Lorenzo Revuelto Taboada • Rafael Fernández Guerrero

New tools and new ideas for HR practitioners. Structural and predictive validity of weighted satisfaction questionnaire

Nuevas herramientas y nuevas ideas para los responsables de recursos humanos. Validez estructural y predictiva del cuestionario de satisfacción ponderada

Nouveaux outils et nouvelles idées pour les responsables des ressources humaines. Validité structurelle et prédictive du questionnaire de satisfaction pondérée

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Abstract

One of the fundamental tasks for an Human Resource Management (HRM) practitioner consists in designing a reward system that can be broadly understood and can influence the attitudes and, subsequently, the behavior of individuals to permit achievement of organizational objectives. To do so, appropriate tools are necessary to allow key actions to be identified in terms of motivating employees; thereby, avoiding opportunistic costs derived from allocating resources needed to close the gap in employee satisfaction, with regard to non-priority factors for workers in satisfying their own personal needs. This article, thus, presents a dual assessment scale consisting of 44 items, categorized into six dimensions, which firstly evaluates the importance of motivation and, secondly, the level of satisfaction with the current situation for each of the 44 factors considered. Using a sample of 801 individuals, we analyzedthe internal consistency, face validity, and predictive validity of the measuring scales, obtaining a series of results that were, to say the least, promising.

Keywords: job satisfaction, motivation, expectancy theory, reward, intention to quit.

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Resumen

Una de las tareas fundamentales de los responsables de la Dirección de Recursos Humanos (DRH) consiste en diseñar sistemas de recompensas, capaces de influir en las actitudes y en los comportamientos de los individuos para facilitar el logro de los objetivos organizativos. Para ello, necesitan contar con herramientas que les permitan identificar prioridades de actuación a la hora de motivar a sus empleados, evitando asumir costes de oportunidad derivados de dedicar recursos a cerrar la brecha en términos de satisfacción, respecto a factores no prioritarios para el trabajador, a la hora de satisfacer sus necesidades. Este artículo presenta una doble escala de evaluación compuesta por 44 ítems, encuadrados en seis dimensiones, en la que se valora, en primer lugar, la importancia como motivador y, en segundo lugar, el nivel de satisfacción con la situación actual, respecto a los 44 factores considerados. Utilizando una muestra de 801 sujetos, se analiza la consistencia interna, validez aparente y predictiva de las escalas, obteniéndose resultados, cuanto menos, prometedores.

Palabras clave: satisfacción laboral, motivación, teoría de las expectativas, sistemas de recompensas, predisposición a abandonar.

Résumée

Une des taches fondamentales des responsables de la Direction des Ressources Humaines (DRH) est la conception de systèmes de récompenses, capables d´influencer les attitudes et les comportements des individus pour faciliter la réussite des objectifs organisationnels. Pour cela, il faut compter avec des outils qui permettent d´identifier les priorités d´action au moment de motiver les employés, pour éviter de prendre en charge les coûts d'opportunité. Ceux-ci sont dérivés de l´utilisation de ressources visant à fermer l´écart en termes de satisfaction, en relation avec des facteurs non prioritaires au moment de la satisfaction des besoins. Cet article présente une double échelle d´évaluation, composée par 44 items encadrés en six dimensions, où l´on évalue, en premier lieu, l´importance en tant que motivateur, et en second lieu, le niveau de satisfaction avec la situation actuelle. On a utilisé un échantillon de 801 individus, on a analysé la cohérence interne, la validité apparente et prédictive des échelles, et on a obtenu des résultats prometteurs.

Mots clef: satisfaction au travail, motivation, théorie des attentes, systèmes de récompenses, prédisposition à abandonner.

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1. Introduction

Job satisfaction probably constitutes the most studied construct in behavioral literature. Since the middle of the 20th century, a great deal of attention has been paid to this field not only by researchers, but also by CEOs and managers. Its importance lies in the effect that the level of job satisfaction an employee has on other variables that may significantly affect an organization's performance. Broad consensus is noted on the negative relationship existing among job satisfaction, employee turnover, and intention to quit (Blau, 1993; Bluedorn, 1982; Firth, Mellor, Moore & Loquet, 2004), and absenteeism (Clegg, 1983; Dalton & Mesch, 1991). Dissatisfaction can, therefore, bear significant costs in relation to training, recruitment, inefficiencies in the learning curve, productivity loss, clients lost, etc., (Brown & Mitchell, 1993, Tziner & Birati, 1996). Significant correlations have also been found among satisfaction, burnout rates, and psychological and physical health (Bacharach, Bamberger & Conley, 1991; Jex & Gudanowsky, 1992; Lee, Ashford & Bobko, 1990) of employees; correlations that highlight the other potentially harmful effects of job dissatisfaction.

On the other hand, positive relationships have been identified among job satisfaction and organizational commitment (Firth *et al.*, 2004; Mathieu & Zajac, 1990), citizenship behavior (Motowidlo, 1984; Organ & Ryan, 1995), and the quality of services in terms of customer satisfaction (Fosam, Grimsley & Wisher, 1998; Rafaeli, 1989). The expected positive relationship between job satisfaction and job performance is still open to question. Three theoretical positions can be found in the literature: satisfaction causes performance, performance causes satisfaction, and satisfaction and performance are related only under certain conditions because various moderating factors (reward contingency, perceived equity, pressure for production, situational constraints, self-esteem, degree of job fit, etc.,) may affect the relationship (Jones, 2006; Pretty, McGee & Cavender, 1984).

