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Is there more to compensation than money? The empirical study of dimensionality of the total rewards model and its implications for entrepreneurship

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ABSTRACT

Objective: We aim to verify the dimensionality of the total rewards (TR) model, the idea that employees' compensations do not consist only of money but encompass all financial and non-financial values that employees received from their work.

Research Design & Methods: Drawing inspirations from three influential TR models and using data from a large multi-occupational online survey, we conducted exploratory factor analysis (FA) (n = 3022) to test TR dimensionality and structural equation modelling (SEM) (n = 2641) to test TR validity.

Findings: The FA results revealed the two-dimensional structure of TR as best fitting to data, showing financial (tangible) and non-financial (intangible) rewards as two distinct aspects of compensation. The SEM analysis showed specific patterns of associations for each TR dimension with employee loyalty, motivation, intention to quit, and organizational performance.

Implications & Recommendations: The success of an entrepreneurial firm might depend not only on innovation in products and services but also on innovative compensation that allows for gaining competitive advantages. The TR model might be used to address these challenges and build a competitive workforce by attracting talented employees from the labour market even under financial resources scarcity.

Contribution & Value Added: By showing the role of intangible rewards in compensations, our findings might inspire further entrepreneurial research and provide entrepreneurial firms with the conceptual device to design compensation systems that accumulate human capital not only by money but also via intangible rewards.

Article type: research article

Keywords: rewards; pay; intangible; total rewards; SEM; factor analysis

JEL codes: J33, J32, M52

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INTRODUCTION

The total rewards (TR) model (Armstrong, 2010; Milkovich, Newman, & Gerhart, 2014; WorldatWork & Cafaro, 2021) assumes that financial profits are not the sole rewards that people received from their work. Instead, employee compensation includes every tangible and intangible gain that arises as a result of work that might be considered by employees as a value. From the common-sense perspective, it is pay (*i.e.* money) that attracts, motivates, and keeps employees in the firm, but from the TR model perspective, the intangible aspects of work (*e.g.* job challenges) are also important. As the TR model might provide insights into the perception of work rewards and the design of compensation structure in every organization, it is particularly useful in the context of entrepreneurship as by adopting the TR model view that compensation is not only money, we might gain a better understanding of entrepreneurial firms. Although there are many definitions of the entrepreneurial firm, in this article we refer

to entrepreneurial firms as firms undertaking entrepreneurial activity where according to the OCED entrepreneurial activity might be defined as 'the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets' (Ahmad & Seymour, 2008, p. 14), thus an entrepreneurial firm is an organization that mainly aims to generate value by creating and implementing innovations and in this context the idea of TR is particularly important. Firstly, from the beginning, innovative entrepreneurial activity is a high-risk activity (Shepherd, Douglas, & Shanley, 2000) and yet another struggle for entrepreneurs is how to competitively compensate employees when financial resources are scarce. The TR model suggests that entrepreneurial firms might highlight intangible aspects of work as an aspect of employee compensation. Non-entrepreneurial competitors as mature and profitable organizations might pay more in terms of money (tangible rewards) but usually do not provide such an interesting or challenging job environment (intangible rewards) as an entrepreneurial firm. Secondly, with increased skilled labour shortages and war for talents, entrepreneurial firms might search for exceptionally talented employees that already are working for other companies and are highly paid for their competencies, thus the challenge is how to convince talents to join an entrepreneurial firm. To this end, the prospect theory value function (Kahneman, Tversky, 1979), describing how people might react to increases in pay levels, shows that the value assigned to pay has decreasing effects the more is gained. This suggests that intangible rewards from TR models might become a token of importance in attracting talented employees (Holland, Sheehan, & De Cieri, 2007; Aguinis, Gottfredson, & Joo, 2012). In other words, talented employees might not be convinced to join an entrepreneurial company because their current monetary rewards are already on a high level, but they might be attracted by intangible rewards such as e.g job autonomy or new challenges that might be on a low level in their current workplace. Finally, entrepreneurial firms often look for a specific profile of innovative employees. Such employees might be attracted by intangible rewards (*e.g.,* a firm's mission) rather than only by tangible ones (Klarner, Treffers, & Picot, 2013; Moser, Tumasjan, & Welpe, 2017). Thus, a compensation policy built on the TR model that highlights a proper mix of financial and non-financial rewards might – according to the sorting effect of compensation (Cadsby, Song, & Tapon, 2007) – attract employees that build a desirable structure of the human capital in the entrepreneurial firm.

However, although TR is a popular conceptual model and compensation tool, the idea of TR is vague, lacks theoretical underpinnings, and is often used as an umbrella term. There is a lack of clarity on the structure and components of TR. Therefore, our study aims to contribute to filling the existing gap in the literature by providing a clearer and more comprehensive understanding of the components that make up TR. We aim to advance management knowledge by putting forward the proposition of an empirically verified structure of TR and in doing so, we made a first step towards standardizing the understanding of TR, which represents a significant advancement in developing TR and establishing a more robust model of the evidence-based structure of TR. Our study challenges our current understanding of TR as a vague concept and might advance management knowledge by establishing TR's structure. Moreover, as the TR model is universal and might be adopted by every organization, we highlight the impact of the TR framework on entrepreneurial organizations, where non-financial rewards can play an essential role. We see the important contribution of a better understanding of TR in the entrepreneurial context for at least three reasons. Firstly, TR highlights the importance of non-financial rewards as complementary to monetary compensation, which is crucial for entrepreneurial firms often limited in financial resources. This highlights the potential for paying employees with intangible rewards such as growth opportunities, autonomy, and changes in their roles. Secondly, TR can aid in attracting talented employees from other companies by offering better non-financial rewards, even if the firm cannot compete financially. Thirdly, a thorough understanding of TR can help build a workforce that is motivated not only by financial incentives but also by the possibility of being creative and innovative. Therefore, our study provides general insights into the TR model, these insights are especially important for entrepreneurial companies facing financial constraints, as they need to understand the full range of employee rewards beyond monetary compensation. By leveraging the knowledge of TR's structure, entrepreneurial firms can develop human capital-enhancing strategies to attract and retain talented employees, even if they cannot offer competitive salaries. This approach

