Electronic Journal of Applied Statistical Analysis
EJASA, Electron. J. App. Stat. Anal.
http://siba-ese.unisalento.it/index.php/ejasa/index
e-ISSN: 2070-5948
DOI: 10.1285/i20705948v16n1p25

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Published: March 15, 2023

Electronic Journal of Applied Statistical Analysis
Vol. 16, Issue 01, March 2023, 25-49
DOI: 10.1285/i20705948v16n1p25

Human Resources Management Practices and Job Satisfaction: the Moderating Role of Seeking Challenges. A Longitudinal Study Through PLS-SEM

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Published: March 15, 2023

The current labour market needs sustainable organisations in human, technological and environmental terms. The rapid transformations that take place on a daily basis, and the constant search for personnel with transversal competences, lead to a rethinking of the resources needed for the development of organisations and organizational well-being. The objective of this research is to analyse the impact of Human Resources Management practices on job satisfaction and on the moderator role of proactive seeking challenges skills on this relationship. The study was carried out on 152 subjects, about 60% female and 40% male, with prevalent age in the class between 35 and 50 years. The results obtained by means of non-parametric Structural Equation Models (PLS-SEM) indicate that Human Resources practices showed a positive relationship with proactive challenge seeking behaviour (job crafting)

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ISSN: 2070-5948
http://siba-ese.unisalento.it/index.php/ejasa/index

and job satisfaction at Time 2. The estimates were validated by bootstrap resampling performed through 1000 resubmissions. In addition, the study highlights the moderating role of seeking challenges in the relationship between Human Resources Management practices and job satisfaction. The evidence provide important reflection, as it leads to rethinking strategically the adoption of appropriate practices to manage the workforce, ensuring personal growth and quality of organizational life and well-being.

keywords: HRM practices, job crafting, seeking challenges, job satisfaction, PLS-SEM, longitudinal, moderation.

1 Introduction

The recent and sudden changes in the labour market have induced more and more workers and organisations to face a reality in which a sustainable rethinking of the forces in the field is necessary. Technological innovations and the growing demand for specific competences lead to a reflection on the organisational system itself and on its characteristics, in terms of management, leadership and workforce.
In this context, research on Human Resource Management has pointed out the need to adopt a sustainability approach (e.g. Kramar, 2014) that considers not only the impacts on productivity and performance outcomes but also on individuals' well-being (Guest, 2017). Thus, in the last decades, research on Human Resource Management (HRM) has broaden its focus of attention beyond its classical focus on performance (Huselid, 1995) and several researchers have explored its relationship to different well-being indicators such as job satisfaction (Peccei and Van De Voorde, 2019; Van De Voorde et al., 2012). Job satisfaction has been always considered a relevant variable in organizational research, as it has been s shown to be related to performance (Davidescu et al., 2020) and other organizational behaviors (Dou et al., 2019; Chatzopoulou et al., 2022), and individual outcomes such as decreased anxiety and depression (Demir, 2018). From the perspective of the job demands-resources model, Human Resource Practices (HRM practices) are considered to be important resources that can help individuals in organisations to face in a better condition work demands, which in turn would benefit their satisfaction at work.
However, although most part of the research has shown a positive relationship between HRM practices and employees satisfaction (Peccei and Van De Voorde, 2019), some research has also found support for the lack of a relationship between them (job satisfaction and some HRM practices; Guest, 2002) or even some negative relationships have been found (life satisfaction in relationships to performance enhancement practices; (Villajos et al., 2019a,b). These contradictory results call for the consideration of potential moderators in this relationship. Moreover, as research has previously acknowledged, the relationship between HRM practices and job satisfaction does not occur in a vacuum and there is a need to further explore the personal and contextual factors that could be influencing this relationship (Croon et al., 2015).

Starting from the experiences of the Human Relations movement (Mayo, 1933) and from the most recent conceptualisations of positive psychology (Diener and Seligman, 2004), studies have shown that it is not only contextual aspects that make the difference, but also individual factors. Thus, it is emphasized the importance to consider individuals not as mere recipients of organizational actions but as active agents that can modify or influence the effects of organizational resources and demands on their work outcomes (Zito et al., 2018; Li et al., 2021). Job crafting has been defined as *actions that workers undertake to shape, modify and redefine their tasks* (Wrzesniewski and Dutton, 2001), adapting them to their own needs and requirements. Different types of job crafting behaviours can be identified (Tims et al., 2012). Specifically, actions addressed to seeking challenges refer to individual actions that workers undertake in order to extend or intensify the scope of their work. Those individual seeking challenges in their work will potentially benefit to a higher extent from those organizational resources that allow them to grow. Thus, the objective of this paper is to analyse the relationship between HRM practices and job satisfaction and the moderator role of seeking challenges in this relationship. We study those relationships by means of a longitudinal design using PLM-SEM.

1.1 Human Resources Management practices (HRM) and job satisfaction

The strategic role of HRM practises, such as recruitment management, training and development, is an extremely sensitive issue, especially in the current period of rapid changes in the economic and labour markets. However, although HRM may differ enormously from company to company for cultural and organizational reasons, several studies have established that such practices have important implications for providing a competitive advantage to (Manuti et al., 2020; Pace et al., 2021) organisations. Most part of the research on this topic has been mainly focused in studying the relationship of HRM practises with organizational and individual performance showing positive results (Huselid, 1995; Ramsay et al., 2000). Although different theoretical frameworks have been developed research which mainly considered underlying dynamic of this relationshp, their impact on employees' competencies, motivation and opportunity to improve individual's performance which, in turn, will affect organizational performance (AMO theory, Appelbaum et al., 2000).