Nevertheless, it can be concluded that the importance of studying the phenomenon of job satisfaction cannot be ignored. Obtaining information regarding what areas present greater levels of dissatisfaction can help to detect where problems lie and gear human resources and organizational policies to meet the needs of employees as a way of improving organizational performance. As Saari & Judge (2004, p. 403) state, "organizations need HR practitioners who know how to develop effective and research-based employee attitude measures, understand and derive valuable insights form the data, and use the results to improve employee attitudes and job performance and help lead organizational change". To assume this role with guarantees, HR practitioners need to rely on adequate tools.

For this reason, the objective of this study consists in validating an instrument that provides an assessment of employees' job satisfaction by taking into account what factors are valued most by employees in their jobs. This can endow organizations with instruments that enable them to identify the needs of employees they should attempt to cover as a priority to improve attitudes and, from that point on, behavior and organizational performance.

To do so, the study is organized in the following manner. Firstly, the concepts of motivation and satisfaction are reviewed, as well as the relationship between them, by using expectancy theory as the fundamental reference point (Porter & Lawler, 1968; Vroom, 1964). The second section contains a deeper analysis of human needs and the role of rewards as motivational drivers and behavioral moderators, as well as the description of the steps followed to create the motivation/satisfaction questionnaire and the justification in terms of the items contained therein. The third section describes the methodology used to validate the questionnaire. In the fourth section, we comment on the results, which were encouraging, to say the least, with regard to internal consistency and structural and predictive validity. The final section presents the main conclusions and limitations of the study and proposals for future research.

2. Theorethical backgroud

2.1. Motivation, satisfaction, and expectancy theory

Probably the most used research definition of job satisfaction is that of Locke (1976, p. 1304) who defined it as a "pleasure or positive emotional state resulting from the appraisal of one's job or job experiences". Satisfaction comes from compa-

ring expectations, in other words, the rewards that are perceived as being adequate and the rewards that are actually obtained (Lawler, 1975). Employees expect some rewards depending on their contribution, and their satisfaction will be even greater when their individual needs are satisfied. Job satisfaction is also understood in terms of the balance-imbalance of contributions and rewards in relation to other individuals or reference groups, as established in the equity theory (Adams 1963; Huseman, Hatfield & Miles, 1987). References used to compare and analyze a person's own work situation are not necessarily, or at least, not exclusively found within the organization. Individuals can analyze their current situation in relation to a previous one or a future hypothetical situation if they feel they have other work opportunities. Nevertheless, levels of satisfaction also depend on factors beyond an organization's control, like personality traits (Judge, Heller & Mount 2002; Kirkman & Shapiro, 2001). All of this means that limited possibilities exist for an organization to intervene to influence attitudes and, from that point on, the conduct of employees.

It is necessary to specify and distinguish the relationship between satisfaction and motivation. Whilst job motivation refers to behavioral dispositions that represent the choice, strength, and intensity of a type of behavior, satisfaction constitutes a feeling towards a job and the consequences derived from it for the subject. As we can see in Figure 1, motivation can be understood as an individual's internal process that triggers a type of behavior, or at least the propensity to act, aimed at achieving the satisfaction of personal needs. Dissatisfaction plays the role of kick starting the motivation process and satisfaction is the expected consequence of motivated behavior. Employee conduct can lead to achieving, or not, rewards that can satisfy the needs that had originally been the cause of the behavior. Given that the motivational process is dynamic, there is a learning process that means that the level of satisfaction reached as a result of behavior will affect future behavior and the type of stimulus that will activate it.

Figure 1. Basic process of motivation-satisfaction

Source: Revuelto, L. & Fernández, R. (2012).
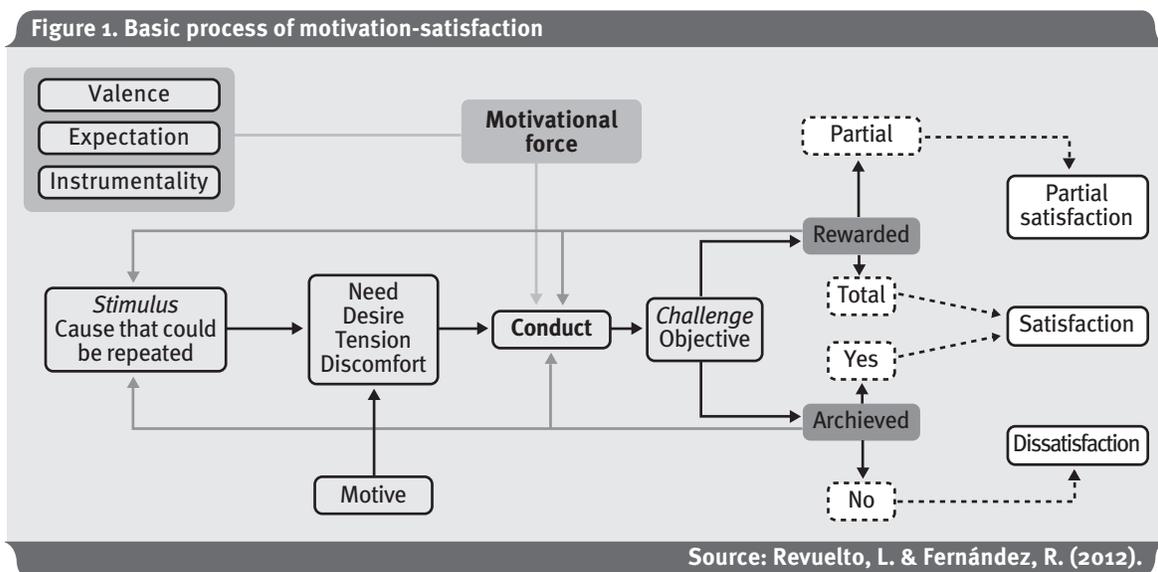
One of the key tasks encountered by human resource management consists in creating suitable conditions through a series of interrelated HR policies and practices, so that individuals feel motivated and involved in the business project and in carrying out individual tasks associated with their job. This means making sure a level of compatibility exists between satisfying the needs of individuals and achieving organizational objectives. As we can see, multiple ways of intervening are available. If we take the expectancy theory as a reference point (Porter & Lawler, 1968; Vroom, 1964), the type of behavior is conditioned by motivational force, which is the product of valence, expectation, and instrumentality.