can ultimately contribute to the success and sustainability of entrepreneurial ventures. The first part of our article provides a concise literature review, focusing on three influential Total Rewards models that played a crucial role in formulating our research question. Building on this, we proceed to outline the analytical strategy adopted in our study, followed by the presentation of the empirical results. Finally, we discuss our findings in light of the Total Rewards theory and present both practical implications and theoretical contributions of our paper.

LITERATURE REVIEW

As the idea of TR is appealing in entrepreneurial practice, it is still neglected in entrepreneurship research. The TR concept was developed around 1990 but gained most of its recognizability 10 years later (Giancola, 2009). Today it seems to be very popular in the current business environment with Total Reward Specials positions across organizations and with leading consulting firms providing their services in variations of different TR frameworks (see *e.g.* Aon, 2023; EY 2023; PWC, 2023; KPMG, 2023; Deloitte, 2023). However, despite its popularity, a more robust understanding of the TR model in scientific literature is still limited. More importantly, it is still not clear how many dimensions the TR model should have, what type of rewards it should include, or what are correlates of different TR dimensions. To describe this ambiguity around current TR models we present a detailed analysis of three, influential TR theoretical approaches. Although, as we mentioned, there are different approaches to TR models (see Jiang, Xiao, Qi, & Xiao, 2009; Nazir, Shah, & Zaman, 2012), we decided to concentrate on three models that are most influential according to our judgment and practical experience. Firstly, we focused on WorldatWork model, which is developed by a leading association of TR practitioners and is used globally to attract, motivate, engage, and retain valuable employees. Secondly, we moved to Armstrong's TR models. Armstrong is a leading scholar and global expert in HR management and his book on rewards (Armstrong, 2010) that describes his view of TR is very popular among practitioners and has about 450 citations in the scientific literature (based on Google Scholar). Thirdly, we focused on Milkovich, Newman, and Gerhart's book *Compensation* (2014), which describes their model of 'total returns' and is a classic handbook known to every compensation specialist. Its influence is best illustrated by the fact that it already has 12 editions and in scientific literature it has about 3690 citations.

The first influential approach to TR is the one by WorldatWork (2023). According to it, TR is 'the monetary and nonmonetary return provided to employees in exchange for their time, talents, efforts, and results' (WorldatWork, 2012, p. 4). It also distinguishes five main categories of rewards: compensation, benefits, work-life, performance and recognition, development and career opportunities (WorldatWork, 2012). WorldatWork's idea of TR is continuously evolving and in the 2021 edition, the five domains of TR are compensation, well-being, benefits, recognition, and development (see WorldatWork, 2021; WorldatWork & Cafaro, 2021, p. 12).

Milkovich, Newman, and Gerhart (2014) use the label total returns to describe all variations in rewards that people received from their work. Total returns are split into two categories, namely total compensation and relational returns. Relational returns include returns that are more elusive and psychological in nature *e.g.* recognition and status, employment security, work challenges, and learning opportunities. Meanwhile, total compensation is seen as transactional and more tangible and according to Milkovich, Newman, and Gerhart (2014), this category of returns might be further split into two subcategories of cash compensation, namely pay received directly in the form of cash and benefits and pay received indirectly in the form of various valuable goods but not cash. Cash compensation includes such components as *e.g.*, based pay, cost-of-living adjustments, short-term incentives, and long-term incentives. The benefits include *e.g.*, income protection, pensions, medical insurance, work-life balance programs, and allowances.

Armstrong (2010, p. 35) defines TR as 'the combination of financial and non-financial rewards available to employees' and distinguishes two major categories of TR, namely transactional rewards and relational rewards. Transactional rewards are financial, extrinsic rewards resulting from reciprocal exchanges of goods between an employee (who provides her/his time, effort, and competencies) and an employer (who provides rewards). According to Armstrong (2010), transactional rewards include base

pay, contingent pay, and employee benefits. In contrast, relational rewards are composed of a mix of intrinsic and extrinsic non-financial rewards, this category includes experience with the work environment, non-financial recognition, performance management, and learning and development. The graphical summary of the three mentioned approaches to TR is presented in Figure 1, which also illustrates that using these three models of TR allows us to capture a diverse pool of possible work rewards.

