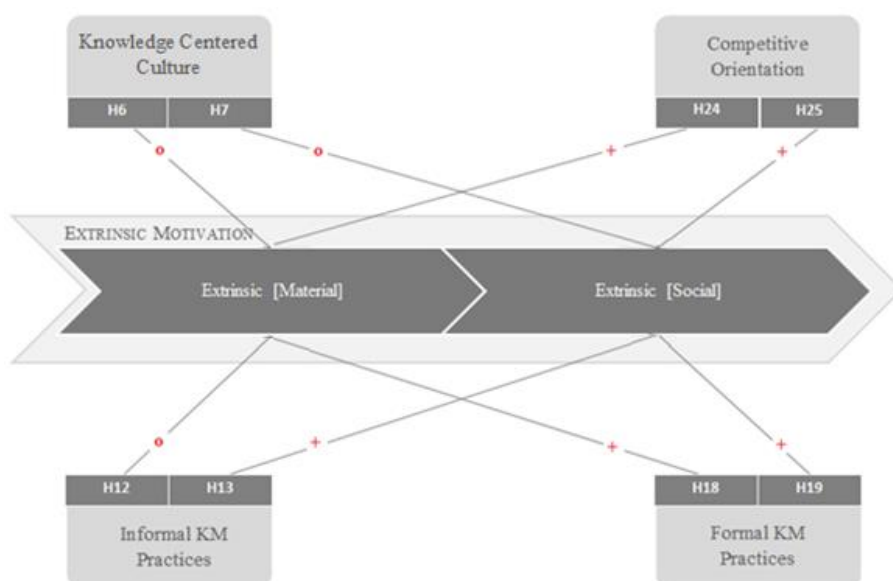


Figure 1.2. Specific hypotheses for Extrinsic Motivation; Positive relation (+), Negative relation (-); Null relation (0).

Although we can posit the abovementioned hypotheses, it is not possible to predict which KM dimensions will have a greater correlation to each type of work motivation. In other words, even though we can predict positive, negative or neutral relations, we cannot state which will have a greater value with different motivational dimensions. Nonetheless, the assessment of the possible differences that may be found will be of the utmost importance, not only in terms of conceptual enhancement but also taking in consideration the practical implications of the results.

III – Method

Research Design and Sample

This is a quantitative and cross-sectional research (Creswell, 2003). It uses a self-administered questionnaire, a survey research technique. The data consists of the replies to a questionnaire by participants from Portuguese organizations from various sectors. Table 1 summarizes the description of the sample used in this study (N=695).

Table 1. Demographic characteristics of the participants

Sample:	(N=695)
Gender	
Male	N = 301 (43.3%)
Female	N = 393 (56.5%)
Unknown	N = 1 (0.1%)
Age	M = 40.89 (SD = 11.84)
Years of work	M = 12.55 (SD = 10.70)
Sector	
Primary	N = 21 (3.0%)
Secondary	N = 146 (21.0%)
Tertiary	N = 504 (72.5%)
Unknown	N = 24 (3.5%)
Education	
ISCED* levels 1 and 2 (\leq 9 years of educ)	N = 239 (34.4%)
ISCED level 3 (12 years of educ)	N = 258 (37.1%)
ISCED level 4 (15/16 years of educ)	N = 76 (10.9%)
ISCED level 5 (17/19 years of educ)	N = 113 (16.3%)
ISCED level 6 (PhD)	N = 4 (0.6%)
Unknown	N = 5 (0.7%)
Types of employment contract	
Sole trader (payment by invoice)	N = 52 (7.5%)
Contractual	N = 183 (26.3%)
Tenure	N = 448 (64.5%)
Unknown	N = 12 (1.7%)
Holding Management / Leadership role	N = 232 (33.4%)
Size of organizations	
Very small (<10)	N = 182 (26.2%)
Small (10-50)	N = 180 (25.9%)
Medium (51-250)	N = 151 (21.7%)
Medium-large (251-1000)	N = 87 (12.5%)
Large (1001-10000)	N = 88 (12.7%)
Very large (>10000)	N = 0 (0.0%)
Unknown	1.0%

*ISCED: *International Standard Classification of Education (UNESCO)*

Procedure

Data was collected through convenience sampling. The project was entitled “Motivation, Attitudes and Opinions at Work” and was conducted by a research team comprised of members from the University of Coimbra (Portugal) and the University of Évora (Portugal).

Participants were approached by key-individuals (undergraduate students), previously trained in regards to: a) the aim of the project, b) procedures concerning participant selection, c) conditions and instructions for applying the questionnaires and d) ethical standards. Key-individuals were asked to give particular emphasis to such ethical procedures as well as the understanding of the items and providing feedback on the global results. According to the Portuguese Psychologists’ National Association, all the requirements were fulfilled to ensure the participants’ anonymity and data confidentiality, considering that all the formal and ethical procedures were followed (Ordem dos Psicólogos Portugueses, 2011). The data was collected in paper-and-pencil format during and after working hours, also, an informed consent was signed by both researchers and participants.

Hypotheses testing data analysis

Firstly, KMQ-SF was validated using confirmatory factor analysis on IBM SPSS AMOS 22.0 (Arbuckle, 2013). In regards to MWMS validation, dos Santos et al.’s (2016) study was followed. Secondly, a descriptive and correlational analysis for each factor of each scale (including the KMQ-SF global scale) was performed. A correlation analysis for each sociodemographic variable and all factors was also performed. Finally, cluster analysis was performed as a way of identifying KM profiles and a MANOVA analysis was performed to understand the correlation between KM, represented in different configurations (profiles), and work motivation.

All the analyses were completed using the statistical program SPSS 20.0 (Statistical Package for the Social Sciences) for Windows operative system. All missing values were substituted by Kline’s (2011) *Expectation Maximization* method. The square distance of Mahalanobis was used to evaluate the existence of outliers (Tabachnick & Fidell, 2001). The normality of the variables was evaluated by the coefficients of asymmetry (Sk) and kurtosis (Ku) univariate and multivariate. None of the variables presented indicated violations of the normal distribution, considering $|Sk| < 2$ e $|Ku| < 2$ (Marôco, 2011). The composite reliability and the average variance extracted for each factor were evaluated as described in Fornell and Larcker (1981).

Measures

Knowledge Management. As mentioned above, Cardoso’s (2003, 2007) KMQ-SF (Knowledge Management Questionnaire - Short Form) was used. This questionnaire includes 22 items that identify and evaluate employees’ perception of the different knowledge management processes. In order to answer this questionnaire, respondents were asked to specify the

extent of applicability of each statement using a five-point Likert scale (from 1 = “almost never applies” to 5 = “almost always applies”). *Knowledge Centered Culture* was measured using 7 items (e.g. “We act according to certain principals”). *Competitive Orientation*, on the other hand, included 4 items (e.g. “We know our competitors have information about us”) and *Formal KM Practices* included 6 items (e.g. “Those who share their knowledge are rewarded”). Finally, *Informal KM Practices* was comprised of 5 items (e.g. “We talk about our organization”).

A confirmatory factor analysis by means of AMOS software was used to evaluate the factorial validity of the questionnaire (Arbuckle, 2013). The quality of the global adjustment of the factorial model can be seen in Table 2¹:

Table 2. Goodness of fit indices of KMQ-SF

KMQ-SF	χ^2/df	df	CFI	NFI	TLI	SRMR	RMSEA	90% CI
Model 1	5.50	203	.85	.82	.82	.06	.08	.08-.09***
Model 2	3.38	201	.89	.86	.87	.06	.07	.07-.08***

X² (chi-square); *df* = degrees of freedom; *CFI* = comparative fit index; *NFI* = normed fit index; *TLI* = Tucker-Lewis index; *SRMR* = standardized root mean square residual; *RMSEA* = root mean square error of approximation, *CI* = confidence interval; ****p* < .001

The values of Model 1 suggest a reasonable model fit for the CFI, NFI, TLI and RMSEA indices. Taking into consideration the modification indices and after analyzing the theoretical reasons, we proceeded to the correlation of the residual variabilities associated to items 1 and 4 (*MI* = 45.63) and items 12 and 17 (*MI* = 165.17). As a result, the values in Model 1 were improved as shown in Model 2. The correlations between these items are due to content similarity (Aish & Jöreskog, 1990). The option of maintaining them was taken considering the use of Pais’ (2014) model and the correlations between the items and their respective dimensions ($\lambda > .30$; Hair, Anderson, Tatham, & Black, 2008). Therefore, we can determine that Model 2 has a reasonable fit to Pais’ (2014) model (see Figure 2).

¹ A model is regarded as acceptable if: the NFI (Normed Fit Index) exceeds .90, the CFI (Comparative Fit Index) exceeds .93, the TLI (Tucker Lewis Index) is over .90, the RMSEA (Root Mean Square Error of Approximation) is lower or equal to .05 (Bentler, 1990; Brown, 2006; Hu & Bentler, 1999; Kline, 2011; Schumacker & Lomax, 1996).