In the last decades, research has also highlighted the importance of HRM practices to improve the quality of working life and the well-being of workers (Guest, 2002; Van De Voorde et al., 2012). Most part of this research has focused on the role of well-being as a potential mechanism underlying the relationship between HRM practices and performance but also as a desirable outcome in itself (Villajos et al., 2019a,b).

Theoretical approaches such as social exchange theory (Blau, 2017) or the Job Demands-Resources (JD-R) model (Demerouti et al., 2001) propose that the positive effect of HRM practices on performance is mediated by well-being. For example, the reciprocity norm suggest that those employees more satisfied with their jobs because they receive more resources and opportunities of personal development (through the provision of HRM

practices) are more willing to positively contribute to the organization with higher levels of commitment and performance.

The Job Demands-Resources Model complements research on stress and motivational processes (Demerouti and Bakker, 2011): each occupation has its specific motivating aspects and risk factors, which can be categorised into two general groups, job demands and job resources. Since HRM practices address directly the labor relationships between employeer and employee, they integrate the different processes through which the organizations exert demands and offer resources to employees. The model, therefore, is a general key that can be applied to the most diverse occupational contexts. At its basis, therefore, is the interaction between job demands and job resources, both of which are important components for the development of motivational processes or work tension, thus making it possible to predict positive or negative organisational outcomes. Workers are considered as active subjects, as they are able to optimise their work demands (e.g., aspects of work that require effort) and work resources (e.g., aspects that promote effective functioning) in order to achieve work goals (Bakker et al., 2007).

Two psychological processes underlie the JD-R model: the development of health/energy and motivation mechanisms, both work-related. The first process compromises the individual's health since a job with high demands exhausts the resources (physical and mental) of the worker; the second, on the other hand, is a motivational process since the same work resources have an incentive role and are functional for the achievement of work objectives, thus improving performance.

Different practices have been considered but most part of research has been focused on high performing Human Resource practices such as adequate recognition and benefits of know-how and skills, rigorous personnel selection, extensive information sharing, decentralised decision-making and employee empowerment, team-based work organisation, high investment in training and skills development (Boon et al., 2019).

Strategic Human Resources Management can enable a company to adequately ensure person-fit, promote operational efficiency and encourage proactivity, creativity and the innovation process (Dyer, 1983; Walker, 1980). Other aspects that can be positively influenced by a suitable management of Human Resources concern the more effective tackling of the challenges of change (Cook and Ferris, 1986; Tichy and Barnett, 1985), improving the communication of organisational objectives, motivation and a greater involvement of managers. In this regard, they have pointed out how a correct practice of Human Resources Management can directly activate processes such as greater employability in employees, the learning of new skills and extra-role behaviours not directly foreseen in the company tasks.

Indeed, the success or failure of businesses therefore rests on people resources as well as the procedures, economics, and equipment used in an increasingly varied and dynamic world. Human Resources thus become one of the most essential variables at a point in industrial processes where it is highly vital to support sustainable operations (Hitka et al., 2021). Therefore, employee motivation and satisfaction are also key factors in the performance and sustainability of corporate processes (Strenitzerová and Achimskỳ, 2019). One of the most practical approaches to guarantee a sustainable workforce is to ensure the adoption of appropriate Human Resources policies with an emphasis on

good management practices, capable of eliciting proactive behavior that enhances job satisfaction (Davidescu et al., 2020). Adopting sustainability is turning into an essential factor that businesses need to depend on (Corallo et al., 2019a). Therefore, as previously mentioned, the function of the human factor becomes essential and transversal, as it is crucial in different areas (Corallo et al., 2019b).
This study stems from this perspective: the objective is to evaluate, in a longitudinal study, how a wise management of Human Resources can have an effect on job satisfaction and, at the same time, elicit proactive behaviors that can benefit directly to individual workers and, indirectly, to the organization itself. Moreover, the study aims to explore whether the combined effect of HRM practices and job crafting might lead to improving job satisfaction in a longitudinal perspective.

1.2 HRM practices and employees' job satisfaction

As a general indicator of job quality, job satisfaction measures how an employee feels about his or her working environment and job. According to several studies, such as Petrescu and Simmons (2008); Al Kurdi et al. (2021), HRM practices are positively related to employee job satisfaction.
There is broad agreement that Human Resources Management practices designed to improve the workplace provides the employees with key resources to cope with work demands, what will produce a more favourable labour climate, foster learning and development and, in turn, improving employee job satisfaction.
Therefore, HR practices should consider the objectives of employers, employees and customers. To ensure customer satisfaction and business productivity, organisations should deem the empowerment of their employees, as well as their well-being (Di Fabio, 2017).

1.3 The moderating role of job crafting actions oriented to seeking challenges

Job crafting can be considered a process to which the workers adapt the demands exerted and resources offered by HRM practices to their own needs and, thereby, increase their satisfaction and well-being. It is therefore a bottom-up process, not imposed, but spontaneous, of which it is possible to quantitatively define three dimensions: the search for challenges, the search for resources and the reduction of demands. The first dimension, challenge seeking (e.g. accepting new assignments), occurs when workers seek to extend the scope of their work or simply need more challenges at work. The second dimension (e.g. asking for feedback) occurs when resources are lacking or, conversely, high and workers need a buffer. Seeking challenges and resources can therefore improve individuals' well-being, as they are intrinsically motivating: workers who seek more resources and challenges are more satisfied with their work and experience less burnout. Finally, demand reduction occurs when employees find the demands of their job to be an obstacle and seek to reduce them to prevent the risk of burnout (LePine et al., 2005). Further operationalization of the scale was proposed by Tims et al. (2012), who defined job crafting on the basis of four dimensions the increase in structural resources, i.e.