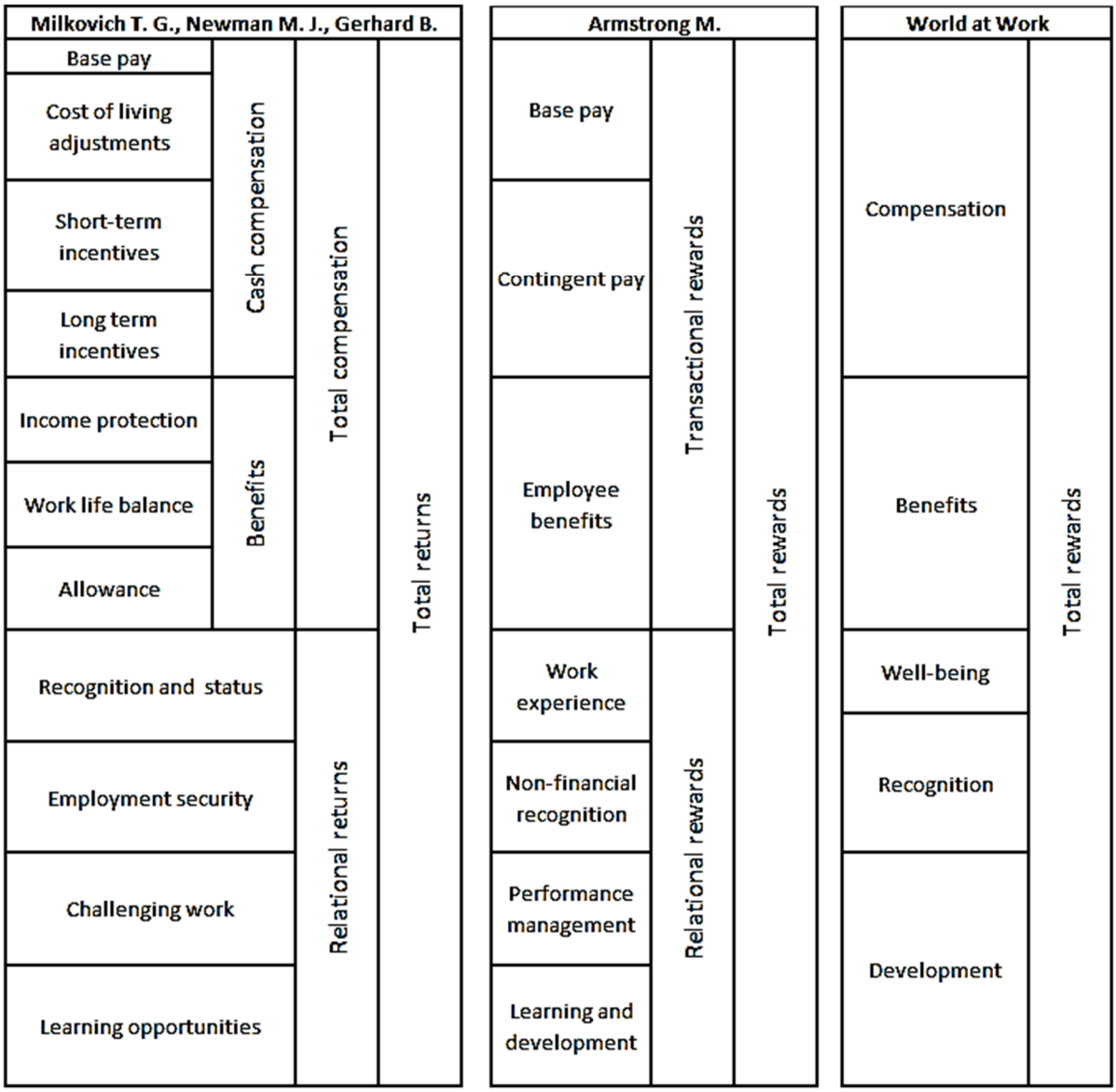

Figure 1. Three influential approaches to the total rewards model
Source: own elaboration based on: Milkovich, Newman, and Gerhart (2014), Armstrong (2010) and WorldatWork and Cafaro (2021).

The three TR frameworks in Figure 1 provide some different underlying theory about the nature of workplace rewards from the TR perspective. Milkovich, Newman, and Gerhart (2014) and Armstrong (2010) suggest that rewards might be generally separated into two broad categories of transactional (financial) and relational (non-financial) rewards, whereas WorldatWork (2021) does not follow this two-dimensional distinction but refers to five broad categories (WorldatWork & Cafaro, 2021). Next, Milkovich, Newman, and Gerhart (2014) differentiate financial reward into the category of direct pay-cash and indirect pay – bonuses, whereas Armstrong (2010) puts direct and indirect pay into only one financial category. From the three presented TR frameworks only Milkovich, Newman, and Gerhart (2014) mentioned employment security as a reward. Armstrong (2010) refers to performance management as a

reward and WorldatWork (2021) – as a reward including well-being. This illustrates the confusion in the understanding of TR that might limit the possibility of successfully using this approach in the entrepreneurial context. Therefore, the study aims to verify the dimensionality of the TR model, the idea that employees' compensations do not consist only of money but encompass all financial and non-financial values that employees received from their work. Thus, the research question we want to address is:

RQ: What is the structure of rewards in the TR framework?

By verifying the structure of the TR model, we might (i) explore the patterns of employee perception of work rewards (ii), distinguish rewards categories based on empirical rather than normative analysis, and (iii) based on this, highlight the important role of non-financial reward in compensations policy of entrepreneurial firms.

As there is a lack of theoretical justification for a prior hypothesis about TR dimensionality *i.e.* at the current stage of research, in our judgement, there is no theoretical rationale to assume that some model of TR is more valid than others. Thus our study has an exploratory character and we only provide a research question but not an a priori hypothesis that needs robust theoretical support (Scheel, Tiokhin, Isager, & Lakens, 2021). To this end, we used exploratory factor analysis (EFA) on a large sample from multi-occupational online survey to explore the dimensionality of rewards perceptions. Then, to test the validity of TR structures obtained in EFA, we analysed the nomological network (see Cronbach & Meehl, 1955) of relationships between TR dimensions and work motivation, organizational performance, employer loyalty, and quit intention using the structural equation modelling (SEM) approach.