With regard to valence, a value the individual assigns to different rewards, human resource mangers have to constantly assess the suitability of the reward system (not only intrinsic but extrinsic) offered by the firm by using the key information of what needs and preferences their employees have. It is obvious that people differ in their motivation, but furthermore, what motivates people now will not necessarily motivate them in the future. This is why we should seek to

discover what goals individuals wish to achieve at different stages, what are their priorities and their level of satisfaction in relation to the different dimensions of their jobs. This information is of paramount importance when introducing effective changes to the reward system.

Expectation is the subjective probability that the individual assigns to an adequate level of effort which leads to optimum performance or first-level results. Good performance will improve selfconfidence and, consequently, expectation. Given that the relationship between effort and performance depends fundamentally on an appropriate perception of the job and the skills and capabilities of the individual, different intervention possibilities exist. Firstly, job perception could be adjusted a bit more to suit organizational needs if employees could count on a precise and up-to-date description of their job and responsibilities. Assigning specific objectives that enable employees to be guided towards effective behavior will also play an important role, as recommended in the goal setting theory (Latham & Yukl, 1975; Locke, 1976). In this respect, it becomes essential to provide adequate and opportune feedback to employees (Tziner Kopelman & Neomi, 1993). An open attitude to dialogue coupled with good communication and coaching skills from middle managers will be useful for this. Secondly, the skills and abilities needed to reach top-level results should be guaranteed at the beginning of the working relationship through the functions of recruitment, selection, and integration and then throughout the employee's time with the organization through training and development. All of this will ensure continued suitability between the competency profile required by the job and by the employee.

Finally, with regards to instrumentality, subjective probability connecting performance or first-level results with rewards or second-level results, it is worth pointing out the differences between intrinsic and extrinsic rewards. Intrinsic rewards, those relating to personally carrying out a task (Hakman & Oldham, 1980), can be considered self-awarding rewards. Therefore, the role of the organization is to focus, fundamentally, on the best possible bit between the needs of the individual, the determining factors posed by production processes, the general structure of the organization, and the characteristics of the job. In terms of extrinsic rewards, those received as compensation for the job, it is important for a heightened sense of equality to be perceived by the employees, not only internally but externally (Adams, 1963). For this to take place, the indispensable elements involved would be transparency in the way the organization acts, appropriate appraisal of jobs, and the existence of an objective and efficient performance assessment system.

In the following sections, we focus on identifying the needs and priorities of employees to adequately design a reward system in an organization.

2.2. Needs, preferences and satisfaction

Since the conception of classical schools of thought, which considered motivation to be solely an economic matter, up to the present day, the range of factors considered potential motivators in the workplace have been gradually increasing. Maier (1963) points out how in the 1930s research already underlined the importance of non-economic factors as motivators. Currently, factors like leadership styles, opportunity to participate, employability guarantees, a professional career, possibility of training and development, the firm's own reputation, etc., have been included as relevant motivators. Therefore, in talking about a reward system, we adopt a broad concept that includes all of those factors deemed likely to have a significant impact on employee motivation.

Special attention is required in looking at intrinsic rewards, which are directly related to job content. Deci and Ryan (1987 & 1992) consider intrinsic motivation as one of the most powerful forms of motivation because it is associated with enhanced performance, willingness to engage in other tasks, improved creative thinking, better psychological and physical health, etc. An intrinsically motivating task will include clear goals, optimal challenge, and immediate feedback for noting progress (Tziner *et al*., 1993). It is also necessary to achieve intrinsic motivation so individuals believe they are competent or, at least, capable of learning what is necessary to achieve work goals with a perception of free choice and control over what they do (Deci & Ryan, 1987, 1992).

As we mentioned earlier, one of the essential functions for HRM is to design an assessment and reward system capable of aligning individual interests with those of the organization and avoiding opportunistic behavior, as proposed in the agency theory (Fama, 1991; Jensen, 1994). This system would be the main instrument upon which to rely in an effort to influence attitudes and would result in employee

conduct being directed towards productive behavior. To achieve this, a crucial factor is the regular detection and updating of the needs and priorities of employees, given that these existing differences can change, or evolve, over time when variations are seen in their expectations, values, habits, personal and family circumstances, etc. Only thus is it possible to assess the suitability of a reward system used by an organization and make the necessary adjustments.