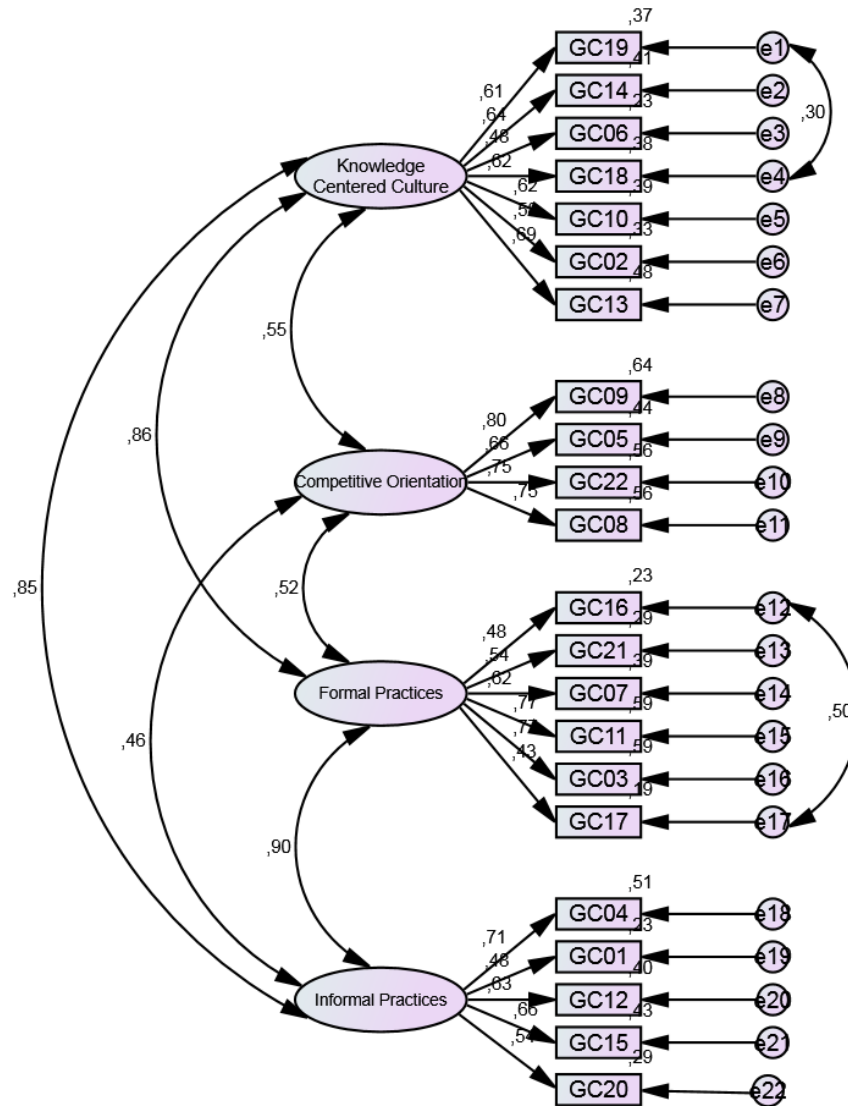


Figure 2. Confirmatory factor analysis of the KMQ-SF, after adjustment according to the modification indices and theoretical reasons.

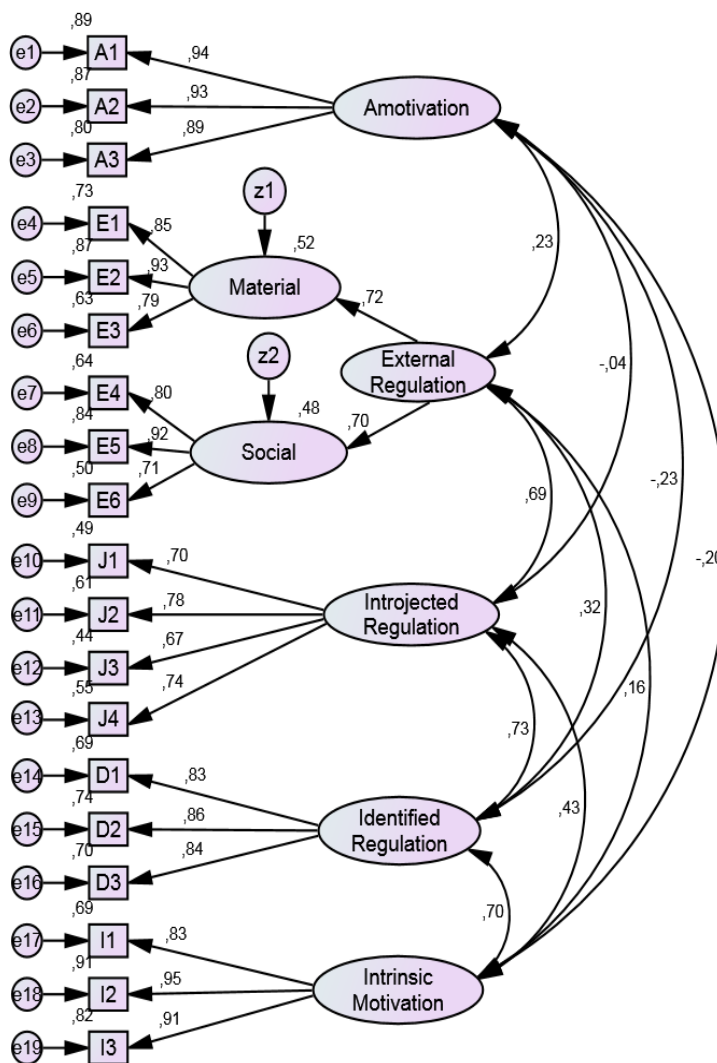
Work Motivation. The second scale applied was Gagné et al.'s (2015) Multidimensional Work Motivation Scale (MWMS), in its Portuguese version (dos Santos et al., 2016), which is based on the multidimensional conceptualization of motivation offered by SDT. This scale comprises 19 items, all stemming from “Why do you or would you put efforts into your current job?” These items were to be answered using a seven-point Likert scale (from 1 = “not at all” to 7 = “completely”). Examples of items are: “Because I risk losing my job if I don’t put enough effort in it” (*Extrinsic Motivation*); “Because I have to prove to myself that I can” (*Introjected Motivation*); “Because I personally consider it important to put efforts in this job” (*Identified Motivation*); and “Because I have fun doing my job” (*Intrinsic Motivation*).

Table 3 - Goodness of fit indices of MWMS

MWMS	χ^2/df	df	CFI	NFI	TLI	SRMR	RMSEA	90% CI
Model 1	982.81	146	.910	.897	.766	.161	.091	.086, .096***
Model 2	579.44	140	.953	.939	.769	.051	.067	.062, .073***

χ^2 = chi-square; df = degrees of freedom; CFI = comparative fit index; NFI = normed fit index; TLI = Tucker-Lewis index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation, CI = confidence interval; *** $p < .001$

As mentioned above, the factorial validity of the questionnaire for the Portuguese population was analyzed in 2016 by dos Santos et al. (see Table 3). In their study, the first model (Model 1) showed an unacceptable fit considering the reference values for χ^2 and SRMR, and a low fit considering the values of TLI and RMSEA. Therefore, the authors proposed an alternative model (Model 2), which differed in the unidirectional path of the second-order latent variable (*Extrinsic Motivation*) to the two first-order latent variables (*Material* and *Social*). Consequently, this second model showed an acceptable fit (see Figure 3).

**Figure 3. Confirmatory factor analysis of MWMS; dos Santos et al. (2016).**

IV - Results

Descriptive Statistics

Both questionnaires were analyzed concerning their descriptive statistics, as shown in Table 4. All KMQ-SF factors presented a minimum of 1 and a maximum of 5, except for the KMQ-SF global scale (minimum of 1.36) and *Knowledge Centered Culture* (minimum of 1.29). All the MWMS factors showed a minimum of 1 and a maximum of 7. The KMQ-SF factor that showed the highest mean value was *Knowledge Centered Culture* ($M = 3.95$), whereas *Formal KM Practices* presented the lowest ($M = 3.13$). It was verified, therefore, that the KM processes most scored by participants were: *Knowledge Centered Culture*, followed by *Informal KM Practices*, *Competitive Orientation* and, finally, *Formal KM Practices*.

Concerning MWMS, the factor with the highest mean value ($M = 5.59$) was *Identified Motivation* and the factor with the lowest mean value ($M = 1.51$) was *Amotivation*. Similarly, it was verified that the MWMS factors most scored by participants were: *Identified Motivation*, followed by *Intrinsic Motivation*, *Introjected Motivation*, *Extrinsic Social Motivation*, *Extrinsic Motivation* (social and material), *Extrinsic Material Motivation* and, finally, *Amotivation*.

Additionally, average variance extracted (AVE) should be higher than 0.50 and Composite reliability (CR) should be higher than 0.70 for all constructs of a measurement (Bagozzi & Yi, 1988; Hair, Black, Babin, & Anderson, 2010). Regarding CR, all values were higher than .70 except for MWMS's *Extrinsic Motivation*. In other words, the convergent validity of the constructs was adequate for all factors except *Extrinsic Motivation* (.502). As for the AVE, the most explanatory dimension for MWMS was *Amotivation* (85.3%) and for KMQ-SF it was *Knowledge Centered Culture* (90.1%). The least explanatory dimension for MWMS was *Extrinsic Motivation* (50.2%) and for KMQ-SF it was *Formal KM Practices* (30.4%).

In relation to internal consistency, estimated by Cronbach's Alpha coefficient, it may be seen that KMQ-SF global scale, *Amotivation* and *Intrinsic Motivation* presented an excellent internal consistency (since $\alpha \geq .90$). The remaining factors showed a good ($\alpha \geq .80$) or an acceptable internal consistency ($\alpha \geq .70$). The lowest Cronbach's Alpha was associated to *Formal KM Practices* ($\alpha = .792$).