RESEARCH METHODOLOGY

Procedures

To analyze the dimensionality and structure of TR perception, we used data obtained from Sedlak & Sedlak job satisfaction survey (n = 3493). The available dataset was collected between June and September 2020. Sedlak & Sedlak used non-probabilistic sampling methods combining accidental and target sampling. Firstly, the research was promoted among the company's web page users. Then after sample analysis and identification of underrepresented groups target sampling was used through social media targeted advertisement. It has to be said that Sedlak & Sedlak runs the biggest salary portal in Poland and two other web pages connected with the labour market. Such a sampling method is efficient having in mind the input cost and output quality ratio. The data collection process included manual data cleaning procedures. For example, respondents who finished the survey unreasonably fast (at least 30% faster than the authors of the tool) were excluded. There was also a qualitative assessment of outlier cases performed based on a judgment of data analysts employed by Sedlak & Sedlak.

Participants

In the final data sample, there were 37.5% of women (1310 cases) and 62.5% of men (2183 cases). The youngest respondent was 18 years old, the oldest 81, and the mean age was M = 37 (SD = 9; Q1 = 30, Q3 = 43), 24.6% of the sample were employed in companies with the employment of 50 or less; 24.7% in companies employing between 51 and 250 people and 50.6% worked in bigger organizations. In the sample, there were 79.4% of people with higher education.

Measures

In a database available from the Sedlak & Sedlak job satisfaction survey, we identified items relevant to the rewards perceptions from the point of view of the three popular TR frameworks, that is, Milkovich, Newman, and Gerhart (2014), Armstrong (2010), and WorldatWork (2021). Items from Sedlak & Sedlak survey used to represent TR dimensions are presented in Table 1 along with information on which TR framework was a source of its inclusion. The answers to these items were provided on a 5-point scale from -2 to 2 (participants saw only labels from strongly disagree to strongly agree), descriptive statistics for all items are presented in Table 2.

Table 1. Items from Sedlak & Sedlak job satisfaction survey used to measure total rewards

Item	Presumed total reward (TR) dimension in three popular TR frameworks		
	Milkovich, Newman, and Gerhart (2014)	**Armstrong (2010)**	**Worldat-Work (2021)**
You are satisfied with received additional benefits.	Benefits	Benefits	Benefits
You are satisfied with your total pay if you compare it to the market wage for a similar job.	Cash	Compensa-tion	Compensa-tion
Your salary is appropriate to the duties you perform.	Cash	Compensa-tion	Compensa-tion
You are satisfied with your total salary.	Cash	Compensa-tion	Compensa-tion
The duties entrusted to you by your direct supervisor are interesting.	Challenging work	Learning and development	X
Your job gives you the opportunity to challenge yourself with different tasks.	Challenging work	Learning and development	X
The company gives you a feeling of employment security.	Employment security	X	X
The company provides you with development opportu-nities.	Learning opportunities	Learning and development	Develop-ment
The trainings provided by the company helped you to develop your skills.	Learning opportunities	Learning and development	Develop-ment
You still learn something new at your current job.	Learning opportunities	Learning and development	X
Your immediate superior appreciates your work.	Recognition	Non-financial recognition	Recognition
You feel appreciated at work.	Recognition	Non-financial recognition	Recognition
You have a real possibility of promotion.	X	Learning and development	Develop-ment
You like your job.	X	Work experience	Well being
You feel satisfied with your professional life.	X	Work experience	Well being
You feel an emotional bond with your company.	X	X	Well being
You receive feedback regarding your work.	X	Performance Management	X
There is a fair salary system in the company.	X	Performance Management	X
There's an atmosphere of cooperation in the company.	X	Work experience	X

Source: own elaboration.

Validity Tests: Nomological Network Using SEM

To test the validity of the TR dimensionality that will emerge from the EFA, we tested its nomological network using the structural equation modelling (SEM) approach. In this approach, to establish factor structure validity we first had to establish valid factors in EFA and show that these factors have expected patterns of associations with other important variables, meaning that they form distinct nomological networks. For example, if we find the three-factor structure of TR in EFA and all these three factors have the same patterns of associations with important organizational outcomes, this raises a question of three factorial validity structures: If all dimensions predict the same variables in a similar way, what have we learned from having three dimensions?

Table 2. Means, standard deviations, and the number of cases for total rewards items used in this study

Item	M	SD	N
You are satisfied with your total salary.	-0.22	1.29	3487
You are satisfied with your total pay if you compare it to the market wage for a similar job.	-0.15	1.27	3455
Your salary is appropriate for the duties you perform.	-0.30	1.27	3467
You are satisfied with received additional benefits.	-0.20	1.34	3287
Your immediate superior appreciates your work.	0.47	1.19	3407
You like your job.	0.81	1.02	3485
You feel satisfaction with your professional life.	0.19	1.18	3482
You feel an emotional bond with your company.	0.18	1.20	3463
There's an atmosphere of cooperation in the company.	0.54	1.07	3485
There is a fair salary system in the company.	-0.35	1.21	3271
You receive feedback regarding your work.	0.15	1.19	3447
Your job gives you the opportunity to challenge yourself with different tasks.	0.64	1.09	3463
You have a real possibility of promotion.	-0.48	1.23	3349
You still learn something new at your current job.	0.48	1.21	3485
The training provided by the company helped you to develop your skills.	-0.18	1.35	3275
The company gives you a feeling of employment security.	0.93	1.07	3484
You feel appreciated at work.	0.06	1.24	3469
The duties entrusted to you by your direct supervisor are interesting.	0.31	1.08	3397
The company provides you with development opportunities.	0.08	1.22	3456

Note: A different number of responses for different variables when calculating descriptive statistics comes from respondents choosing the answer 'I do not know,' which does not apply and thus was treated as missing data and excluded from the analysis.
Source: own elaboration.