Currently, the most commonly used method to diagnose a situation that a firm faces with regard to the motivation-satisfaction of their employees is that of job satisfaction surveys. In many cases, these surveys are based on previously validated instruments; in other instances, specifically tailored surveys are used which take into account the peculiarities of the firm, whose statistical validity and suitability are often not contrasted properly. Furthermore, these firm surveys have the disadvantage of not permitting comparison to any norms, something which is vital in the correct interpretation of the results (Saari & Judge, 2004). These surveys provide information on the level of overall satisfaction and/or with a specific factor or dimension. However, they do not offer any type of information about the relative importance of these factors for the subject. When, in some cases, surveys are conducted to analyze this relative importance, problems usually arise because the types and number of factors used do not usually coincide with the factors considered when assessing satisfaction, nor are they linked to any previous satisfaction research.

This problem is especially relevant in the sense that firms have scarce resources, so much so that they must only prioritize action for those factors or dimensions considered especially relevant for a substantial number of employees, especially if they are valuable, specific, or limited and have shown low satisfaction levels. This study, thus, proposes and seeks to validate a measuring instrument that, by using a dual measuring scale and the same set of factors, allows us to efficiently identify high-priority areas with regard to satisfaction.

2.3. Creating the measuring instrument

We, initially, carried out a review of the speacialized literature, placing particular emphasis on the methods used to list motivations and on the most used self-assessment questionnaires when measuring job satisfaction. When assessing job satisfaction, it is worth noting that many attempts have been made to measure this construct, some of which have been conveniently verified by using large samples of workers. In this phase, some of the most relevant and most widely used questionnaires were looked at: the Job Descriptive Index (JDI), developed by Smith, Kendall & Hullin (1969); the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1977); the Job Satisfaction Survey (JSS) (Spector, 1985); Job Diagnosis Survey (JDS) (Hackman & Oldham, 1975); the S4/82 questionnaire (Melía & Peiró, 1998). In general, these questionnaires allow measuring the main factors in job satisfaction with a high degree of reliability, except for the JDS by Hackman & Oldham (1975), which focuses on the specific characteristics of the job. To do so, the questionnaires use a large number of items ranging from the 36 found in Spector's JSS (1985) to the 100 found in MSQ by Weiss *et al.*, (1977).

Regarding motivation, the Miner Sentence Completion Scale (MSCS) by Miner (1964), the Job Choice Exercise (JCE) by Stahl & Harrel (1982), the Motivation and Anxiety Performance Questionnaire (MAE) by Pelechano (1975), the Psychosocial Motivation Scale (MPS) by Fernández-Seara (1987), and the Work Motivation Scale by Tous (1993) were analyzed. In general, these scales are aimed at assessing motivation by using a specific theoretical framework. Some of them measure a process of motivation-activation (*i.e.*, MPS by Fernández-Seara, 1987) or specific aspects of motivation (*i.e.*, MAE by Pelechano, 1975), which assesses the motivation of achievement. Other problems stem from the scant variety of responses that some questionnaires allow and the problems faced when they are used for several groups, for example, when decision-making exercises are used as in the case of the JCE by Stall & Harrell (1982).

In addition to this review of questionnaires, a series of detailed and dynamic interviews were carried out with groups of active workers to increase our knowledge of what worries and priorities they held with regards to their employment. In total, 15 semi-structured, detailed interviews and seven group interviews were held by using groups of four to six people. All of the participants were active workers and belonged and had been working in the job for at least six months. After a discussion process in work groups by using different preliminary proposals, the final questionnaire was drawn up in April 2008, which consisted of a set of data classifying the employees, the type of job and organization and a total of 44 items categorized into the six most relevant work dimensions, as follows:

1. Salary and other rewards: Seven items referring to job stability, different aspects of remuneration, incentives, social benefits, and recognition.

2. Work conditions: Seven items referring to work, safety and health conditions, physical and mental stress, the working day, holiday and special leave, and the relationship between the means used and the demand for results.

3. Possibility of personal development: Seven items listing the opportunities available for training and learning, employability, career advice, promotion, professional career and appraisal.

4. Job characteristics: Eight items relating to the amount of work and job pace, variety of tasks undertaken, importance and meaning of the job, employee's autonomy and responsibility, and feedback on the work carried out.

5. Work relationships: Seven items focusing on relationships with colleagues, superiors, subordinates and other agents, as well as focusing on the processes of communication and the resolution of conflicts.

6. The firm and management: Eight items referring to management style, leadership skills, organizational values, social responsibility, etc.

The six dimensions specified include, in essence, all of the proposals by relevant authors. A dual measuring scale was used for each and every one of the items. In the first part, interviewees must indicate the importance of each of the factors for them, taking into consideration what the job they would like to do should be like. For this area, a 5-point Likert scale was used ranging from 1, unimportant, to 5, extremely important. On the second scale, interviewees must highlight the level of satisfaction they experience in relation to those same factors in their current job. To perform this section, a 7-point Likert scale was used, starting with -3, very unsatisfied, up to +3, very satisfied. By using these scales and defining the scores received, we sought to, firstly, distinguish the importance of a particular factor for employees and, therefore, the potentially motivating aspect of this factor, as well as the satisfaction employees could feel at any given time towards these factors, which gives us an

idea of the gap between their situation and the expected or desired one. Secondly, we tried to point out that the importance of this factor can be nil or positive but it can never be negative; whereas, the level of satisfaction can indeed be negative, when work situations create feelings of pain, frustration, rejection, or uneasiness.