Table 4. Descriptive Statistics for KMQ-SF and MWMS.

	Min	Max	M	SD	CR	AVE	α
KMQ-SF_Global	1.36	5.00	3.505	.662	.660		.903
Knowledge Centered Culture	1.29	5.00	3.945	.650	.901	.340	.804
Competitive Orientation	1.00	5.00	3.288	1.042	.866	.547	.828
Formal KM Practices	1.00	5.00	3.132	.885	.862	.304	.792
Informal KM Practices	1.00	5.00	3.511	.800	.821	.362	.736
MWMS							
Amotivation	1.00	7.00	1.509	1.069	.946	.853	.945
Extrinsic Motivation	1.00	7.00	3.590	1.510	.502	.589	.852
Extrinsic Social Motivation	1.00	7.00	4.079	1.782	.851	.658	.844
Extrinsic Material Motivation	1.00	7.00	3.101	1.759	.895	.741	.893
Introjected Motivation	1.00	7.00	4.731	1.507	.851	.589	.812
Identified Motivation	1.00	7.00	5.585	1.287	.880	.710	.876
Intrinsic Motivation	1.00	7.00	4.848	1.550	.926	.806	.924

Min= Minimum; Max = Maximum; M = Mean; SD = Standard Deviation; CR = Composite Reliability; AVE = Average variance extracted; α = Cronbach's Alpha

Correlations

Correlation coefficients between KMQ-SF and MWMS factors are shown in Table 5. All coefficients were statistically significant ($p < .05$), except between *Formal KM Practices* and *Extrinsic Material Motivation* ($p > .05$; H18 disconfirmed), and *Informal KM Practices* and *Extrinsic Material Motivation* ($p > .05$; H12 disconfirmed). Most correlations between KM and MWMS dimensions presented a weak effect size ($r \leq .30$). However, correlations between (1) *Identified Motivation* and KM global scale, *Knowledge Centered Culture* and *Formal KM Practices* and (2) *Intrinsic Motivation* and all KM dimensions, including the KMQ-SF global scale, were moderate ($.30 \leq r \leq .50$) (Cohen, 1988).

All KM dimensions were negatively correlated to *Amotivation*, the highest being *Knowledge Centered Culture* ($r = -.242$; 6% of shared variance; H1 confirmed), followed by the KMQ-SF global scale ($r = -.197$; 4% of shared variance), *Formal KM Practices* ($r = -.134$; 2% of shared variance; H3 confirmed), *Informal KM Practices* ($r = -.131$; 2% of shared variance; H2 confirmed) and *Competitive Orientation* ($r = -.128$; 2% of shared variance; H4 confirmed).

It is also evident that *Competitive Orientation* was the KM dimension most correlated to *Extrinsic Motivation* ($r = .230$; 5% of shared variance; H23 confirmed), *Extrinsic Material Motivation* ($r = .142$; 2% of shared variance; H24 confirmed) and *Extrinsic Social Motivation* ($r = .249$; 6% of shared variance; H25 confirmed). The KM dimension least correlated to *Extrinsic Motivation* and *Extrinsic Social Motivation* was *Formal KM Practices* ($r = .080$ and $r = .091$; 1% of shared variance, respectively; H17 and H19 confirmed). The dimension least significantly correlated to

Extrinsic Material Motivation was *Knowledge Centered Culture* ($r = .084$; 1% of shared variance; H6 disconfirmed). *Knowledge Centered Culture* was also positively correlated to *Extrinsic Motivation* as a whole ($r = .170$; 3% of shared variance; H5 disconfirmed) and positively correlated to *Extrinsic Social* ($r = .205$; 4% of shared variance; H7 disconfirmed). Furthermore, *Informal KM Practices* was positively correlated to *Extrinsic Motivation* ($r = .102$; 1% of shared variance; H11 confirmed) and positively correlated to *Extrinsic Social Motivation* ($r = .117$; 1% of shared variance; H13 confirmed).

Introjected and *Identified* motivations were most correlated to *Knowledge Centered Culture* ($r = .241$ and $r = .460$; 6% and 21% of shared variance, respectively; H8 and H9 confirmed). *Introjected Motivation* was least correlated to *Formal KM Practices* ($r = .139$; 2% of shared variance; H20 confirmed) and *Identified Motivation* was least correlated to *Competitive Orientation* ($r = .270$; 3% of shared variance; H27 confirmed) and *Informal KM Practices* ($r = .273$; 3% of shared variance; H15 confirmed). Also, *Introjected Motivation* was positively correlated to *Informal KM Practices* ($r = .159$; 3% of shared variance; H14 confirmed) and *Competitive Orientation* ($r = .205$; 4% of shared variance; H26 confirmed). Furthermore, *Identified Motivation* was positively correlated to *Formal KM Practices* ($r = .336$; 11% of shared variance; H21 confirmed).

Finally, *Intrinsic Motivation* was most correlated to the KMQ-SF global scale ($r = .470$; 22% of shared variance), followed by *Formal KM Practices* ($r = .446$; 20% of shared variance; H22 confirmed), *Knowledge Centered Culture* ($r = .431$; 19% of shared variance; H10 confirmed), *Competitive Orientation* ($r = .312$; 10% of shared variance; H28 confirmed) and *Informal KM Practices* ($r = .305$; 9% of shared variance; H16 confirmed).

In summary, all hypotheses were confirmed, except H5, H6 and H7. H12 and H18 were also disconfirmed, as it was shown that there was not a statistically significant relationship between *Extrinsic Material Motivation* and *Formal KM Practices*, and *Extrinsic Material Motivation* and *Informal KM Practice*.

When we consider the significant correlations between the sociodemographic variables and the KM and work motivation dimensions studied, it is possible to observe some differences. In fact, gender showed only negative correlations, the highest being in relation to *Competitive Orientation* ($r = -.131$; 2% of shared variance). Age was most negatively correlated to *Extrinsic Social Motivation* ($r = -.111$; 1% of shared variance) and most positively correlated to *Identified Motivation* ($r = .107$; 1% of shared variance). Years of work was most negatively correlated to *Extrinsic Social Motivation* ($r = -.155$; 2% of shared variance) and most positively correlated to *Intrinsic Motivation* ($r = .106$; 1% of shared variance). In terms of sector, the highest positive correlation was between the Tertiary sector variable and *Intrinsic Motivation* ($r = .146$; 2% of shared variance) and the highest negative correlation was between the Secondary sector variable and *Intrinsic Motivation* ($r = -.135$; 2% of shared variance). Education showed

only negative correlations (the highest being in relation to *Extrinsic Social Motivation* ($r = -.212$; 4% of shared variance)), except for the correlation to *Formal KM Practices* ($r = .154$; 2% of shared variance). The types of contract show the highest positive correlation between the Contractual variable and *Amotivation* ($r = .106$; 1% of shared variance) and the highest negative correlation between the Tenure variable and *Extrinsic Social Motivation* ($r = -.097$; 1% of shared variance). Management or Leadership role was only positively correlated to KM and work motivation dimensions, the highest being in relation to *Competitive Orientation* ($r = .208$; 4% of shared variance). Lastly, Size of the Organization was most positively correlated to *Formal KM Practices* ($r = .183$; 3% of shared variance) and most negatively correlated to *Extrinsic Social Motivation* ($r = -.132$; 2% of shared variance).

Table 5. Correlation matrix between KM and MWMS dimensions and sociodemographic variables (r2 in brackets)