To test the validity of the result of factor analysis in SEM, we included four criterion variables, namely performance, loyalty, intention to quit, and motivation. These variables were created based on appropriate Sedlak & Sedlak job satisfaction survey items. On all these items except loyalty, respondents answered on a 5-point scale from -2 to 2. Descriptive statistics for all these measures are presented in Table 3 and all measures are described in detail below. Self-assessed performance of organization represents employee evaluation of organizational performance, sample item: 'Company provides customers with products/services of good quality.' Cronbach's alpha was 0.860. Employee loyalty was measured with employee net promoter score (eNPS) measured with a single item: 'How likely is it that you would recommend the work in your current company to a friend or colleague? On a scale from 0 to 10 (where 0 means not at all likely and 10 – extremely likely).' Intention to quit reflecting employee detachment from work was measured with a single-item question: 'You often think about changing your job.' Employee work motivation represents the subjective feeling of being motivated to a job by the organization and was measured with a single item: 'You feel well motivated to work' (see Allen, Iliescu, & Greiff, 2022 for a discussion of the legitimacy of single-item measures).

Table 3. Mean, standard deviations, and correlations between the criterion variable

Criterion variable	M	SD	1.	2.	3.
1. Organization Performance	0.55	0.76	X	X	X
2. Loyalty (eNPS)	5.80	2.91	0.761**	X	X
3. Quit intention	0.15	1.30	-0.547**	-0.641**	X
4. Motivation	-0.18	1.19	0.648**	0.689**	-0.659**

Note: eNPS = employee net promoter score, *** $p < 0.001$
Source: own elaboration.

RESULTS AND DISCUSSION

We conducted factor analysis (Hair, Black, Babin, & Anderson, 2014; Watkins, 2018) to explore the dimensionality of employees' TR perception and to verify to what extent this structure is different or

congruent with the normative view presented in the literature (Milkovich, Newman, & Gerhart, 2014; Armstrong, 2010; WorldatWork, 20012; 2021). We implemented the principal axis factoring extraction method with promax rotation to explore the factorial structure of 19 TR items described previously in Table 2. Our data had a good fit for exploratory factor analysis as confirmed by Bartlett's test of $p < 0.001$ and Kaiser–Meyer–Olkin (KMO) measure of 0.946. At first, to explore TR dimensions, we used a criterion of eigenvalues higher than one and we conducted a visual inspection of factor analysis scree plots (Hair *et al.*, 2014). Based on this, in our data (*i.e.* 19 items from Table 2 and N = 2784, after missing data listwise deletion), there emerged three factors with an eigenvalue higher than 1, factor 1 8.91; factor 2 1.84 and factor 3 1.03. However, factor 3 had an eigenvalue only slightly higher than the threshold of one and one item 'You like your job' had a particularly strong load (0.931) on this factor. After the deletion of this item and repeating the analysis on 18 items (N = 2786), we obtained two factorial structure according to the criterion of eigenvalues higher than one. Then inspection of the EFA results revealed some problematic items. Two items 'You are satisfied with received additional benefits' and 'The company gives you a feeling of employment security' had factor loadings lower than 0.5 as this value is generally considered necessary for practical significance (see Hair *et al*., 2014). Three items 'Your immediate superior appreciates your work,' 'There is a fair salary system in the company,' and 'You feel appreciated at work' have cross-loading, a factor loading of similar weight on both factors, thus these five items were deleted and we repeat analysis on 13 items (N = 3022) obtaining a final two factorial structure with 10 items on factor 1 (0.45 explained variance) and three items on factor 2 (0.11 explained variance) as presented in Table 4. Based on the substantive content of each factor, we labelled factor 1 as non-financial (relational) rewards. Because it consists of intangible rewards such as development or a positive emotional bond with the job. Whereas factor 2 was labelled as financial (transactional) rewards, because these factor items represent tangible reward that refers to an exchange transaction between employee and employer *i.e.* appropriate pay in return for the job efforts. To further test the robustness of these two factorial structures, we also conducted a confirmatory factor analysis using maximum likelihood estimation, obtaining fit indices as; RMSEA = 0.084; 95% CI [0.080 – 0.088] SRMR = 0.042; CFI = 0.94, although not perfect, they were acceptable, particularly for an exploratory study. Moreover, after inspection of model modification indices, we identified two items with particularly strong error terms correlations. These were 'the company provides you with development opportunities' and 'the training provided by the company helped you to develop your skills.' After adding this correlation to a model, we observed the improvement in fit indices: RMSEA = 0.074; 95% CI [0.070 – 0.078] SRMR = 0.039; CFI = 0.96. Therefore, when considering factor analysis results and the substantive meaning of the factors, the two-factor solution might be seen as representing the general theoretical division of TR into financial (transactional) and non-financial (relational) rewards that are the two most general categories in both most influential TR models of Milkovich, Newman, and Gerhart (2014) and Armstrong (2010).

Next, to test the validity of obtained factors in the SEM model, we created two variables. The first one representing non-financial rewards was calculated as a mean value from 10 items from factor 1, and similarly, for the financial rewards, we calculated a mean value from three items from factor 2 (see Table 4). Although there are many approaches to factor score calculations based on factor analysis results (see DiStefano, Zhu, & Mindrila, 2009), we chose this simplest approach, *i.e.* calculating the arithmetic mean from all items taped into each factor, which might be also called a summated score approach (see Hair *et al.*, 2014), as this approach is recommended in exploratory analysis and is practically feasible and easy to calculate and understand in practical settings.