The use of the same range of factors across the two scales becomes extremely useful in defining personal motivation actions, as it helps us to identify where the greatest gap in job satisfaction existed among the factors considered especially relevant. Extensive opportunistic costs can be avoided by allocating resources to closing the gap in terms of satisfaction with regard to those factors of greater importance for homogeneous groups of employees in terms of satisfying personal needs. It is, therefore, worth considering the variables relating to motivational and satisfaction needs in a job, which are easy to manage and can be used to define different profiles in employees. To do this, we took into account the variables included in the questionnaires most often used, as well as the most commonly used variables in research on job satisfaction. The questionnaires related to job satisfaction were aimed, primarily, at the analysis of two types of variables, the demographic characteristics of employees and characteristics of the job context (Reiner & Zhao, 1999). Among the factors studied for the first set of variables was the relationship between the level of satisfaction and race, gender, marital status, qualifications, age, seniority, the job specifically assigned, etc. One aspect that is of special interest to us is the relationship between over-education and job satisfaction, which has been studied, among others, by Battu, Belfield & Sloane (1999). Among the latter set of variables, we analyzed the attributes of the job measured based on the Hackman & Oldham (1980) model dimensions.

Other studies have analyzed the influence of organizational variables such as empowerment (Kirkman & Rosen, 1999), work conditions for full-time, part-time, shift work, job changes, etc., (Begley & Czajka, 1993). Likewise, as we pointed out earlier, different studies have analyzed how different personality traits can affect motivation and satisfaction (Judge, Heller & Mount, 2002). Nevertheless, given the difficulties involved in analyzing them and, even more so, by using them as classification criteria in the decision-making process for a reward system, these criteria were not included. Moreover, it should be noted that

none of the questionnaires reviewed included this type of variable.

Finally, the questionnaire included the following classification variables: age, sex, family situation, level of employee training, if it is their first job or not, years on the job, job title, level of training required by the job, hierarchical status, job characteristics (variety, autonomy, identity, significance, and feedback), contract type, type of timetable and over-education level, defined as the difference between the level of employee training and the training level required by the job, based on the employee's own perceptions. The size of organization and the active sector it belongs to were also included.

Lastly, as a way of assessing the predictive validity of the job satisfaction measurement in the questionnaire proposed, we included two items to analyze an employee's intention to quit. To define these items, we employed the scales used by Firth *et al.*, (2004) and Siong, Mellor, Moore & Firth (2006). Employees should indicate, on a scale of one to five, the probability that they will abandon their current job and the probability that they will look for a new job within the next year. The choice of this variable is due, primarily, to the fact that the literature offers clear evidence that job satisfaction plays an important role in the intention to quit both directly, and indirectly, through its effect on organizational commitment (Firth *et al.*, 2004; Siong *et al.*, 2006). The second reason is that it ends up being relatively easy to measure and broad agreement has been reached on how to do it.

3. Methodology for validating the measuring instrument

3.1. Sample

To validate the questionnaire, we sought to obtain a sufficiently large group of active workers belonging to different organizations in the Region of Valencia (Spain). Eventually, we obtained 854 questionnaires, of which 801 were valid, between April and September 2008. We rejected those missing large chunks in their classification variables, those that had left more than 5 out of the 44 blanks for the factors considered, and those filled out by self-employed workers or by workers who were inactive. If we take the wage earning population of the Region as a reference, we can assume a sampling error of 3.5% with a 95% level of confidence.

Regarding the characteristics of the sample, 48.8% were men . Age ranged between 17 and 69 years, with a mean age of 37. The age groups that are more represented, for both men and women, are 25 to 35 years old and 35 to 45 years old. A total of 46.2% of them do not have dependents, 22.5% have one dependent; 18.4% have two and the rest have between three and nine. All possible training levels are represented here, but the predominant category is those who have finished high school and those with university training. Some 19.4% of the cases are in their first job and the years spent on the job ranges from a minimum of one month to a maximum of 41 years and 5 months; 59% of them are basic employees, 12.9% are technical staff, 1% occupies higher management positions, and the rest are middle-management at different levels of hierarchy. A total of 44.9% have a fixed working contract, 25% are career civil servants, and 5.8% are short-term contracts; the rest have an unstable contract or even no legal contract at all. With regards to the type of working day, 32.7% work on a fixed part-time basis, 24.5% work on a fixed intensive basis, 14.6% work flexible schedules,and the rest work in shifts or have an irregular timetable, established based on the needs of the firm. As for the size of the firm, 30% of the employees are part of firms that have more than 2,000 employees, while the rest of the sample is spread reasonably evenly between micro businesses (16%), businesses with 10 to 49 employees (18.3%), 50 to 249 employees (18.5%), and 250 to 2,000 employees (16.9%). By sector, 36.7% work in the public sector and 63.3% in the private sector. Within the private sector, 54.8% work in the service sector, 20.1% in industry, 13.4% in construction, and the remaining 11.6% in agriculture. Taking this data into account, it is worth pointing out that certain trends exist in the sample due, fundamentally, to an overrepresentation of women, higher degrees, employees between 25 and 35 years of age, and employees in the public sector and from large firms.

3.2. Confidence and validity

To attempt to guarantee, prior to using the questionnaire, that the sample is adequate and representative of the content it is trying to assess, *i.e.*, the validity of the content, we requested collaboration from two experts. First, we asked them to assess, without knowing the specific items to be used, if the six dimensions identified were appropriate and sufficiently comprehensible. We then provided them with the set of items so that

they could categorize them into the six established dimensions.