	Amotivation	Extrinsic Motivation	Material	Social	Introjected Motivation	Identified Motivation	Intrinsic Motivation	KM Global Scale	Knowledge Centered Culture	Competitive Orientation	Formal KM Practices	Informal KM Practices
Amotivation	1	.167*** (.03)	.209*** (.04)	.077* (.01)	-.019 (.00)	-.210*** (.04)	-.186*** (.03)	-.197*** (.04)	-.242*** (.06)	-.128*** (.02)	-.134*** (.02)	-.131*** (.02)
Extrinsic Motivation		1	.850*** (.72)	.855*** (.73)	.517*** (.27)	.244*** (.06)	.127*** (.02)	.176*** (.03)	.170*** (.03)	.230*** (.05)	.080* (.01)	.102** (.01)
Material			1	.454*** (.21)	.437*** (.19)	.182*** (.03)	.091* (.01)	.099** (.01)	.084* (.01)	.142*** (.02)	.046 (.00)	.057 (.00)
Social				1	.445*** (.20)	.233*** (.05)	.126*** (.02)	.200*** (.04)	.205*** (.04)	.249*** (.06)	.091* (.01)	.117** (.01)
Introjected Motivation					1	.583*** (.34)	.356*** (.13)	.228*** (.05)	.241*** (.06)	.205*** (.04)	.139*** (.02)	.159*** (.03)
Identified Motivation						1	.648*** (.42)	.419*** (.18)	.460*** (.21)	.270*** (.07)	.336*** (.11)	.273*** (.07)
Intrinsic Motivation							1	.470*** (.22)	.431*** (.19)	.312*** (.10)	.446*** (.20)	.305*** (.09)
KM Global Scale								1	.855*** (.73)	.681*** (.46)	.864*** (.75)	.811*** (.66)
Knowledge Centered Culture									1	.447*** (.20)	.644*** (.41)	.656*** (.43)
Competitive Orientation										1	.434*** (.19)	.351*** (.13)
Formal KM Practices											1	.635*** (.40)
Informal KM Practices												1
Gender	-.046 (.00)	-.101** (.01)	-.046 (.00)	-.125*** (.02)	.049 (.00)	.046 (.00)	-.011 (.00)	-.049 (.00)	-.020 (.00)	-.131*** (.02)	-.039 (.00)	.034 (.00)
Age	-.006 (.00)	-.072 (.01)	-.011 (.00)	-.111** (.01)	.016 (.00)	.107** (.01)	.081* (.01)	-.014 (.00)	.045 (.00)	-.046 (.00)	.031 (.00)	-.096* (.01)
Years of work	-.002 (.00)	-.107** (.01)	-.027 (.00)	-.155*** (.02)	.009 (.00)	.071 (.01)	.106** (.01)	.025 (.00)	.046 (.00)	-.048 (.00)	.097* (.01)	-.039 (.00)
Sector												
Primary	.004 (.00)	-.059 (.00)	-.057 (.00)	-.052 (.00)	-.001 (.00)	-.050 (.00)	-.043 (.00)	-.049 (.00)	-.022 (.00)	.009 (.00)	-.079* (.01)	-.058 (.00)
Secondary	.019 (.00)	.083* (.01)	.027 (.00)	.120** (.01)	.010 (.00)	-.110** (.01)	-.135*** (.02)	-.014 (.00)	-.018 (.00)	-.080* (.01)	-.055 (.00)	-.049 (.00)
Tertiary	-.020 (.00)	-.056 (.00)	-.003 (.00)	-.094* (.01)	-.009 (.00)	.125*** (.02)	.146*** (.02)	.033 (.00)	.026 (.00)	-.080* (.01)	.084* (.01)	.070 (.00)
Education	-.001 (.00)	-.195*** (.03)	-.118** (.01)	-.212*** (.04)	-.099** (.01)	.000 (.00)	.050 (.00)	.028 (.00)	-.029 (.00)	-.099** (.01)	.154*** (.02)	.035 (.00)
Types of contract												
Sole trader (payment by invoice)	.006 (.00)	.025 (.00)	-.005 (.00)	.047 (.00)	.045 (.00)	.088* (.01)	.102** (.01)	.009 (.00)	.009 (.00)	.040 (.00)	-.013 (.00)	-.014 (.00)
Contractual	.106* (.01)	.075 (.01)	.053 (.00)	.076* (.01)	.010 (.00)	-.071 (.01)	-.046 (.00)	-.026 (.00)	-.043 (.00)	-.025 (.00)	-.037 (.00)	.031 (.00)
Tenure	.102* (.01)	-.084* (.01)	-.047 (.00)	-.097* (.01)	-.035 (.00)	.018 (.00)	-.014 (.00)	.020 (.00)	.035 (.00)	.001 (.00)	.042 (.00)	-.020 (.00)
Management/Leadership Role	-.047 (.00)	.037 (.00)	.017 (.00)	.046 (.00)	.070 (.00)	.120** (.01)	.148*** (.02)	.110** (.01)	.048 (.00)	.208*** (.04)	.106** (.01)	-.012 (.00)
Size of Organization	.030 (.00)	-.092* (.01)	-.020 (.00)	-.132*** (.02)	-.077* (.01)	-.023 (.00)	.000 (.00)	.071 (.01)	.022 (.00)	-.093* (.01)	.183*** (.03)	.103** (.01)

Note: Education, sector and organizational size – Spearman's correlation; All other sociodemographic variables – Pearson correlation.
 *** $p \leq .001$, ** $p < .01$, * $p < .05$

Cluster Analysis

Cluster analysis was used as an exploratory way of identifying structures within the data, and therefore, profiles of KM. As shown in Table 6, all KM dimensions were divided in 3 levels: low, moderate and high. All levels showed good quality, as their silhouette measure of cohesion and separation was higher than .50. Table 6 also resumes each level's size and mean.

Table 6. Level's sizes and means

KM	Low		Moderate		High	
	Size	Mean	Size	Mean	Size	Mean
Knowledge C. Culture	16.5% (N=115)	2.86	47.1% (N=327)	3.84	36.4% (N=253)	4.57
Competitive Orientation	25.3% (N=176)	1.86	32.2% (N=224)	3.15	42.4% (N=295)	4.24
Formal KM Practices	21.3% (N=148)	1.85	54.0% (N=375)	3.14	24.7% (N=172)	4.22
Informal KM Practices	19.6% (N=136)	2.29	37.0% (N=257)	3.32	43.5% (N=302)	4.22

Ten different KM clusters were created and each of them is described in Table 7. When analyzing either high or low/moderate profiles, we have allowed *Knowledge Centered Culture* to also include the moderate level, as this is a transversal dimension to KM and it may be unsuitable to demand it only be present in the extreme levels.

Table 7. Description of KM Clusters

Profile	Knowledge C. Culture	Competitive Orientation	Formal KM Practices	Informal KM Practices	N
1. High KM	High	High	High	High	77
2. Low KM	Low	Low	Low	Low	31
3. High Competitive KM	Low/Moderate	High	Low	Low	8
4. Low/Moderate Competitive KM	High	Low/Moderate	High	High	28
5. High Formal KM	Low/Moderate	Low	High	Low	0
6. Low/Moderate Formal KM	High	High	Low/Moderate	High	49
7. High Informal KM	Low/Moderate	Low	Low	High	5
8. Low/Moderate Informal KM	High	High	High	Low/Moderate	13
9. High Cultural KM	High/Moderate	Low	Low	Low	10
10. Low/Moderate Cultural KM	Low/Moderate	High	High	High	13

Table 7 shows that the High Formal KM Profile had no subjects. As a consequence, this profile was discarded. The profile with the highest number of participants was the High KM profile ($N = 77$), and the one with the lowest was the High Informal KM profile ($N = 5$). How each of the profiles is constituted (i.e. what sociodemographic variables are most present in which profile) is presented in Table 8.

Only the Low/Moderate Informal KM profile was predominantly male (69.2%). The oldest was the Low/Moderate Informal KM profile ($M = 47.92$) and the youngest was the High Competitive KM profile ($M = 32.88$).

The highest number of years at the organization was presented by the Low/Moderate Informal KM profile ($M = 19$) and the lowest was shown by the High Competitive KM profile ($M = 6.13$). All profiles were mainly constituted by workers with a contractual bond to the organization. Only the Low/Moderate Informal KM profile predominantly included workers with a leadership role (69.2%). Also, contrary to all other profiles, which were mainly represented by workers of the tertiary sector, the High Cultural KM profile included mostly employees of the secondary sector (57.1%). Finally, the High KM, Low/Moderate Competitive KM and Low/Moderate Cultural KM profiles were mainly constituted by participants working in medium sized organizations, whereas all others except the High Informal KM profile, were mainly constituted by participants working in very small size organizations. The High Informal KM profile was constituted by participants either working in very small sized or large sized organizations.

Table 8. Sociodemographic variables present in each KM profile

Profile	Gender (%)	Age Min/Max (Mean)	Years of work Min/Max (Mean)	Type of contract (%)	Leadership Role (%)	Education (%)	Sector (%)	Size of organization (%)
High KM	Female (61.8%)	19/64 (40.83)	1/33 (13.36)	Contractual (68%)	No (57.1%)	≤ 9 Years (42.9%)	Tertiary (78.1%)	Medium (25%)
Low KM	Female (74.2%)	20/70 (41.77)	1/41 (12.23)	Contractual (74.2%)	No (67.7%)	≤ 9 Years (36.7%)	Tertiary (77.8%)	Very Small (40%)
High Competitive KM	Female (62.5%)	18/47 (32.88)	2/21 (6.13)	Contractual (57.1%)	No (62.5%)	17/19 Years (42.9%)	Tertiary (57.1%)	Very Small (33.3%)
Low/Moderate Competitive KM	Female (67.9%)	18/57 (40.64)	1/34 (12.46)	Contractual (53.6%)	No (64.3%)	17/19 Years (40.7%)	Tertiary (92.6%)	Medium (37%)
Low/Moderate Formal KM	Female (53.1%)	20/65 (39.04)	1/39 (12.02)	Contractual (69.4%)	No (59.2%)	12 Years (44.9%)	Tertiary (73.5%)	Very Small (38.8%)
High Informal KM	Female (60%)	28/48 (36.2)	4/19 (11.4)	Contractual (60%)	No (100%)	≤ 9 Years (60%)	Tertiary (100%)	Very Small (40%) and Large (40%)
Low/Moderate Informal KM	Male (69.2%)	35/60 (47.92)	3/36 (19)	Contractual (76.9%)	Yes (69.2%)	12 Years (46.2%)	Tertiary (61.5%)	Very Small (46.2%)
High Cultural KM	Female (70%)	23/59 (44.8)	1/32 (16)	Contractual (70%)	No (90%)	≤ 9 Years (44.4%)	Secondary (57.1%)	Very Small (44.4%)
Low/Moderate Cultural KM	Female (53.8%)	20/52 (37.08)	1/30 (10)	Contractual (50%)	No (61.5%)	17/19 Years (38.5%)	Tertiary (91.7%)	Medium (38.5%)

Min = Minimum; Max = Maximum; M = Mean;

A MANOVA was performed, using as independent variables each profile (1 = yes; 0 = no) and as dependent variables the scores for the six dimensions of MWMS (see Table 9). *Extrinsic Motivation* was excluded from this analysis so as to avoid duplication of information.