This results in two variables, financial rewards M = -0.23 (SD = 1.20); median = -0.33 and non-financial rewards M = 0.19 (SD = 0.85); median = 0.20, (a -2 to 2 scale). For financial and non-financial rewards factors, Cronbach`s alpha was very high, *i.e.* 0.938 and 0.898 respectively, suggesting its high internal consistency of created scales. To test the validity of the two-dimensional solution, we tested relationships between financial and non-financial rewards and four criterion variables: performance, loyalty, intention to quit, and motivation. To this end, we created a structural equation model in which the non-financial and financial rewards were used as predictors of criterion variables. We used JASP software with maximum likelihood estimations. In this complex model, we used 2641 observations without missing values

in variables of interest. To check the robustness of this approach, we repeated estimation using the JASP FIML build-in imputation of missing values method to impute values for those that were missing, thus obtaining similar model parameters. The created model is presented in Figure 2.

Table 4. Mean, standard deviations, and correlations between the criterion variable

Item	Factor 1 Non-financial rewards	Factor 2 Financial rewards
The company provides you with development opportunities.	**0.842**	0.018
You still learn something new at your current job.	**0.801**	-0.090
Your job gives you the opportunity to challenge yourself with different tasks.	**0.760**	-0.080
The duties entrusted to you by your direct supervisor are interesting.	**0.739**	-0.040
You feel satisfaction with your professional life.	**0.721**	0.101
The training provided by the company helped you to develop your skills.	**0.616**	0.001
You have a real possibility of promotion.	**0.613**	0.099
You receive feedback regarding your work.	**0.607**	0.062
There's an atmosphere of cooperation in the company.	**0.552**	0.080
You feel an emotional bond with your company.	**0.551**	-0.031
You are satisfied with your total pay if you compare it to the market wage for a similar job.	-0.028	**0.932**
Your salary is appropriate for the duties you perform.	0.011	**0.863**
You are satisfied with your total salary.	0.000	**0.951**

Note: n = 3022, Extraction Method: Principal Axis Factoring, Rotation Method: Promax, bolded are items with factor loadings higher than 0.50
Source: own elaboration.

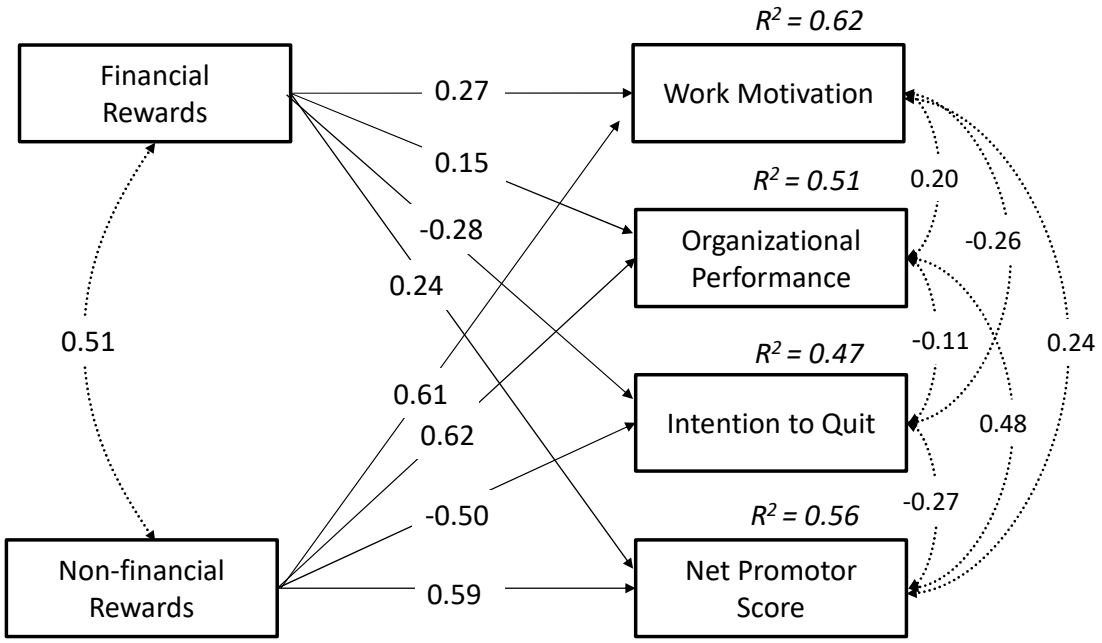

Figure 2. Structural equation model of relationships between financial and non-financial rewards and four criterion variables used to test the validity of two factorial total rewards model

Note: Model estimated in JASP software with maximum likelihood estimation method. Numbers on the solid line represent standardized regression weights, numbers on the dotted line represent correlations, all coefficients have $p < 0.001$
Source: own elaboration.