those related to knowledge and skills; the increase in social job resources, inherent in the feedback and support one can receive from colleagues or superiors; the increase in challenging job demands, which, contrary to the definition of demands increase motivational processes as they induce personal growth in the subject based on the willingness to seek new projects or new voluntary actions unrelated to the job task; the decrease in hindering job demands, i.e. those related to emotionally, mentally and physically demanding aspects of the job.
Job crafting is therefore functional to the achievement of objectives; it reduces work demands and related physical and psychological costs; it stimulates personal growth, learning and development (Demerouti and Bakker, 2011). Job crafting can thus be defined as a process through which workers modify their work and work experiences to adapt them to the changing demands of their environment, so that personal needs are also taken into account. Job crafting, in fact, emphasises the active role of individuals in balancing their work demands and resources in order to gain more control over their activities.

In this regard, Podsakoff et al. (2007) identified "hindering" and "challenging" stressors. Hindering stressors have a negative impact on job satisfaction and contribute to increased tuurnover. Challenging' stressors, on the other hand, have positive effects on job well-being, suggesting a positive relationship with job satisfaction. Examples of "hindering" job demands are role conflict, role overload or role ambiguity; whereas all those elements that contribute to stimulating personal growth and goal achievement are "challenging" factors. When a job becomes too demanding, the demands are considered obstacles and people try to implement strategies to protect their health. In fact, when work demands are too high, but still manageable, they are balanced with high work resources, which translate into positive individual but above all organisational results. In this regard Snape and Redman (2010) found that HRM practices enhance employees' intrinsic motivation in order to exercise higher levels of job influence and discretion.

1.4 HRM practises and job crafting behaviors

According to its definition, job crafting refers to methods used by employees aimed at modifying their own jobs in a way that increases available resources and decreases demands (Tims et al., 2012). JD-R theory (Bakker and Demerouti, 2014, 2017) suggests that job contexts can enhance workers' willingness to succeed or, in unfavourable conditions, inhibit growth and a positive climate. Moreover, engaged employees develop more personal resources, including "optimism, self-efficacy, self-esteem, and the ability to cope actively" (Demerouti et al., 2001). Thus, in our research we also consider that a job environment based on positive HRM can encourage job crafting behaviors: by giving employees job resources, by reducing job demands, by empowering employees and by making them aware of their own opportunities to improve skills, abilities, and job performance (Guan and Frenkel, 2018; Villajos et al., 2019a,b). In contrast, poor HRM systems will hinder cooperation, job crafting, and effectiveness in the organization if HRM practices are carried out in an unorganized manner (Guan and Frenkel, 2018). In sum, job crafting refers not to re-design of jobs, but to modifications of certain aspects

of them (Ingusci et al., 2016).

1.5 Job satisfaction

The continuous stresses of the labour and economic market push companies towards a constant search for innovations that allow them to compete in this context. In this sense, a construct of fundamental importance in terms of literature and operational implications is job satisfaction. Fluctuations in job satisfaction can have serious repercussions on employees (Lambert et al., 2001) and, consequently, on the organisation.
Greater satisfaction corresponds, in fact, to a better company climate, an increase in economic performance (Pepe et al., 2017) and a better ability to respond to work requests through involvement and commitment (Raziq and Maulabakhsh, 2015), generating virtuous behaviour in workers (Spector, 1985; Ostroff, 1992; Piccitto, 2018).

Job satisfaction is a construct that has attracted much interest over the years and has been considered from different theoretical perspectives. The contribution provided by the Human Relations movement (Mayo, 1933) is mainly given by the understanding of the close link between workers' satisfaction and the consequent improvement of both qualitative and quantitative performances. From this it can be deduced that fostering job satisfaction is not only convenient from the individual point of view of the well-being of the worker, but it is the whole organisation that is affected by the effects that satisfaction can foster (Connolly and Viswesvaran, 2000). The approach offered by the attitude measurement movement, on the other hand, allows us to consider job satisfaction as a potential attitude that workers can take towards their work (Thurstone, 1928; Argentero and Cortese, 2016). Alongside these studies is a third theoretical current that has contributed to the development of a definition of job satisfaction: Total Quality Management (TQM) (Evans, 2002). According to this approach, the status of the worker should be equivalent to that of an internal customer in the organisation. Again, the basic idea is based on the worker-organisation relationship. The higher the worker's satisfaction, the better the worker's performance, presence in the organisation and customer focus. For this reason, it is of paramount importance for TQM to adopt strategies to improve employees' job satisfaction and make them more productive at work (Argentero and Cortese, 2016; Bouranta et al., 2019).

The interest in the study of job satisfaction is dictated by two main reasons: on the one hand, the construct is used as an assessment of the emotional state of well-being of employees and as an indicator in workplace health promotion projects to develop specific interventions. On the other hand, it can be seen in a dynamic process as a predictor variable or as a result of other factors related to organisational well-being (Lepold et al., 2018).
In terms of variables correlated with job satisfaction, several studies have found that it can enable the increase of motivational processes, such as the achievement of a sense of fulfilment and recognition within the work organisation (Dhamija et al., 2019; Rashid et al., 2016). The different definitions of the construct are united by the fact that they consider job satisfaction as an affective and positive reaction that the employee has to his or her job. In this sense it encompasses three components: the emotional compo-