Table 9. Means (M) and standard-deviations (SD) of MWMS dimensions of each profile: Univariate tests (F) and effect sizes (η^2_p)

	Multivariate Analysis			Univariate Analysis			
	Wilks' λ	F (6,688)	η^2_p	Yes Mean (SD)	No Mean (SD)	F	η^2_p
LOW KM PROFILE (N = 31)							
	.936	7.904	.064***				
Amotivation				1.65 (1.09)	1.50 (1.07)	.523	.001
Extrinsic Material Motivation				2.54 (1.62)	3.13 (1.76)	3.35	.005
Extrinsic Social Motivation				3.00 (1.89)	4.13 (1.76)	12.09***	.017
Introjected Motivation				3.75 (1.63)	4.78 (1.49)	14.02***	.020
Identified Motivation				4.23 (1.61)	5.65 (1.24)	38.13***	.052
Intrinsic Motivation				3.41 (1.82)	4.92 (1.50)	29.11***	.040
HIGH KM PROFILE (N = 77)							
	.917	10.431	.083***				
Amotivation				1.23 (.71)	1.54 (1.10)	5.79*	.008
Extrinsic Material Motivation				3.69 (2.09)	3.03 (1.70)	9.75**	.014
Extrinsic Social Motivation				4.79 (1.89)	3.99 (1.75)	14.12***	.020
Introjected Motivation				5.45 (1.40)	4.64 (1.50)	20.32***	.028
Identified Motivation				6.26 (1.17)	5.50 (1.28)	14.98***	.035
Intrinsic Motivation				5.94 (1.17)	4.71 (1.54)	46.46***	.063
LOW/MODERATE COMPETITIVE KM PROFILE (N = 28)							
	.961	4.697	.039***				
Amotivation				1.05 (.15)	1.53 (1.09)	5.47*	.008
Extrinsic Material Motivation				2.92 (1.96)	3.11 (1.75)	.32	.000
Extrinsic Social Motivation				3.35 (1.64)	4.11 (1.78)	4.98*	.007
Introjected Motivation				4.79 (1.78)	4.73 (1.50)	.05	.000
Identified Motivation				6.23 (.80)	5.56 (1.30)	7.32**	.010
Intrinsic Motivation				6.04 (.91)	4.80 (1.55)	17.54***	.025
LOW/MODERATE FORMAL KM PROFILE (N = 49)							
	.937	7.666	.063***				
Amotivation				1.04 (.16)	1.54 (1.10)	10.25***	.015
Extrinsic Material Motivation				2.99 (1.99)	3.11 (1.74)	.23	.000
Extrinsic Social Motivation				5.03 (2.00)	4.01 (1.75)	15.45***	.022
Introjected Motivation				5.04 (1.55)	4.71 (1.50)	2.16	.003
Identified Motivation				6.33 (.88)	5.53 (1.30)	17.96***	.025
Intrinsic Motivation				5.61 (1.19)	4.79 (1.56)	13.04***	.018

*** $p \leq .001$, ** $p < .01$, * $p < .05$

Table 9 shows that the influence of the High Competitive KM, the High Informal KM, the Low/Moderate Informal KM, the High Cultural KM and the Low/Moderate Cultural profiles on work motivation were not significant. In other words, only 4 out of the 10 original profiles had a statistically significant global effect on work motivation. The highest significant global effect on work motivation was that of the High KM Profile (8.3%), followed by the Low KM Profile (6.4%), the Low/Moderate Formal KM Profile (6.3%) and the Low/Moderate Competitive KM Profile (3.9%). Therefore, even though the results of the multivariate test showed significant differences, these were low (less than 10%) between participants included in the profile and participants not included in the different profiles.

Concerning the Low KM Profile, univariate tests presented significant differences between workers included and not included in this profile, regarding *Extrinsic Social Motivation*, *Introjected Motivation*, *Identified Motivation* and *Intrinsic Motivation*. However, these differences were very low: 1.7%, 2%, 5.2% and 4% respectively.

In contrast, regarding the High KM Profile, univariate tests presented significant differences in all MWMS dimensions. However, these differences were also low (less than 7%). The lowest difference was presented by *Amotivation* (.8%) and the greatest was presented by *Intrinsic Motivation* (6.3%).

Concerning the Low/Moderate Competitive KM Profile, univariate tests presented significant differences between workers included and not included in this profile in regards to *Amotivation* (.8%), *Extrinsic Social* (.7%), *Identified* (1%) and *Intrinsic* (2.5%) motivations. Thus, it was shown that these differences were also very low.

Finally, for the Low/Moderate Formal KM Profile, univariate tests also presented significant differences in *Amotivation* (1.5%), *Extrinsic Social* (2.2%), *Identified* (2.5%) and *Intrinsic* (1.8%) motivations. Similarly, these differences were very low.

V - Discussion

The importance of KM and work motivation to practitioners and researchers in the organizational field has been discussed previously. KM not only allows an organization to be dynamic (Jiménez-Jiménez, Martínez-Costa, & Sanz-Valle, 2014) but it is also a distinction factor and a vital element for maintaining organizational value (Pais & dos Santos, 2015). Work motivation is essential for organizational endurance, considering that different kinds of motivations have specific impacts on workers' performance and well-being (Ryan & Deci, 2000; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004).

Given the importance of these constructs in Organizational Psychology and since, as far we could ascertain, no studies had already examined their interaction, it seemed important to undertake the present research. Therefore, our main objective was to assess the correlation between KM and work motivation, for which a correlation matrix was used (Table 5). Our second and third goals were to analyze the relevance of

proposing profiles of workers, given the relation between KM and work motivation, and to assess the differences in work motivation as a result of the profiles created. For these, a cluster and a MANOVA analysis were used (Tables 6 to 9).

In relation to the first objective, as we advance on the motivation continuum to more self-determined types of work motivation, the correlations of KM strengthen, supporting SDT. In fact, the four KM dimensions show a relatively stable progression from negative, to weaker and to moderate correlations to MWMS dimensions (Cohen, 1988).

Firstly, all KM dimensions showed a negative correlation to *Amotivation*, also giving strength to our initial hypothesis that any professional and personal development opportunities are received by workers in such a way that the lack of motivation is inverted (Kuvaas & Dysvik, 2009). The fact that it was the *Knowledge Centered Culture* dimension that showed the highest negative correlation with *Amotivation* ($r = -.242$) tells us that organizations that promote KM amongst their processes, practices, traditions and habits may be contributing to a less amotivated workforce. At the same time, those who are amotivated are less receptive to the KM initiatives. For that reason, strategies aiming at the development of work motivation in general will strengthen the KM initiatives and its acceptance by employees.

Secondly, since the KM dimension most correlated to *Extrinsic Motivation* ($r = .230$), *Extrinsic Material Motivation* ($r = .142$) and *Extrinsic Social Motivation* ($r = .249$) was *Competitive Orientation*, we may conclude that a) a KM orientation towards competition may enhance one's drive to contribute to the group's advances and gains, as a member of the organization (Ouwkerk, De Gilder, & De Vries, 2000). Similarly those who are extrinsically motivated to work seem to be more receptive to competitive orientation strategies; b) a KM orientation towards competition may boost the ambition for financial bonuses (for example) consequent of being part of the winning team (Manolopoulos, 2008). Similarly those who are extrinsically motivated to work seem to be more receptive to competitive orientation strategies; and c) a KM orientation towards competition may increase the pursuit of prestige, social acceptance and pride associated to being part of the victorious group (Amiot & Aubin, 2013; Ozeki, 2015; Pantaleo, Miron, Ferguson, & Frankowski, 2014). Also, the greater the *Extrinsic Social Motivation*, the more frequent the individual looks for ways to obtain those rewards. However, since *Competitive Orientation* was the KM dimension least correlated to *Identified Motivation* ($r = .270$) and one of the KM dimensions least correlated to *Intrinsic Motivation* ($r = .312$), one may posit that *Competitive Orientation* may only be positive up to a certain point, depending on the type of competition the individual is facing (Fülöp, 2009; Tjosvold, Johnson, Johnson, & Sun, 2006). It is possible that when competitiveness starts to overflow beyond the boundaries of the ingroup identity, failing to address cooperation between workers, it may no longer be pleasurable and more self-determined motivations may be less influenced.

Also, the results that *Formal KM Practices* was the KM dimension least correlated to *Extrinsic Motivation* and *Extrinsic Social Motivation* ($r = .080$ and $r = .091$, respectively), may suggest that a) formal meetings and training sessions have little power, on their own, to drive one to seek approval or financial reward, for example; and b) those who are looking for extrinsic social rewards and extrinsic rewards in general will value less the *Formal KM Practices*.

On the other hand, the KM dimension most correlated to *Introjected* and *Identified* motivations was *Knowledge Centered Culture* ($r = .241$ and $r = .460$, respectively). These results suggest that organizations that promote KM amongst their guidelines and habits may be contributing to a workforce with more self-determined types of motivation. These results also confirm our hypotheses that a culture where KM is emphasized may improve the way one looks at his or her tasks and result in a greater appreciation for one's job. Furthermore, employees driven by *Introjected* and *Identified* motivations are probably more attracted to and more hired by organizations that emphasize *Knowledge Centered Culture*. Consequently, these workers may reinforce, through their performance, the *Knowledge Centered Culture* of the organization.