To measure the internal consistency of the different scales associated with each of the six dimensions mentioned in the section above, in terms of both their importance as a motivational factor and the level of satisfaction, we used Cronbach's alpha, which gauges the internal consistency of a scale by using an average inter-element correlation.

The structural validity of the different indicators was analyzed by using factor analysis. Given that each dimension is represented by between seven and eight items, which form an additional scale, these items should be strongly associated with each other. The factor analysis allows contrasting unidimensionality, which consists of checking to see if the different items show increased accumulation for any of the factors. To do so, we decided to carry out a factor analysis by using varimax orthogonal rotation, to extract the values that had a value greater than 1. The same type of analysis was applied to the 44 items on each of the scales.

To allow checking if individuals were aware that they were answering different questions in the two scales, that is to say, that the score for one item on the scale "important as motivators" and on the scale "job satisfaction" were independent, we analyzed the correlation between the correlative items on both scales, and added up the total of each of the six dimensions used and then added up the total of the variables.

The concurrent predictive validity (the predictive measurements and criteria were obtained at the same time) was verified by analyzing at what rate the level of job satisfaction constituted a good indicator of a person's intention to quit the organization. The first action was to carry out an ANOVA analysis between the groups of subjects that scored above and below average on the overall job satisfaction section. These analyses were carried out not only by using an overall score of satisfaction (the sum of all satisfaction values), but also by using a weighted overall score (each value obtained on the satisfaction scale was weighted by the value obtained by the same factor on the importance scale). A series of linear regression analyses were also carried out, with the intention to quit being used as a dependent variable and the different measurements of job satisfaction as dependent variables. In Model 1,

we used the levels of satisfaction for the six dimensions that are set out in the questionnaire. In Model 2, the values obtained on the satisfaction scales were weighted by the values obtained by the factor importance scale. These analyses were carried out by using the whole sample range and then, subsequently, using the employees from the private sector. This was deemed convenient, given that public sector employees were overrepresented in the sample and, in general, they tend to show fewer dispositions to changing a job where the main attraction is job stability.

Finally, two discriminant analyses were conducted to check if the satisfaction dimensions and the weighted satisfaction dimensions were able to predict if an employee had a high or low intention to quit. Simultaneous estimation model was used, because the priority of the analysis was the right classification of individuals.

4. Results

The results obtained from consulting experts on the validity of the content were very satisfactory. Both experts deemed the dimensions used as adequate and sufficiently comprehensible. The percentage of agreement between the two experts was 93.18% (41/44) and the level of agreement with the initial classification was 95.46% (42/44) for the first expert, and 93.18% (41/44) for the second. As a consequence of these results, and following the recommendations of the experts, we changed the structure of 4 of the items initially proposed.

With regard to internal consistency, the results from Cronbach's alpha were satisfactory, not only for the ideal job dimensions but also for the job satisfaction dimensions. As noted in Table 1, the first case shows alpha values that range between a minimum of 0.865 for the "salary and other rewards" dimension and a maximum of 0.919 for the "personal development opportunities" dimension. When assessing satisfaction, the values ranged between a minimum of 0.846 in the "work conditions" dimension and a maximum of 0.935 in the "firm and management" dimension. If we take the six dimensions together, Cronbach's alpha values are 0.965 for both the motivation scale and the satisfaction scale. Taking into account that the values above 0.7 are considered adequate, the values obtained indicate a heightened internal consistency between the elements on the scales

analyzed. This allows us to assume that variations in the scores are attributable to the differences among the subjects, but do not necessarily imply unidimensionality of the scales, which means we can identify the factor analysis.

Before moving on to analyzing the results from the factor analysis carried out for each of the dimensions on the satisfaction and preference scales, it is important to assess the suitability of the data in a factor model. To do this, we used the Kaiser-Meyer-Olkin (KMO) index and Bartlett's sphericity test. As noted in Table 2, the results from both tests are completely satisfactory. In all cases, the value of the KMO index is greater than 0.6, this being the minimum level for applying factor analysis. The results obtained via the Bartlett test allowed us to reject the null hypothesis of an absence of correlation with a confidence level of 0.001. The high coefficients and critical low levels of correlation matrices and the low coefficients for the anti-image correlation matrices also indicate suitability for applying factor analysis.

Table 2. Results from the KMO index and the Bartlett test

Motivation-Satisfaction dimensions	Importance as Motivators		Level of Satisfaction	
	KMO	Bartlett (Sig.)	KMO	Bartlett (Sig.)
Salary and other rewards	0.883	0.000	0.857	0.000
Work conditions	0.835	0.000	0.780	0.000
Personal development opportunities	0.907	0.000	0.827	0.000
Job characteristics	0.909	0.000	0.918	0.000
Work relationships environment	0.902	0.000	0.886	0.000
The firm and the management	0.923	0.000	0.908	0.000
All of the dimensions together	0.962	0.000	0.956	0.000

Source: Revuelto, L. & Fernández, R. (2012).

For the six dimensions that refer to importance in terms of motivation, the factor analysis identified a single factor with an eigenvalue of more than 1. All of the cases on the Catell screen test show the suitable solution of a single factor. Additionally, in the six cases, the factor loadings of all of the items are heightened for that factor. For the same dimensions relating to satisfaction, the results are similar, although for the work conditions and personal development opportunities dimensions, we found two items with an eigenvalue greater than 1. Even in these two cases, if we deal with the variance explained by each factor and what is shown in the sedimentation graphs, the solution for a single factor would be acceptable.