nent, linked to the feeling of pleasantness towards work, a cognitive component, given by the perception and a behavioural component, which is reflected in the work activity. Research on the determinants and consequences of job satisfaction is divided into two strands. On the one hand, they have focused on related personal factors and, on the other hand, on everything to do with the work context, content and conditions (Pepe et al., 2017; Guan and Frenkel, 2018; Villajos et al., 2019a,b). As far as personal factors are concerned, an influence on the perception of job satisfaction (Vroom, 1964) is given by the culture of belonging (Kwantes, 2010) and educational level of the individual (Ganzach, 2003).
Considering, instead, contextual factors, job satisfaction seems to correlate positively also with social (support, interactions and feedback), motivational and contextual (physical job characteristics and working conditions) characteristics (Humphrey et al., 2007) and with pay (Diener and Seligman, 2004). Organisational atmosphere can stimulate or inhibit the process of perceiving one's job as satisfying, as can organisational citizenship and promoting diversity. Other studies have focused on person-work fit, highlighting a greater perception of worker satisfaction when job characteristics meet personal characteristics.

In this regard, HRM practices per se are not enough to explain job satisfaction. The proactive role of employees (job crafting) could moderate this relationship as it could increase job-person fit.

Job satisfaction also improves workers' health, allows for more efficient performance, and consequently better business and economic performance. Job satisfaction also has repercussions on non-work life, highlighting how it can affect working hours and time and the management of family life. At the organisational level, job satisfaction increases the acquisition of new skills and provides a tool to improve task management (Ma and MacMillan, 1999). Finally, job satisfaction is negatively correlated with absenteeism at work (Drakopoulos and Grimani, 2013), role ambiguity (not having a clear definition of expected work tasks), counterproductive organisational behaviours, work-related stress (Bouranta et al., 2019; Moen et al., 2013); with work overload (not having the necessary time to complete the assigned tasks) and the presence of conflicts (Jackson and Schuler, 1985; Spector, 1985; Pepe et al., 2017).

2 Objectives and hyphoteses

Depending on the cited literature and with the aim of assessing in longitudinal terms the ability of Human Resources Management practices to elicit proactive behaviors and improve job satisfaction, the hypotheses of the study are:

H_1 : Human Resource Management practices at $Time_1$ are positively associated with job satisfaction measured at $Time_2$;

H_2 : Human Resource Management practices at $Time_1$ are positively associated with the ability to implement proactive behaviours by seeking challenges ($Time_1$);

H_3 : Seeking challenges ($Time_1$) moderates the relationship between Human Resources Management practices ($Time_1$) and job satisfaction ($Time_2$). So that, the higher the seeking challenges, the stronger the relationship between HRM practices and job satisfaction.

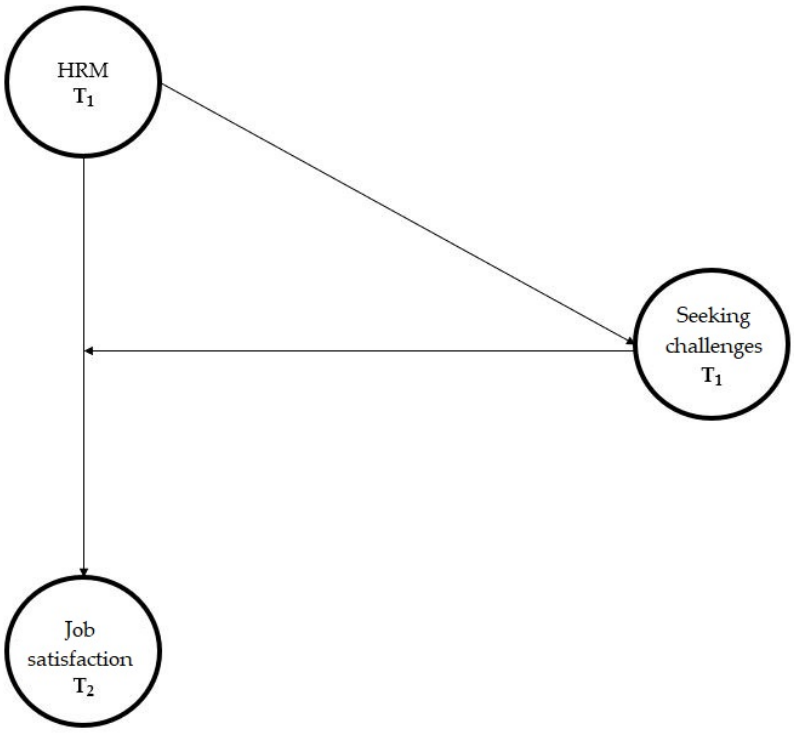

Figure 1: The study's structural model

3 Method

3.1 The Partial Least Squares - Structural Equation Modeling (PLS-SEM) (Hair Jr et al., 2021)

Within the social sciences, researchers have for many years used statistical analysis tools to implement their ability to develop, explore and confirm research findings. In these terms, the methodologies have evolved over time. Indeed, until around the 1980s, first-generation statistical methods, such as factor analysis and regression methods, dominated the landscape, but since the early 1990s, second-generation methods have expanded rapidly and, in some disciplines, characterise about half of the statistical tools applied in empirical research (Hair Jr et al., 2021).

The statistical methods most commonly used by social scientists are divided into first generation and second generation techniques (Fornell and Bookstein, 1982; Fornell,

1985). First-generation techniques include cluster analysis, exploratory factor analysis and multidimensional scaling (exploratory techniques) and analysis of variance, logistic regression, multiple regression and confirmatory factor analysis (primarily confirmatory). More sophisticated, and therefore second-generation techniques include PLS-SEM (primarily exploratory) and CB-SEM (confirmatory). In most cases, when these methodologies are applied to a research question, the aim is to confirm a priori established theories or to identify patterns in data and relationships.