Additionally, *Intrinsic Motivation* was most correlated to the KMQ-SF global scale ($r = .470$), which suggests that KM, as a whole, may result in workers doing their job because they enjoy it or find it exciting or stimulating. Also, those who are intrinsically motivated to work, through their performance, may strengthen the KM strategies and actions included in the measure used in the present research. However, it is interesting to stress that *Identified Motivation* and *Intrinsic Motivation* were only correlated to *Informal KM Practices* to a lesser degree ($r = .273$ and $r = .305$, respectively). The *Informal KM Practices* dimension may not have a greater effect on more self-determined motivations and vice-versa due to the negative connotation informal conversations at the workplace may have. Informal conversations, even if they are aimed at KM, may be construed as a way to gossip or waste time.

Regarding our second and third objectives, 10 profiles were created of which only 4 showed a statistically significant global effect on work motivation. The highest significant global effect on work motivation was that of the High KM Profile (8.3%), followed by the Low KM Profile (6.4%), the Low/Moderate Formal KM Profile (6.3%) and the Low/Moderate Competitive KM Profile (3.9%). Even though their global effect on work motivation is considered low, these goals were accomplished as the importance of the creation of the 4 profiles and their relation to work motivation was established.

The greatest difference between workers in the Low KM Profile and workers not in the Low KM Profile was shown in regards to *Identified Motivation*. This might be explained by the fact that when one perceives that all four dimensions of KM are present in the organization, one may less easily find personal significance in the tasks executed.

The greatest difference between workers comprised in the High KM Profile and workers not comprised in the High KM Profile was presented concerning *Intrinsic Motivation*. This is consonant with abovementioned considerations that when one perceives a well-balanced KM strategy, where all four KM dimensions are being strongly considered, it may be easier for one to enjoy one's job a) as it might be more easily considered exciting or stimulating and b) as KM processes help individual make sense of their tasks (Thomas, Sussman & Hendersson, 2001).

The greatest difference between workers in the Low/Moderate Competitive KM Profile and workers not in this profile was also shown in regards to *Intrinsic Motivation*. This result also suggests that when one perceives their organization's KM strategy less directed towards competition but more directed towards other KM dimensions, one may more easily feel intrinsically motivated. Equally, this result gives strength to our suggestion that a KM orientated to competition is only beneficial to a certain point. This result may be influenced by the type of competition the individual has to deal with (Fülöp, 2009; Tjosvold, Johnson, Johnson and Sun, 2006).

Finally, the greatest difference between workers in the Low/Moderate Formal KM Profile and workers not in this profile was shown concerning *Identified Motivation*. This proposes that when *Formal KM Practices* are not being as considered by the organization as other KM dimensions, one may find it harder to find that the execution of one's tasks is aligned with one's personal values.

VI - Conclusion

Practical Implications

The understanding of KM and motivation is essential for practitioners targeting a useful and conscious organizational strategy and for researchers advancing our understanding of Organizational Psychology. We conclude, from our research and from knowing the implications of more or less self-determined motivations on performance and well-being, that is it essential to have a balanced KM strategy.

In other words, it is critical for organizations to endorse KM plans in which all 4 factors are applied taking into consideration their influences on motivation. For example, it is paramount to use a KM approach that does not overstress the *Competitive Orientation* dimension of KM, but rather uses it in moderation and stressing what can be a constructive type of competition. The same might be said about the *Informal KM Practices* dimension, as they are both the KM dimensions least correlated to *Intrinsic Motivation*. However, a KM strategy that emphasizes *Knowledge Centered Culture* may help diminish *Amotivation* and increase *Introjected* and *Identified* motivations. Also, emphasizing *Formal KM Practices* may be of benefit for organizations since it has a minor impact on *Extrinsic Motivation* and *Extrinsic Social Motivation* and one of the greatest impacts on *Intrinsic Motivation*. With these traits in mind, a well-adjusted KM strategy may be a

way of bettering one's performance and well-being, by strengthening more self-determined motivations and decreasing *Amotivation*.

Likewise, organizations are suggested to consider hiring individuals strongly driven by autonomous motivation, as through that KM will be developed. Furthermore, autonomously motivated workers will reach better performance and feel well at work. This idea should make organizations mainly focused on material rewards and external incentive systems rethink their human resources strategy.

Limitations and Further Research

As is to be expected, this research has some limitations. This is a transversal study and the results are limited to a particular time and occasion of when the data was collected. To overcome this limitation, future studies could adopt the implementation of a longitudinal method in order to better explain the relationship between these two constructs in time. Another limitation is related to the fact that this is a correlational study, which suggests that the inference of causality is not allowed. However, even though there are limitations to this study, it may be considered a starting point for further research. For example, it would be interesting to analyze the relationship between KM and work motivation in different populations or in different occupations/professions. Also, taking into consideration that *Competitive Orientation* is only of benefit up to a certain point, it would be enriching to evaluate the differences in the ways that men and women perceive *Competitive Orientation* and differences between different types of competition. It would also be interesting to further research this area by including other organizational variables that may have an impact on the relationship studied, such as organizational communication, job satisfaction, job design and compensation systems. Furthermore, future research can deepen the analysis of sociodemographic variables, and how and why they have different effects on the correlations studied. Therefore, we consider that this study not only advances our understanding of KM and its relations to work motivation, but also points to a direction for further research intended to gain a better understating of both constructs.

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Annexes

A) Instructions – Participation on the MWMS Project

INSTRUÇÕES – PARTICIPAÇÃO NO PROJETO MWMS

Caros alunos,

Disponibilizo no material de apoio à disciplina os questionários que devem aplicar a 3 respondentes (no mínimo). A condição para serem respondentes é terem pelo menos seis meses de experiência profissional e estarem atualmente no ativo (não serem nem desempregados nem aposentados).

Por favor, leiam atentamente todo o questionário antes de o administrarem. Se tiverem dúvidas não hesitem em colocar-mas (lisete.monico@fpce.uc.pt).

Reforço a importância de obtermos respostas de boa qualidade, pelo que sublinho a importância de cuidarem das condições de aplicação e do empenhamento (e sinceridade) dos respondentes nas respostas.

Antes de recolherem as respostas de cada respondente, verifiquem se ficou alguma questão por responder, de modo a não termos questionários invalidados.

Após terem os questionários respondidos, o aluno deve elaborar um breve relatório, onde constem os seguintes elementos:

- 1- identificação do aluno, escrevendo o seu nome completo, o curso que frequenta, o número de aluno da faculdade, o endereço de email e o telefone de contacto.
- 2- identificação das pessoas a quem administrou os questionários (ex, aos meus pais e um tio que trabalho na...).
- 3- descrição do modo de administração de cada um dos questionários (ex, forneci todas as instruções e assisti ao preenchimento, que foi feito sem interrupções; esclareci dúvidas – quais - e certifiquei-me de que todos os itens foram respondidos, o respondente A tinha omitido três respostas que completei quando verifiquei isso e lhe solicitei que completasse o que faltava, etc.).
- 4- telefone de contacto das pessoas que responderam aos questionários (apresentar os números de telefone conjuntamente).
- 5- a indicação sobre a pretensão ou não de cada respondente receber uma síntese dos resultados da investigação.
- 6- assinatura do aluno no final do relatório, acompanhada da seguinte declaração: "eu, .. aluno tal..., declaro sob compromisso de honra que estes questionários foram aplicados respeitando (a) as condições promotoras da validade dos dados recolhidos, (b) o protocolo deontológico, (c) as instruções de aplicação – Data + Assinatura)

Cada aluno deve agraphar o relatório aos questionários que administrou ou colocar o relatório e os questionários numa pasta/capa/mica e incluir o Consentimento Informado (CI) de cada respondente. Cada respondente deverá ter ficado também com um exemplar do CI assinado pelo aplicador).

Questionários sem serem acompanhados do relatório, onde constem todos os elementos solicitados, não serão considerados válidos.

Os questionários devidamente preenchidos deverão ser colocados na minha gaveta (portaria da faculdade) impreterivelmente até ao dia 15 de Janeiro de 2015.

Cada aluno que completar com boa qualidade esta tarefa receberá uma bonificação na classificação da disciplina, referente à participação neste projeto.

Votos de bom trabalho!

Lisete Scuto de Sousa

B) Informed Consent

Protocolo Deontológico

MOTIVAÇÕES, ATITUDES E OPINIÕES NO TRABALHO

CONSENTIMENTO INFORMADO

O projeto "Motivações, Atitudes e Opiniões no Trabalho" é realizado por uma equipa de investigação constituída por membros da Faculdade de Psicologia e Ciências da Educação da Universidade de Coimbra, da Escola de Ciências Sociais da Universidade de Évora e da Unisinos, Porto Alegre, Brasil, sendo os investigadores responsáveis os seguintes: Lisete Mónico (lisete.monico@fpce.uc.pt), Leonor Pais (leonorpais@fpce.uc.pt), Patrícia Fagundes Cabral (patriciamf@unisinos.br), Nuno Rebelo dos Santos (nrs@uevora.pt) e Tânia Ferraro (taniaferraro@gmail.com). É ainda membro da equipa de investigação o estudante abaixo-assinado.

O participante abaixo-assinado:

- Tem conhecimento de quais são os objetivos do projeto;
- Teve oportunidade de esclarecer as questões que quis colocar;
- Sabe que pode desistir de participar no projeto a qualquer momento durante as respostas às questões;
- Sabe que o seu nome nunca será divulgado pela equipa de investigação (os dados individuais são confidenciais);
- Sabe que pode solicitar uma síntese dos resultados obtidos;
- Mantém a confidencialidade quanto à presente investigação até receber a síntese dos resultados obtidos ou à anuência, quanto a isso, por parte da equipa de investigação.