If the results of the factor analysis are examined by taking into account the 44 items on each scale, we find a six-factor solution with eigenvalues greater than 1 for the "importance of motivators" and an eight-factor solution for the "level of satisfaction" scale. These factors do not correspond to the six factors set out for each scale. In both cases, there is a factor that has an eigenvalue which is much higher than the rest, and which explains more than 40% variability. (Table 3).

The correlation analysis carried out among the correlative items on both scales and among the sum of the variables on each of the six dimensions and the total sum of the variables also provides us with satisfactory results. The coefficient values for the Pearson correlation range, in absolute terms, from a minimum of 0.001 for variables 21A and 21B, which relate to "the way in which the merits and abilities of the employees are assessed, along with the way in which the results of the assessment are used", up to a maximum of 0.254 for variables 34A and 34B, which refer to "the quality of the relationships with other agents". The majority of the values are close to 0.1, due to excess or default. Table 4 shows the coefficient values for Pearson's correlation in each of the six dimensions used and for the total sum of the "importance as motivators" and "level of satisfaction" scales.

In sum, the results mentioned seem to confirm that the scales used offer a high level of internal reliability and a satisfactory structural or factor validity. These results also show us that the people surveyed are conscious of the fact that, in each scale, independent aspects are being assessed. In the first, it is the importance that a specific factor has

Table 3. Summary of the factor analysis results

Motivation-Satisfaction dimensions	Importance as Motivators			Level of Satisfaction		
	Eigen value ›1	V.A. load min. and max.	Explained Variance	Eigen value ›1	V.A. load min. and max.	Explained Variance
Salary and other rewards	3.902	0.500 - 0.852	55.738	4.040	0.375 – 0.894	57.716
Work conditions	3.850	0.707 – 0.791	54.998	3.653	0.640 – 0.776	52.186
Personal development opportunities	4.710	0.784 – 0.859	67.281	1.111	0.088 – 0.617	15.874
Job characteristics	4.435	0.607 – 0.845	55.432	3.834	0.042 – 0.850	54.766
Work relationships environment	4.517	0.716 – 0.845	64.531	1.017	0.009 – 0.963	15.924
The firm and the management	4.986	0.636 – 0.851	62.324	4.956	0.630 – 0.863	61.956
	17.700	0.426 – 0.741	40.228	4.462	0.698 – 0.846	63.746
	2.949	0.004 – 0.442	6.702	5.452	0.661 – 0.891	68.151
	1.804	0.032 – 0.352	4.101	17.903	0.331 – 0.770	40.688
	1.724	0.010 – 0.499	3.919	2.754	0.014 – 0.415	6.258
	1.615	0.012 – 0.382	3.670	2.208	0.024 – 0.565	5.018
	1.179	0.004- 0.404	2.680	2.133	0.003 – 0.497	4.848
				1.734	0.000 – 0.342	3.942
				1.312	0.031 – 0.376	2.981
				1.284	0.001 – 0.431	2.919
				1.136	0.005 – 0.446	2.582

Source: Revuelto, L. & Fernández, R. (2012).

in motivation, and in the second, it is the current level of satisfaction with this same aspect, with the answers on both scales being independent.

Table 4. Pearson coefficients correlation dimensions and total

Motivation-Satisfaction dimensions	Pearson Correlation Co. Values
Salary and other rewards	0.073
Work conditions	0.099
Personal development opportunities	0.081
Job characteristics	0.241
Work relationships environment	0.177
The firm and the management	0.148
SUM of total variables 6 dimensions	0.129

Revuelto, L. & Fernández, R. (2012).

With regard to the predictive validity of the motivation-satisfaction scale, it is worth highlighting that the ANOVA analysis carried out to check if significant differences existed in a person's intention to quit, among those subjects who showed overall satisfaction levels greater or less than the average, produced significant results (sig. 0.000) not only when the overall satisfaction measurement was used but also when satisfaction level was weighted by the importance given to any item. The results seem to confirm the existence of a negative relationship between satisfaction and intention to quit (Table 5 y Table 6).

Table 5. Summary of linear regression model 1

R	R²	R² corrected	Estimation error	Statistical change						Durbin-Watson
				Change in R²	Change in F	gl1	gl2	Sig. Change in F		
.407ª	.166	.158	2.261	.166	21.832	6	659	.000		1.826

a. Predictive variables: (Constant), V1a7B, V8a14B, V22a29B, V15a21B, V30a36B. 37a44B.
b. Dependant variable: total score ITQ 1 and 2

Source: Revuelto, L. & Fernández, R. (2012).

Table 6. Summary of linear regression model 2

R	R²	R² corrected	Estimation error	Statistical change						Durbin-Watson
				Change in R²	Change in F	gl1	gl2	Sig. Change in F		
.413ª	.171	.163	2.267	.171	21.395	6	624	.000		1.840

a. Predictive variables: (Constant), V1a7AB, V8a14AB, V22a29AB, V15a21AB, V30a36AB, V37a44AB.
b. Dependant variable: total score ITQ 1 and 2

Source: Revuelto, L. & Fernández, R. (2012).