The basis on which these methods, called Structural Equation Models (SEM), are founded, allows studies to be implemented that incorporate variables that are not directly observable (latent dimensions), but which are indirectly measured by manifest indicators. In a very general way, therefore, it is possible to state that there are two types of SEM: SEM based on covariance (CB-SEM) and SEM with partial least squares (PLS-SEM; also called PLS path modelling). CB-SEM is mainly used to confirm (or reject) theories (i.e. a set of systematic relationships between several variables that can be tested empirically). The aim is to determine how well an assumed theoretical model is able to estimate the covariance matrix for a sample data set. In contrast, the PLS-SEM is mainly used to develop theories in exploratory research. The estimation procedure is based on explaining the variance in the dependent variables when examining the model. The two methods are obviously appropriate for different research contexts. In situations where theory is less developed, researchers should consider using PLS-SEM as an alternative approach to CB-SEM. This is particularly true if the primary goal of applying models to structural equations is the prediction and explanation of target constructs (Rigdon, 2012). A crucial conceptual difference between PLS-SEM and CB-SEM concerns the way each method treats the latent variables included in the model. CB-SEM treats the constructs as common factors that explain the covariation between its associated indicators. The scores of these common factors are neither known nor necessary in the estimation of the model parameters. PLS-SEM, on the other hand, uses proxies to represent the constructs of interest, which are weighted composite elements of variables for a particular construct. For this reason, PLS-SEM constitutes a composite constructs approach to SEM, limiting the strong assumption of CB-SEM that all covariance between indicators can be explained by a common factor (Rigdon, 2012; Henseler et al., 2014; Rigdon, 2014).

PLS-SEM works efficiently with small sample sizes, complex models and makes no assumptions about the distribution of the underlying data, unlike maximum likelihood CB-SEM, which requires normally distributed data, and synthetic score regression (sum or mean), which assumes normally distributed residuals. Furthermore, PLS-SEM can easily handle reflective and formative (Cheah et al., 2019) measurement models, as well as single-item constructs, without any model identification issues. When applying PLS-SEM, researchers can also benefit from very good parameter estimates, as the method has greater statistical power than CB-SEM, understood as higher probabilities of making a specific relationship significant when it is actually significant in the population.

There are, however, several limitations of PLS-SEM. In its basic form, the technique cannot be applied when structural models contain causal loops or circular relationships between latent variables. Furthermore, since PLS-SEM does not have a global measure

of goodness of fit, its use for theory testing and confirmation is generally limited. Recent research, however, has begun to develop measures of goodness of fit within a PLS-SEM framework, thus expanding the applicability of the (Bentler and Huang, 2014) method. Other possible criticisms of PLS-SEM concern the consistency of parameter estimates. Although proponents of CB-SEM strongly emphasise this difference in the two methods, simulation studies show that discrepancies between PLS-SEM and CB-SEM estimates are very small when the measurement models meet the recommended minimum standards (Hair et al., 2019) In particular, when the measurement models have four or more indicators and the indicator saturations meet common standards (≥ 0.70), there is virtually no difference between the two methods in terms of parameter accuracy (Reinartz et al., 2009; Joseph F. Hair and Sarstedt, 2019). In addition, recent research has developed modifications of the original PLS-SEM algorithm that correct for PLS-SEM differences.

In certain cases, particularly when there is little a priori knowledge of the structural model relationships or measurement characteristics of the constructs, or when the emphasis is more on exploration than confirmation, PLS-SEM is superior to CB-SEM. Furthermore, when the starting assumptions of CB-SEM are violated in terms of normality of distributions, minimum sample size and model complexity or related methodological anomalies occur in the model estimation process, PLS-SEM is a good methodological alternative for theory testing.

In general, therefore, PLS-SEM is not always recommended as a universal alternative to CB-SEM. Both methods differ from a statistical point of view, are designed to achieve different objectives and are based on different measurement philosophies. Neither technique is generally superior to the other, let alone suitable for all situations. The strengths of PLS-SEM are the limitations of CB-SEM and vice versa. It is important for researchers to understand the different applications for which each approach was developed and to use them accordingly. Researchers should apply the SEM technique that best suits their research objective, data characteristics and model configuration (Roldán and Sánchez-Franco, 2012; Ciavolino et al., 2022a).

Accordingly, in this study we adopted PLS-SEM as it is a technique with a capability to estimate very complex models by relaxing data requirements (Hair et al., 2019; Hair Jr et al., 2021). In particular:

- Because it avoids hypotheses on data distribution (Hair Jr et al., 2017b; Ciavolino et al., 2022a,b).

- Because it avoids hypotheses on sample size (Hair Jr et al., 2017a; Ciavolino et al., 2022a).

- As it not evaluate the model by considering the discrepancies between empirical and implicit covariances (Hair Jr et al., 2021; Ciavolino et al., 2022a).

- For the statistical power through it provides good parameter estimates (Hair Jr et al., 2021).

3.2 Sample and descriptive analysis

The study sample consisted of 152 individuals who answered a specially designed questionnaire in two different time periods, 6 months apart. The subjects were informed by the researchers of the objectives of the survey and gave their informed consent to participate, with the possibility of withdrawing from the research at any time. Finally, data were processed in anonymous and aggregated form.
From a socio-demographic point of view, 60.1% of the subjects were female, while 39.9% were male. In terms of marital status, 65.6% were married or cohabiting, 23.8% single and 68.9% with children. The majority of the individuals declare to have a high school diploma (52.3%) or a university degree (25.8%), a permanent contract (43.0%), in the role of civil servant (40.4%) or a fixed-term contract (11.3%). Finally, 72.8% work full-time, with a seniority towards the organisation of more than 5 years (71.5%) and a salary between 1000 and 1499 Euro (42.4%), between 1500 and 1999 Euro (26.5%) and between 600 and 999 Euro (20.5 %). In terms of age, 43.0 per cent of workers were in the 35-50 age group, 31.8 per cent in the over 50 age group and 23.2 per cent under 35.