A equipa de investigação compromete-se a:

- Afirmar ao participante o carácter voluntário da participação no presente estudo;
- Prestar os esclarecimentos solicitados;
- Utilizar parcimoniosamente o tempo disponibilizado pelo participante;
- Assegurar o anonimato das respostas;
- Utilizar os resultados da investigação apenas para fins de trabalhos académicos e respetivas publicações;
- Apresentar os resultados de forma agrupada, impossibilitando a identificação individual dos respondentes;
- Conduzir a investigação de acordo com o Código Deontológico da Ordem dos Psicólogos Portuguesesⁱ.

Data ____/____/____

Assinatura do membro da equipa de Investigação

Assinatura do participante

ⁱ https://www.ordemdospsicologos.pt/ficheiros/documentos/caodigo_deontolaogico.pdf

C) Instructions of Application of Measures

Instruções de Aplicação

Cada aplicador das provas deve assegurar as condições promotoras da validade dos dados recolhidos.

Deve informar os respondentes do seguinte:

1. O presente projeto tem como objetivo estudar diversos aspetos do modo como as pessoas sentem e pensam sobre o seu trabalho. Visa ainda proceder à validação, para língua portuguesa, de um questionário internacional sobre o trabalho, que assim ficará disponível para investigações futuras.
2. Os dados recolhidos serão usados exclusivamente para fins académicos.
3. Não há respostas certas ou erradas. As respostas serão tanto mais válidas quanto mais responder com sinceridade às questões que lhe são colocadas.
4. A sua participação é voluntária. Pode desistir a qualquer momento, caso considere que o deve fazer.
5. Garantimos o anonimato das suas respostas, e asseguramos que o tratamento dos dados é estatístico e não individual.
6. Ninguém terá acesso às suas respostas senão os membros da equipa de investigação.
7. O suporte em papel das suas respostas será destruído após a publicação dos trabalhos académicos a que darão origem.
8. Caso tenha alguma dúvida estou ao seu dispor, ou pode mesmo entrar em contacto com o membro da equipa que está a superintender a recolha de dados em Portugal (Professora Lisete Mónico da FPCE da Universidade de Coimbra).
9. Neste tipo de situações é usual a assinatura de um consentimento informado, que lhe peço que leia com atenção antes de assinarmos ambos.
10. Considere por favor que o questionário é constituído por várias partes, sendo que existe em cada parte umas curtas linhas de instruções específicas para essas questões. Peço-lhe que as leia com atenção antes de começar a responder a cada bloco de questões.
11. Num dos blocos de questões algumas referem-se ao contacto com clientes / utentes. Se não lida diretamente com clientes / utentes considere, nessas questões, aqueles a quem o seu trabalho se dirige, que na verdade são os seus colegas que utilizam o resultado do seu trabalho no trabalho deles, e que muitas vezes são designados "clientes internos".
12. Ficarei consigo para o caso de ter alguma dúvida. No final farei apenas uma verificação geral para garantir que não omitiu involuntariamente a resposta a alguma questão.

D) Applied Questionnaire

PROJETO MWMS

Instruções EMMT

No presente questionário é utilizada a palavra "trabalho" significando tanto as situações de exercício de uma profissão por conta própria, como as situações de emprego por conta de outrem. Responda conforme se aplica à sua situação. Considere que não há respostas certas ou erradas. Interesse que responda conforme se aplica mais ou menos à sua situação. Utilize a seguinte escala de respostas:

1=Nada 2=Muito pouco 3=Um pouco 4=Moderadamente 5=Fortemente 6=Muito fortemente 7=Completamente

Coloque uma cruz (X) sobre a sua opção de resposta para cada afirmação.

Responda em todas as afirmações considerando a seguinte questão:
 Por que motivo você se esforça ou se esforçaria no seu trabalho/emprego atual?

	Respostas						
	1	2	3	4	5	6	7
1-Não me esforço porque na verdade sinto que o meu trabalho é uma perda de tempo	1	2	3	4	5	6	7
2-Eu faço pouco porque penso que este trabalho não é merecedor de esforços	1	2	3	4	5	6	7
3-Eu não sei porque estou neste trabalho, já que é um trabalho inútil	1	2	3	4	5	6	7
4-Para obter a aprovação de outras pessoas (por exemplo, os meus superiores, os meus colegas, a minha família, os clientes...)	1	2	3	4	5	6	7
5-Porte outras pessoas me respeitarão mais (por exemplo, os meus superiores, os meus colegas, a minha família, os clientes...)	1	2	3	4	5	6	7
6-Para evitar ser criticado por outras pessoas (por exemplo, os meus superiores, os meus colegas, a minha família, os clientes...)	1	2	3	4	5	6	7
7-Porte somente se me esforçar o suficiente no meu trabalho conseguirei recompensas financeiras (por exemplo, do meu empregador, dos meus superiores hierárquicos...)	1	2	3	4	5	6	7
8-Porte somente se me esforçar o suficiente no meu trabalho poderão oferecer mais estabilidade no trabalho (por exemplo, o meu empregador, os meus superiores hierárquicos...)	1	2	3	4	5	6	7
9-Porte me arrisco a perder o meu trabalho se não me esforçar o suficiente	1	2	3	4	5	6	7
10-Porte preciso de provar a mim mesmo(a) que consigo	1	2	3	4	5	6	7
11-Porte me faz sentir orgulho de mim mesmo(a)	1	2	3	4	5	6	7
12-Porte senão eu vou sentir vergonha de mim mesmo(a)	1	2	3	4	5	6	7
13-Porte senão me sinto mal comigo mesmo(a)	1	2	3	4	5	6	7
14-Porte pessoalmente considero importante esforçar-me neste trabalho	1	2	3	4	5	6	7
15-Porte esforçar-me neste trabalho está alinhado com os meus valores pessoais	1	2	3	4	5	6	7
16-Porte esforçar-me neste trabalho tem um significado pessoal para mim	1	2	3	4	5	6	7
17-Porte fazer o meu trabalho me diverte	1	2	3	4	5	6	7
18-Porte o que faço no meu trabalho é estimulante	1	2	3	4	5	6	7
19-Porte o trabalho que faço é interessante	1	2	3	4	5	6	7

Instruções MBI

De seguida, encontram-se algumas afirmações relativas a como se sente no seu dia-a-dia de trabalho. Existem 7 respostas possíveis para cada uma delas. Assim, relativamente à primeira frase, por exemplo, se nunca se sente emocionalmente esgotado com o seu trabalho, deverá assinalar uma cruz (X) na primeira coluna. Se sente que isso lhe acontece algumas vezes por ano ou menos que isso, deverá assinalar com X na segunda coluna. Se considera que acontece cerca de uma vez por mês, deverá assinalar com X na terceira coluna. Se isso lhe acontece algumas vezes por mês, assinala na quarta coluna. Se sente isso cerca de uma vez por semana, assinala a quinta coluna. Se lhe acontece várias vezes por semana assinala na sexta coluna e se lhe acontece todos os dias coloque o X na sétima coluna.

Use, portanto, a seguinte escala:

1= Nunca 2= Algumas vezes por ano ou menos 3= Uma vez por mês 4= Algumas vezes por mês
5= Uma vez por semana 6= Várias vezes por semana 7= Todos os dias

1-Sinto-me emocionalmente esgotado(a) com o meu trabalho.	1	2	3	4	5	6	7
2-Sinto-me exausto(a) (fisicamente cansado) no fim do dia de trabalho.	1	2	3	4	5	6	7
3-Sinto-me fatigado(a) quando me levanto de manhã e tenho que enfrentar outro dia de trabalho.	1	2	3	4	5	6	7
4-Consigo compreender facilmente os sentimentos dos clientes/utentes.	1	2	3	4	5	6	7
5-Sinto que trato alguns clientes/utentes como se eles fossem objetos.	1	2	3	4	5	6	7
6-Trabalhar com pessoas durante todo o dia é realmente cansativo para mim.	1	2	3	4	5	6	7
7-Lido muito eficazmente com os problemas dos meus clientes/utentes.	1	2	3	4	5	6	7
8-Sinto-me desgastado(a) com o meu trabalho.	1	2	3	4	5	6	7
9-Sinto que estou a influenciar positivamente a vida das outras pessoas através do meu trabalho.	1	2	3	4	5	6	7
10-Tornei-me mais insensível às pessoas desde que comecei a trabalhar nesta profissão.	1	2	3	4	5	6	7
11-Preocupa-me que este trabalho me esteja a endurecer emocionalmente.	1	2	3	4	5	6	7
12-Sinto-me cheio(a) de energia.	1	2	3	4	5	6	7
13-Sinto-me frustrado(a) com o meu emprego.	1	2	3	4	5	6	7
14-Sinto que estou a trabalhar demais no meu emprego.	1	2	3	4	5	6	7
15-Não me preocupo realmente com o que acontece a alguns dos clientes/utentes.	1	2	3	4	5	6	7
16-Trabalhar diretamente com pessoas causa-me demasiado stresse.	1	2	3	4	5	6	7
17-Consigo criar facilmente um clima agradável com os meus clientes/utentes.	1	2	3	4	5	6	7
18-Sinto-me muito satisfeito(a) depois de ter estado a trabalhar de perto com os meus clientes/utentes.	1	2	3	4	5	6	7
19-Consegui alcançar muitas coisas que valem a pena neste trabalho.	1	2	3	4	5	6	7
20-Sinto-me no limite das minhas possibilidades.	1	2	3	4	5	6	7
21-Lo meu trabalho lido com problemas emocionais com muita calma.	1	2	3	4	5	6	7
22-Sinto que os clientes/utentes me culpam por alguns dos seus problemas.	1	2	3	4	5	6	7