Secondly, the linear regression models yielded some positive results, above all, when the level of satisfaction was weighted with the importance assigned to each factor used. In Model 1 (Table 5), which uses the satisfaction scores obtained in the six dimensions of the questionnaire as the independent variables, the percentage of explained variance is 16.6% (15.8% if we use the corrected R^2) and the F statistic indicates that the relationship is significant (sig. 0.000). The coefficients of all the independent variables are, as expected, negative, although only those for the first three dimensions (salary and other rewards, work conditions, and personal development opportunities) can be considered as particularly different to zero. With Model 2 (Table 6), which uses the six weighted dimensions of satisfaction (satisfaction values are weighted by importance values in each factor of the scales), the results improve slightly. Therefore, the explained variance is 17.1% (16.3% if we use the corrected R^2) and the F statistic shows that the relationship is significant (sig. 0.000). As with Model 1, all of the coefficients are negative but only those from the first three dimensions were significant. When only employees from the private sector were considered, the percentage of explained variance increases to 22.3% when the satisfaction dimensions are applied, and 22.8% with the weighted dimensions of satisfaction. This is coherent, given that the main attraction of public employment is mainly based on stability and good basic pay, which is why it may be difficult to relinquish and it normally attracts people who have a great aversion to risk.

Therefore, these results demonstrate that the scale of satisfaction used has a predictive value in relation to the intention to quit, and that its ability to predict slightly increases when we take into account the importance that employees grant to the different factors included in the scales. The results do not show any significant relationship among job characteristics, the working relationship environment and questions related to management styles, values, etc., with employees' turnover intention. This result might be due to multicolinnearity problems. Even though correlation between measures of the same dimensions of the questionnaire are, in general, higher than correlations between measures of different dimensions, this is not true in all cases, then dimensions are correlated and predictors (dimensions) that explain a higher percentage of variance could be statistically neutralizing other dimensions.

Results of discriminant analysis performed gave positive results. In both cases, with satisfaction dimensions and with weighted satisfaction dimensions, Wilks' lambda indicates the significance of the discriminant function (sig. 0.000). The canonical correlation suggests that the model explains more than 60% of the variation in the grouping variable in both cases. In the first case, the cross-validated classification showed that overall 85.1% of the cases were correctly classified. Using the weighted satisfaction dimensions results slighltly improve because, in this case, 88.6% of cases were correctly classified.

5. Conclusions

It is considered a fact that individuals differ in their necessities and, therefore, show different preferences with regard to the characteristics of their jobs and the rewards that go with them. It is also obvious that the level of job satisfaction for employees comes from a whole range of different aspects related to their job, in such a way that they may be very satisfied with some aspects, moderately satisfied with others, and completely unsatisfied with a third set of aspects. Furthermore, priorities, as well as satisfaction levels, can change over time due to different internal and external factors within the organization as can the individual's learning curve.

Employee surveys, used effectively, can be very effective in improving employee attitudes and producing an organizational change, which can improve performance and competitiveness. By measuring the different facets of job satisfaction, managers can obtain a wider picture of their specific strengths and weaknesses in connection to an employee's job satisfaction, especially when they compare this with industry or national norms and use it to correctly re-design their appraisal and reward systems in a broad sense, including job descriptions, leadership styles, etc. The double measuring scale put forward seeks to offer an alternative so that this type of research can be carried out efficiently, in such a way that HR practitioners can make appropiate decisions to maximize the use of the resources available and any organizational changes that need to be made.

The results obtained through the process of validating the questionnaire enables us to conclude that the measuring scales used to assess the importance that employees assigned to particular motivational factors, as well as how to measure the

current level of satisfaction for these same factors, presented a high level of internal reliability and a satisfactory structural or factor validity. It also indicates that the employees surveyed are conscious of the fact that each scale was assessing different questions and that the results for both scales were independent. Finally, we have been able to determine that the model presents considerable predictive validity with regards to the intention to quit, as the theory predicted, and it has been contrasted in numerous other studies. Furthermore, the predictive ability in job satisfaction with regard to turnover increases slightly when we put the different satisfaction factors in order of their importance to the employees surveyed.

Taking all of this into account, we believe that the questionnaire meets the necessary requirements to permit its use, not only as a research tool but, even more importantly, as a tool that enables HR practitioners to make satisfactory decisions when it comes to re-designing reward systems in their organizations; a reward system, which is widely understood, which answers questions related to salaries, incentives, basic working conditions, factors such as job descriptions and content, leadership styles, participation opportunities, guarantee of employment, professional careers, personal training and development opportunities, etc.

Measuring the importance of each motivational factor and satisfaction levels for each employee, allows the high priority areas where action is required to be detected by using both measurements simultaneously or by weighting satisfaction levels by the importance of each of the factors used. In this respect, the priority that should be attached not only to a situation of need or dissatisfaction in relevant areas by different groups within the firm but also the value, specificity and shortage of human capital that each of these groups has is well worthy of note.

In terms of the limitations of the study, as well as a pointer for future research, several questions need highlighting. First, the sample shows significant trends that were previously discussed in an earlier section. The sample was also limited to a very specific geographical area and provides little information on the specific sectors to which the firms belong. This can make using these results difficult in the future as a standard reference point by which to compare results obtained from different firms or places.

Furthermore, the predictive validity of the model has only been contrasted against the intention to quit, and without having taken into account other factors that could influence a person's disposition to quit a firm. Consequently, we will attempt, in future research, to correct these deficiencies by trying to validate a broader predictive ability in the model and improve the samples used. We also plan to use structural equation models to improve construct validity analysis. Similarly, we would like to establish profiles which are more or less homogeneous with regards to the needs or levels of satisfaction levels of employees, so that it will help HR managers to adapt their reward systems to the personal characteristics of the job, as well as make them sufficiently appealing to ensure they attract and retain the talent they need to achieve organizational goals.

7. Acknowledgments

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