3.3 Measures

The theoretical model focused on the analysis of the relationships between the subdimension of challenge seeking (job crafting), the construct related to Human Resources Management practices (HRM) and job satisfaction (JOB SAT). In particular, the scales were measured based on questionnaires already validated in the literature, specifically:

- Job crafting: 3 items from Tims et al. (2012). The reliability of the scale is confirmed by Cronbach's $\alpha = 0.66$ and McDonald's $\omega = 0.72$. Examples of items are: "*When an interesting project is proposed, I actively propose to collaborate on the presented idea" and "If there are innovative projects, I am one of the first to investigate them and test them to see if they are valid*". The Likert scale offers 5-option polarity answers, from 1 = Never to 5 = Always.

- Human Resources Management (HRM) practices: 13 items from Villajos et al. (2019b). The scale has excellent reliability indices, in particular Cronbach α and McDonald $\omega = 0.94$. The items deal specifically with aspects of compensation and reward, performance management and evaluation, accurate selection and recruitment processes, and outplacement policies. Examples of items are: "*My organisation/company offers me an employment contract that guarantees job stability" and "My organisation/company offers me a competitive salary in the labour market*". The Likert scale features 5-option response polarities, from 1 = Not at all to 5 = Very much.

- Job satisfaction: 7 items from Warr et al. (1979). The reliability of the scale is respected, since Cronbach $\alpha = 0.85$ and McDonald $\omega = 0.86$. Examples of items are: "*Please indicate to what extent you feel satisfied with the responsibilities assigned to you*" and "*Please indicate to what extent you feel satisfied with your*

working hours". The measure is a 7-polarity Likert scale, ranging from 1 = Very dissatisfied to 7 = Very satisfied.

The main descriptive statistics of the variables considered are listed in Table 1.

Table 1: Principal descriptive statistics of the variables included in the study

	Seeking challenges (T_1)	**HRM** (T_1)	**Job Satisfaction** (T_2)
Mean	3.60	2.57	4.94
Median	3.67	2.54	5.00
SD	0.86	1.05	1.08
Asimmetry	-0.23	0.18	-0.76
Kurtosis	-0.45	-1.13	0.99
Shapiro-Wilk's Test	0.96	0.95	0.96
Shapiro-Wilk (p.value)	.001	.001	.001

Table 2: Correlations between latent variables, all with p.values < 0.001

	Seeking challenges ($Time_1$)	**HRM** ($Time_1$)
HRM ($Time_1$)	0.54^{***}	
Job Satisfaction ($Time_2$)	0.29^{***}	0.44^{***}

4 Results

The results obtained indicate that in terms of reliability the measured constructs report excellent indices, in particular Cronbach's α, McDonald's ω and Dijkstra-Henseler's ρ (HRM = 0.95 [0.95], Seeking Challenges = 0.82[0.82], Job Satisfaction = 0.89[0.89]). Although the skewness and kurtosis fall within the range proposed by George and Mallery (2019) of $\pm$ 1.96, the analysis was performed using Non-Parametric Structural Equation Models (PLS-SEM) (Hair et al., 2006; Hair Jr et al., 2017b,a; Hair et al., 2019; Hair Jr et al., 2021) using SMART-PLS software (Sarstedt and Cheah, 2019), due to the low sample size. Correlations show that challenge seeking at Time 1 is positively and significantly correlated with Human Resource practices at Time 1 ($r = 0.54^{***}$) and job satisfaction at Time 2 ($r = 0.29^{***}$). In addition, Human Resources practices at Time 1 are positively correlated with job satisfaction at Time 2 ($r = 0.44^{***}$). In terms of the measurement model, the saturations of the items with the individual constructs they belong to, measured reflexively (Cheah et al., 2019), all turn out to be significant and greater than 0.70, both in terms of the original samples and the sample mean following bootstrap resampling equal to 1000. Specifically, the range of the saturations oscillates between 0.71 and 0.83. As for the latent variable Human Resources practices, the saturations of the 13 items are significant and greater than the cutoff of 0.70, in a range from

0.71 to 0.93. Finally, the latent construct job satisfaction shows acceptable and significant saturations, as they are included in the range between 0.69 and 0.93. The convergent validity is respected since every latent variable is explained by more than 50% from its manifest ($AVE_{HRM} = 0.60[0.60]$), $AVE_{SEEK} = 0.60[0.60]$, $AVE_{JOBSAT} = 0.53[0.53]$), as well as the discriminant validity, since each indicator saturates more with its reference construct.