Based on the model depicted in Figure 2, firstly, we tested the validity starting from the correlation between financial and non-financial rewards of about $r = 0.51$, $p < 0.001$, $R^2 = 0.26$ suggesting that these two factors represent related but distinct constructs. Although the two rewards dimensions were significantly related to each other at the same time they shared only about 26% of the common variance. Second, in Figure 2 we might notice that financial and non-financial rewards have different patterns of relationships with criterion variables, where relationships, as expressed by

standardized regression weights for non-financial rewards, are about two times stronger than for financial rewards. Moreover as can be seen in Figure 2 employees' perceptions of their financial and non-financial rewards are significantly related to the criterion variables reflecting aspects of human capital, as expected we might predict the level of work motivation (R^2 = 0.62), intention to quit (R^2 = 0.47), employee assessment of company performance (R^2 = 0.51) and employee loyalty to the employer (R^2 = 0.56) based on financial and non-financial rewards perception. To check the robustness of our model we also retest it using the latent variables approach, i.e. we replicate our SEM analysis but we do not use summated scores to represent financial and non-financial rewards, but we use latent variables (as the measurement model obtained in the previous CFA suggest, we correlated errors terms for items 'the company provides you with development opportunities' and 'the training provided by the company helped you to develop your skills'). We obtained almost identical results as previously, with even sharper distinctions between roles of financial and non-financial rewards. Consequently, the standardized regression weight (β) for financial and non-financial rewards were, for organizational performance β = 0.10; β = 0.67; for NPS β = 0.19; β = 0.64 for work motivation β = 0.21; β = 0.68, and for quit intentions β = -0.24; β = -0.55. Meanwhile, SEM model fit indices were as follows; RMSEA = 0.075; 95% CI [0.072 – 0.078] SRMR = 0.038; CFI = 0.95, thus suggesting not perfect but acceptable fit of our latent variable SEM model. Therefore, in general, the structural model presented in Figure 2 seems to support the validity of the two factorial structures of TR.

Discussing our results and referring to prior research on TR (Milkovich, Newman, & Gerhart, 2014; Armstrong, 2010; WorldatWork, 2012), our findings suggest that although we have various multi-dimensional conceptual models of TR in literature (see Jiang *et al.*, 2009; Nazir, Shah, & Zaman, 2012), the two-dimensional division on financial and non-financial rewards might be most valid based not only on conceptual but empirical analysis. This seems to be also in line with previous findings from career success literature, showing that objective *e.g.* financial and subjective *e.g.* non-financial success are not always interrelated (Abele & Spurk, 2009). By focusing our attention on the fact that employee perception of work rewards is two-dimensional, the results of this study might help understand employee reactions to work rewards and better design compensation policies stimulating human capital. The two-dimensional TR model established in this study might operate in every organization but as we discussed previously, in our view, it might be particularly impactful in the context of entrepreneurial firms. In entrepreneurial firms, success might depend not only on innovation and creativity in products or service development but also on the firm innovation in compensation, the ability to create an innovative compensation scheme that allows for gaining competitive advantages under the scarcity of financial resources. In this case, the TR model of tangible and intangible rewards might be a viable option for attracting talented employees from the labour market and using the compensation sorting effect to build the desired structure of the workforce. Moreover, attention to dimensions of employee compensations might stimulate not only human capital but also the increased quality of work-life of employees among entrepreneurial firms (see Kwahar & Iyortsuun, 2018).

However, at the same time, our findings raise a baffling question of why our analysis revealed only a two-dimensional structure of work rewards. This is a counterintuitive finding in light of expectations that work rewards are complex and multi-dimensional (Milkovich, Newman, & Gerhart, 2014; Armstrong, 2010; WorldatWork, 2012). It might be difficult, particularly for practitioners, to accept that one can reduce the variety of work rewards only to two categories of financial and non-financial rewards. To this end, it is worth mentioning that a two-dimensional structure does not necessarily preclude analysis of separated reward categories. For example, in the influential Herzberg's two-dimensional model (Herzberg, 2003), we might still investigate specific hygiene and motivational factors even though we agree that on a general level, all groups fall into only two main dimensions. Similar to another influential two-dimensional model of employee well-being, *i.e.* the Job Demands-Resources model (Bakker & Demerouti, 2017), we agree that work environment characteristics might be reduced to two general factors of job demands and job resources, but this does not preclude analysis of specific demands and resources if we need this for practical or research purposes.

However, the question of why work rewards form two and not more general dimensions is worth further exploration. We would like to discuss possible explanations of this fact that might spark further debate. Firstly, although our study was inspired by influential TR models, it might not have captured enough details of various possible rewards or omitted some important rewards. Thus, it might be worth replicating with a wider pool of rewards, which might inspire future confirmatory studies. It might be also possible that even though rewards are multidimensional, employees are not able to clearly distinguish between the different aspects of rewards, which might be due to cognitive biases (Kahneman, 2011) *e.g.* hallo effect when the perception of one particular silent work reward influences cognitive evaluation of other rewards. Moreover, from the perspective of slipover theory, the perception of satisfaction from one object might be transferred to another (see Ilies, Wilson, & Wagner 2009). Thus, positive/negative experiences with one aspect of work reward might spill over to other similar rewards and thus only the two most distinct categories with clear boundaries emerge. As an exploratory survey of employees' opinions, our study might also have methodological shortcomings that might have revealed only two factors. Thus, further replication studies might use more diverse data sources *e.g.* confronting managers' and employees' views on rewards or using experimental research to conduct more objective tests and analyse not only employee declaration but also actual behaviours in response to various rewards. It might be valuable to analyse in the future what are the mechanisms behind employee judgment of work rewards.