Instruções QGC-SF

Apresentamos-lhe de seguida uma lista de afirmações. Leia-a atentamente e diga em que medida cada uma delas se aplica verdadeiramente à sua empresa/organização. Assinale, por favor, a sua resposta com uma cruz, de acordo com a seguinte escala:
 1=Quase nunca se aplica 2=Aplica-se pouco 3=Aplica-se moderadamente 4=Aplica-se muito 5=Aplica-se quase totalmente

Nesta empresa/organização:		1	2	3	4	5
GC01	Falamos uns com os outros sobre assuntos que não compreendemos bem	1	2	3	4	5
GC02	Pensamos na forma como resolvemos problemas no passado (nos nossos sucessos e insucessos)	1	2	3	4	5
GC03	Juntamo-nos em grupo para resolver alguns problemas	1	2	3	4	5
GC04	Falamos das nossas funções	1	2	3	4	5
GC05	Sabemos que os nossos concorrentes têm informações sobre nós	1	2	3	4	5
GC06	Cada um de nós tem uma função a cumprir	1	2	3	4	5
GC07	Somos encorajados a tomar a iniciativa	1	2	3	4	5
GC08	Estamos atentos ao que os nossos concorrentes vão fazendo (por exemplo, adoptamos os melhores "truques")	1	2	3	4	5
GC09	O que sabemos vê-se naquilo que fazemos melhor do que os nossos concorrentes	1	2	3	4	5
GC10	Agimos de acordo com a forma como estamos organizados	1	2	3	4	5
GC11	Passamos informação uns aos outros em reuniões de trabalho	1	2	3	4	5
GC12	Contamos uns aos outros histórias engraçadas que se passaram no nosso trabalho	1	2	3	4	5
GC13	Procuramos toda a informação que possa melhorar a qualidade do que fazemos	1	2	3	4	5
GC14	Agimos de acordo com certos princípios	1	2	3	4	5
GC15	Falamos da nossa empresa	1	2	3	4	5
GC16	Assistimos a seminários/conferências, lemos o que se publica ou contratamos especialistas	1	2	3	4	5
GC17	Frequentamos cursos de formação ou temos formação no posto de trabalho	1	2	3	4	5
GC18	Todos somos responsáveis pelo que devemos saber para trabalhar com qualidade	1	2	3	4	5
GC19	O que sabemos vê-se na forma como produzimos	1	2	3	4	5
GC20	Conversamos sobre o trabalho quando casualmente nos encontramos (por exemplo, no intervalo do café)	1	2	3	4	5
GC21	São recompensados aqueles que partilham o que sabem	1	2	3	4	5
GC22	O que sabemos é uma "arma" fundamental para ultrapassarmos os nossos concorrentes	1	2	3	4	5

Instruções Caf - MA

As afirmações que se seguem referem-se à maneira como sente a ligação que tem com a empresa/organização onde trabalha.

Use a seguinte escala:

1=Discordo totalmente 2=Discordo moderadamente 3=Discordo ligeiramente 4=Não concordo nem discordo
5=Concordo ligeiramente 6=Concordo moderadamente 7=Concordo totalmente

Coloque uma cruz (X) sobre a sua opção de resposta para cada afirmação.

Afirmações	Respostas						
1- Não me sinto 'emocionalmente ligado' a esta empresa / organização	1	2	3	4	5	6	7
2- Esta empresa / organização tem um grande significado pessoal para mim	1	2	3	4	5	6	7
3- Não me sinto como 'fazendo parte da família' nesta empresa / organização	1	2	3	4	5	6	7
4- Na realidade sinto os problemas desta empresa / organização como se fossem meus	1	2	3	4	5	6	7
5- Ficaria muito feliz em passar o resto da minha carreira nesta empresa / organização	1	2	3	4	5	6	7
6- Não me sinto como fazendo parte desta empresa / organização	1	2	3	4	5	6	7

Por último, pedimos-lhe que complete, por favor, respondendo às seguintes questões [assinale um X na opção(ões) correta(s)]:

[dados para fins exclusivamente estatísticos]

<p>1 Sexo</p> <p><input type="checkbox"/> Masculino</p> <p><input type="checkbox"/> Feminino</p>	<p>2 Idade: _____ anos</p>	<p>3 Há quantos anos trabalha na empresa/organização?</p> <p>_____ anos</p>
<p>4 Situação(ões) profissional(ais) (pode assinalar mais do que 1 situação)</p> <p><input type="checkbox"/> Empresário</p> <p><input type="checkbox"/> Profissional Liberal</p> <p><input type="checkbox"/> Trabalhador do Estado</p> <p><input type="checkbox"/> Trabalhador por conta de outrem</p> <p><input type="checkbox"/> Trabalhador-Estudante</p>	<p>5 Qual o vínculo que mantém com a organização?</p> <p><input type="checkbox"/> Prestador de serviços (recibos verdes)</p> <p><input type="checkbox"/> Contrato a termo (certo ou incerto)</p> <p><input type="checkbox"/> Contrato sem termo / efetivo(a)</p>	<p>6 No seu local de trabalho desempenha alguma função de chefia?</p> <p><input type="checkbox"/> Sim <input type="checkbox"/> Não</p> <p>Se respondeu SIM, que tipo de chefia?</p> <p><input type="checkbox"/> Chefia de Topo</p> <p><input type="checkbox"/> Chefia Intermédia</p>

<p>7 Grau de Escolaridade</p> <p><input type="checkbox"/> Sabe ler e escrever sem possuir a 4ª classe</p> <p><input type="checkbox"/> 1º ciclo do ensino básico (ensino primário)</p> <p><input type="checkbox"/> 2º ciclo do ensino básico (6º ano)</p> <p><input type="checkbox"/> 3º ciclo do ensino básico (9º ano)</p> <p><input type="checkbox"/> Ensino Secundário (12º ano)</p> <p><input type="checkbox"/> Bacharelato</p> <p><input type="checkbox"/> Licenciatura em curso</p> <p><input type="checkbox"/> Pós-Graduação/Mestrado (pós Bolonha)/ Licenciatura Pré Bolonha</p> <p><input type="checkbox"/> Licenciatura concluída (pós-Bolonha)</p> <p><input type="checkbox"/> Mestrado Pré-Bolonha</p> <p><input type="checkbox"/> Doutoramento</p>	<p>8 Setor de atividade da organização onde trabalha</p> <p><input type="checkbox"/> Indústria Transformadora</p> <p><input type="checkbox"/> Indústria Extrativa</p> <p><input type="checkbox"/> Comércio por grosso e a retalho</p> <p><input type="checkbox"/> Alojamento e restauração</p> <p><input type="checkbox"/> Agricultura, pecuária, pescas</p> <p><input type="checkbox"/> Construção</p> <p><input type="checkbox"/> Produção e distribuição de eletricidade, gás e água</p> <p><input type="checkbox"/> Transportes e armazenagem</p> <p><input type="checkbox"/> Educação e ciência</p> <p><input type="checkbox"/> Saúde humana e apoio social</p> <p><input type="checkbox"/> Atividades imobiliárias, alugueres e serviços prestados às empresas</p> <p><input type="checkbox"/> Artes e indústrias criativas</p> <p><input type="checkbox"/> Tecnologia de informação e comunicações</p> <p><input type="checkbox"/> Outra. Qual? _____</p>	<p>9 Dimensão da organização onde trabalha</p> <p><input type="checkbox"/> Tem até 9 colaboradores</p> <p><input type="checkbox"/> Tem entre 10 e 50 colaboradores</p> <p><input type="checkbox"/> Tem entre 51 e 250 colaboradores</p> <p><input type="checkbox"/> Tem entre 251 e 500 colaboradores</p> <p><input type="checkbox"/> Tem entre 501 e 1000 colaboradores</p> <p><input type="checkbox"/> Tem mais de 1001colaboradores</p>
<p>11 Indique, por favor, o seu vencimento líquido mensal (aquilo que recebe em média por mês)</p> <p><input type="checkbox"/> Até 500 €</p> <p><input type="checkbox"/> Entre 501 e 1000 €</p> <p><input type="checkbox"/> Entre 1001 e 1500 €</p> <p><input type="checkbox"/> Entre 1501 e 2000 €</p> <p><input type="checkbox"/> Entre 2001 e 2500 €</p> <p><input type="checkbox"/> Entre 2501 e 3000 €</p> <p><input type="checkbox"/> Entre 3001 e 3500 €</p> <p><input type="checkbox"/> Entre 3501 e 4000 €</p> <p><input type="checkbox"/> Mais de 4000 €</p>		<p>10 Trabalha diretamente com clientes/utentes externos à sua empresa/organização? (a pergunta refere-se apenas a clientes externos, não a clientes internos)</p> <p><input type="checkbox"/> Sim <input type="checkbox"/> Não</p>

Muito obrigado(a) pela sua colaboração