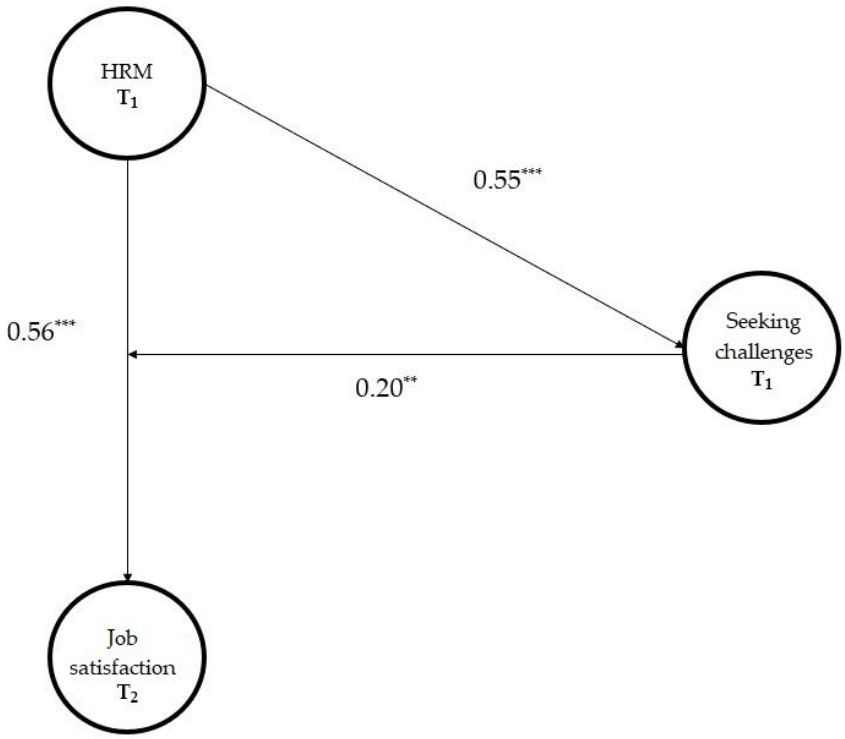

Figure 2: The PLS-SEM models with path coefficients

In terms of the structural model, finally, the results show how Human Resources Management practices at Time 1 have a positive and significant impact on challenge seeking at Time 1 ($\beta_1 = 0.55^{***}$ [0.45; 0.65]), by increasing the proactive capacity of the worker. Human Resources Management practices, moreover, positively and significantly impact on job satisfaction measured at Time 2, highlighting, thus, a causal and longitudinal connection ($\beta_2 = 0.56^{***}[0.41; 0.60]$). Finally, the moderating role of job crafting seeking challenges turns out to be significant and positive towards job satisfaction at Time 2 ($\beta_3 = 0.20^{**}[0.06; 0.34]$). The variance explained for latent seeking challenges is 30% [31%], while for job satisfaction is 44% (46%).

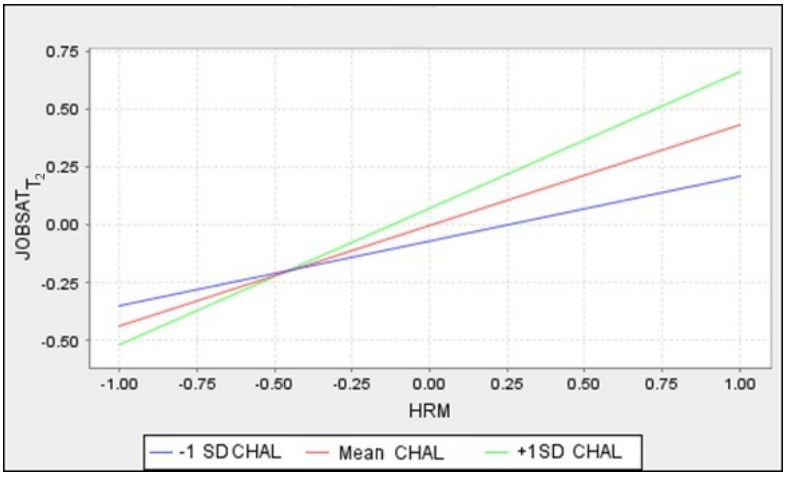

Figure 3: Graphical representation of the moderation of seeking challenges with respect to the relationship between Human Resources Management practices and job satisfaction

Considering specifically the role of moderation, Figure 3 shows that the ideal situation is the joint presence of adequate Human Resources Management practices (i.e. at a high level) and the willingness of the worker to engage in proactive behaviour: the joint effect of these two circumstances, in fact, tends to increase job satisfaction even after 6 months from the survey.

In terms of f^2, which measure the effect size, results showed that the one from *Human Resources Management* to *seeking challenges* is crucial, as it is 0.43 and significantly higher than the cutoff hypothesised by Cohen (1988), according to which an effect is important if the relative f^2 is greater than 0.15. The same outcome was found for the relationship between *Human Resources Management* and *job satisfaction* (Time 2), with a f^2 of 0.16. The relation between *seeking challenges* and *job satisfaction* and the moderation effect to *job satisfaction* seemed to be weaker than the abovementioned, as the f^2 are respectively 0.005 and and 0.03.

Furthermore, as suggested by Hair Jr et al. (2014); Shmueli et al. (2019) in highlighting PLSPredict technique, the studied model has a low predictive power, "as the majority of the dependent construct indicators in the PLS-SEM analysis produces higher prediction errors compared to the naïve LM benchmark Hair Jr et al. (2014). More specifically, the Q^2 for *seeking challenges* is 0.28, while the one for *job satisfaction* is 0.21.