Besides inspiring research on compensation practice in general, the two-dimensional TR model explored in this study opens promising avenues for further entrepreneurship research. Two lines of further research worth mentioning are gender discrimination in entrepreneurial firms and the behaviour of entrepreneurs. As previous studies have shown (see *e.g.* Bilan, Mishchuk, Samoliuk, & Mishchuk, 2020), gender discrimination might manifest not only in pay inequalities but also in inequalities in other aspects of compensation. Thus, the two-dimensional TR model suggests that we should pay attention to financial and non-financial aspects of work rewards when investigating discrimination in compensation practices. Gender discrimination practices might take place not only in pay levels but also in intangible rewards *e.g.*, work autonomy or work-life balance opportunities. This is particularly important because with legal regulations on pay transparency imposed by European Union (2022), gender inequalities in compensations might be moved from more visible tangible rewards (pay) to hidden intangible rewards (*e.g.* individually negotiated aspects of job autonomy) (see Wong, Cheng, Lam, & Bamberger, 2022). Especially in entrepreneurial firms in which intangible rewards might play a vital role for their innovative and creative employees, unnoticed and unjustified inequalities in access to intangible rewards might have a decrement effect on an entrepreneurial firm's human capital. Secondly, through the lens of the TR model of intangible and tangible rewards, we might try to understand the seemingly irrational behaviour of many entrepreneurs, who invest so much effort and perseverance into projects that do not bring direct financial rewards to them. The idea that compensation is not only about money but about all (often hidden and intangible) benefits that stem from work allows for a better understanding of entrepreneurs' motives. From a rational economic perspective, it might be difficult to understand why entrepreneurs are ready to invest time, effort, and money in entrepreneurial projects that do not yield financial profits during often unpredictably long time of its start-up phases or end without any financial yields. From a TR perspective, the lack of economic profit does not necessarily mean the lack of profit at all, as there might be intangible rewards even in the face of a lack of economic ones. For example, entrepreneurs might experience as rewards a feeling of satisfaction with three important human needs (Deci, Olafsen, & Ryan, 2017), *i.e.* the sense of competence (in developing challenging entrepreneurship projects), autonomy (self-defined working methods), or relatedness (to a wider entrepreneurship community). Via the lens of the TR model, these might not be the only hopes for further financial rewards that motivate entrepreneurs but also current intangible rewards that stem from the entrepreneurial activity itself. Moreover, in some situations, the intangible rewards among entrepreneurs might be more valued than financial rewards and some entrepreneurs might not be willing to scale up their business or transfer it to a more formal organizational structure, which might yield tangible financial profits at the expense of intangible rewards *e.g.*, autonomy.

CONCLUSIONS

In this study, we empirically verified the factorial structure of the TR model, the idea that employee compensation is not only built from material rewards but encompasses all values that employees receive from their work (Milkovich, Newman, & Gerhart, 2014; Armstrong, 2010; WorldatWork, 2012; WorldatWork & Cafaro, 2021). Although different models of TR are presented in the literature (see Table 1), our analysis suggests a two-dimensional structure of TR as best fitting to the data collected in this study. Factor analysis revealed two factorial structures and subsequent SEM analysis seems to confirm the validity of the two-dimensional approach. In contrast, we did not find evidence to support the more nuanced multi-dimensional approaches to TR that include more than two dimensions of rewards. The first category represents tangible financial aspects of the job, referring to the job as an economic market transaction between employee and employer. The second reward category represents a more intangible aspect of rewards one might obtain thanks to work and refer to a job not as an economic transaction but rather as a social relationship between employee and employer. From a theoretical stance, our results empirically confirm the basics of the theoretical idea of TR, showing that financial and non-financial rewards are important aspects of compensation that are associated with employee loyalty, motivation, intention to quit, and organizational performance. The findings presented in this study broaden our knowledge and provide contributions to our understanding of work rewards nature and dimensionality which might be particularly useful in entrepreneurial firms, in which efficient and creative compensation plans play a vital role in outsmarting competitors and attracting innovators. Thus, our study significantly contributes to management and entrepreneurship literature on theoretical and practical grounds. From a theoretical perspective, the study helps to understand the dimensionality of job-related rewards, which is a crucial aspect of employee-employer relationships. From a practical stance, our study provides knowledge that employees might not have as sophisticated view of rewards as we commonly believed, but in general might see work as providing two categories of rewards, *i.e.* 'pay' and 'the rest.' This is an important insight showing that instead of searching for the most important 'silver bullet' reward, employers should take care of every reward they offer employees, because dissatisfaction with one aspect of rewards might turn into a negative evaluation of the whole category. Thus, our findings provide insights that might be used for developing compensation practices and policies that suit employee needs and foster human capital development, because an understanding of the structure of work rewards expected by employees has a direct impact on compensation policy, which, in turn, can influence business performance. This endeavour is also a response to the call of Gupta and Shaw (2014) who postulated that compensation is one of the most neglected aspects of human resource management.

Our findings provide some insights but it is also important to see its limitation. As with every single study, our work cannot provide a final answer to a research question (Amrhein, Trafimow, & Greenland, 2019) and should be seen not as providing a final structure of TR but as inspiration for further debate and studies on TR. Moreover, this was an exploratory endeavour and thus needs further replications to confirm our conclusions. We used an online sample from one country and although it is large, it is necessary to make attempts to confirm our results in different cultural contexts. Moreover, we concentred on the three most influential – in our view – models of TR, and this decision is a double edge sword. On the one hand, it allowed us to justify our analytical choices and test the most influential reward categories, but on the other, we might have missed some less popular but still important reward types. Finally, we used a survey methodology and asked people about their opinions about rewards, but the question arises if people are fully aware of the impact rewards have on them. Thus, it might be important to conceptually replicate our study but with a different methodology *e.g.*, in experimental settings where objective behavioural responses to various rewards might be observed. Overall, we believe that using the TR compensation model developed in this study might open avenues for inspiring further research and contribute to management literature.

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