5 Discussion

The study of the present research confirms the flexibility of the theoretical model taken into consideration, the Job Demands-Job Resources (Bakker and Demerouti, 2014). The hypothesis that a job resource, i.e. good Human Resources Management (HRM) practices, has an effect on job satisfaction is confirmed. The relationship between the latent constructs show how this link has effects over time, revealing, in fact, how strategi-

cally important an adequate use of the Human Resources function is. Job satisfaction, read from the point of view of the theoretical model of reference Job Demands-Job Resources, assumes the role of an outcome with clear links to productivity, well-being and the quality of organisational life, being one of those factors that enable the creation of the conditions for healthy organisations (Lowe, 2020; Di Fabio, 2017).
Furthermore, the structural relationships that emerge from this research highlight how companies that benefit from adequate personnel management allow employees to develop proactive behaviours of changing work boundaries, such as job crafting (Demerouti et al., 2015). Specifically, the study establishes the existence of a positive relationship between HRM practices and challenge seeking, i.e. a sub-dimension of job crafting that emphasises the employee's ability to be creative, undertake new projects with initiative, or engage in extra-role actions regardless of the dictates of their organisations (Guan and Frenkel, 2018; Villajos et al., 2019a). This consideration is extremely important in times of turbulence and extreme change in the labour market, which is more and more oriented towards the search for resources with transversal, adaptable and value-adding skills (Pace et al., 2021).
The third research hypothesis aims to explore whether individuals' challenge-seeking behaviour (job crafting) moderates the relationship between HRM practices modifies the effect of challenge-seeking behaviour (job crafting), both measured at Time 1 and job satisfaction, measured at Time 2. Results show positive support for this hyphotesis: the interaction effect emerges as significant, highlighting that those employees showing higher levels of challenge seeking job crafting behaviors benefited more from good HRM practises over time. This longitudinal effect suggests that when individuals craft their jobs seeking challenges their job satisfaction will benefit more from the offering of HRM practices than when their level of challenges seeking is lower. Thus, according with previous research, individual factors can moderate the relationships between HRM practices and well-being. In turn, results show that organisations can provide tools to improve well-being by strategically influencing the way they manage their staff. In fact, as the study shows, paying attention to elements such as reward, compensation, outplacement policies or careful selection processes has a twofold positive effect: direct on job satisfaction and indirect on job satisfaction through the joint effect with challenge seeking. Therefore, as widely demonstrated by several studies and by the ever-present Human Relations movement, paying attention to the human element and taking workers' needs seriously can create an organisational climate that improves the quality of employees and has an indirect effect on company productivity. Finally, the research confirms the role of job crafting, in the specific sub-dimension of challenge seeking, in moderating the impact of Human Resource Management on job satisfaction. Several studies, in fact, have considered job crafting as a mediating or moderating tool towards positive Weber (2019); Signore et al. (2020); Ingusci et al. (2019) or negative Ingusci et al. (2021) outcomes.

6 Conclusions and practical implications

The study, although purely exploratory, aimed to explore the positive long term relationship between good Human Resource Management practises and job satisfaction and the moderator role of challenge-seeking behaviour in this relationship. Finally, another aim was to investigate the relayionship between HRM practises and challenge seeking behaviours.

The results of the research provide some strategic indications but at the same time have to be taken sparingly, as they are weakened by some limitations. Firstly, the study sample is a convenience sample, which therefore does not meet the probabilistic criteria for providing a stronger generalisation. Secondly, the proposed measurements are self-report, and therefore report self-assessments that are subject to fluctuations. Future studies could use more objective measurements for more structured results. Thirdly, the sample size is not extremely large, which is why these results need to be confirmed (or disconfirmed). Despite these limitations, the proposed model of analysis, the PLS-SEM, as explained earlier in the paper, provides robust estimates even in cases of violation of assumptions preparatory to the implementation of parametric modelling, which is why the causal relationships hypothesised can provide insights, albeit in an exploratory manner (Hair Jr et al., 2021, 2017b).

Nevertheless, the study evokes observations: in a perspective of organisational sustainability, especially dictated by the recent emergencies that characterise today's society, first and foremost environmental and health emergencies, the role of Human Resource Management assumes strategic importance, as on the one hand it improves worker satisfaction, probably by acting on the quality of organisational life, and on the other hand it allows the development of proactive behaviours that provide an indirect advantage to companies. In fact, several studies focusing on job crafting interventions have shown that more workers produce a short- and long-term effect on organisations based on greater resources (Van Wingerden et al., 2017; van Wingerden et al., 2017), involvement and commitment (Kuijpers et al., 2020). The impact of appropriate HRM practices on these capacities to change work boundaries in a spontaneous, bottom-up manner and in line with one's own needs or wants, leads one to consider how strategic it can be to adopt appropriate workforce management practices. This study highlights how feeling like a person and not just a workforce can have a long-term impact by providing resources to become healthy organisations (Di Fabio, 2017; Lowe, 2020), thus focusing on the active role of individuals (Diener and Seligman, 2004) and on a key concept at different levels (individual, group, organisational and inter-organisational): well-being (Seligman and Csikszentmihalyi, 2014).

Several types of organisational interventions, in fact, are based on the idea that the joint action of Human Resources within them can foster positive outcomes related to motivational processes and, therefore, satisfaction (Nielsen, 2013; Al-Swidi et al., 2021). For example, the study highlights how skilful Human Resources Management can have direct effects both on satisfaction, in a longitudinal sense, and on the implementation of challenging behaviour. A direct consequence of this highlights how, based on this logic, it could be useful to reflect on shared Human Resources Management methods, based on

a complementary empowerment of the parties considered (Alkhazali et al., 2020): along these lines, the study invites reflection on how these practices, such as Management by Objectives, based on steps such as the shared identification of objectives or feedback, can actually favour indirect actions useful both to the individual worker and to the company itself. According to this organisational policy, in fact, once workers are involved in the definition of objectives and possess a good degree of autonomy in determining the path of action to follow in order to achieve them, they will be more inclined to feel responsible for the achievement of the objectives themselves, and thus to invest energy in their work (Borgogni et al., 2010; Idoko et al., 2022).

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