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The relationship between financial and non-financial measures, organizational justice, and employee satisfaction

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ABSTRACT

BACKGROUND AND OBJECTIVES: Today, human resources play a key role in the success of organizations and leading organizations have creative, motivated and capable employees. In addition to the characteristics of the employees, the measures and practices related to strategic human resources management planned and implemented by organizations are effective mechanisms to attract employees who believe in their abilities and create energy and motivation in the Khuzestan Regional Water Organization, like any other organization. Also, it requires the deployment of the strategic human resources management capacity and its subsystems to improve the perceived organizational fairness of employees in order to improve work behavior and employee satisfaction, which the present study has dedicated to this important topic. The aim of the study is therefore to examine the relationship between performance appraisal measures and employee satisfaction and to investigate the mediating role of procedural and distributive justice in the relationship.

METHODS: The research population were employees of the Khuzestan Regional Water Organization. The sample size was selected based on Morgan's table as 297 people. Data were collected using simple random sampling method. Data were analyzed by descriptive and inferential statistics using SPSS25 and AMOS24 software.

FINDINGS: Based on the quantitative data analysis, the results of testing the research hypotheses show that financial measures are significantly related to procedural fairness (C.R.= 6.009) and distributive fairness (C.R.= 5.748), non-financial measures are significantly related to procedural fairness (C.R.= 3.643) and Distributive Justice (C.R.= 5.196). Financial metrics have a significant correlation with employee satisfaction (C.R.= 4.080), non-financial metrics have a significant correlation with employee satisfaction (C.R.= 2,569). Procedural fairness has a significant association with employee satisfaction (C.R.= 2.786), distributive fairness has a significant association with employee satisfaction (C.R.= 2.084). Procedural and distributive justice play a partially mediating role in the relationship between financial and non-financial measures and employee satisfaction.

CONCLUSION: The results showed that the use of the comprehensive performance evaluation system is effective on organizational justice and the result will lead to the improvement of the job satisfaction of the employees and the results of this research can be used and generalized in governmental organizations and public non-governmental organizations that have almost the same organizational structure. The use of non-financial measures is suggested to evaluate employee performance, in addition to using traditional financial objective measures to evaluate performance.

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INTRODUCTION

Performance measurement (PM) is an essential part of management accounting research (Nuhu et al., 2022). PM and rewards are important as they are critical elements for motivating organizations (Rafiq et al., 2020). Implementation of Performance Measurement Systems (PMS) significantly assist the organization in conducting strategic plans, evaluating the achievement of goals, and codifying the management services compensation programs (Agritansia and Sholihin, 2011). Many organizations fail to implement their strategies, mainly because of the difficulty in translating the strategy into operational conditions (Kumar et al., 2021). Therefore, it is necessary to create and improve tools and mechanisms that allow the strategy to be properly implemented and communicated (Sharaf-Addin and Fazel, 2021). In this context, models and tools such as Balanced Scorecard (BSC) have been adopted by most organizations to strategically manage their performance (Akinbowal et al., 2022). The BSC is a model that helps transform strategy into operational goals that guide behavior and performance, enabling the identification of good management practices and guiding organizational change management in a continuous improvement process. The four main perspectives of this model are: financial (mainly for the benefit of shareholders, creditors and the government; benefits are mainly financial); customer (identifies the customer segments and markets in which the organization will compete and the attributes valued to achieve the desired financial performance). Internal processes (identifies the processes you need to excel in to create value). learning and growth (creating core competencies for the organization to compete and create value in the future). Businesses, industries, government agencies, non-profit organizations, among others, use the Balanced Scorecard as a coherent strategic planning system to measure performance and align organizational actions to transform vision and mission into goals and objectives (Gomes et al., 2021). The relationship between the PMS and their behavioral consequences has been the subject of many researches behavioral in the current period (Arisman et al., 2022). Recent studies indicate that the PMS affects the employee's behavior through several variables, including role ambiguity (Burney and Widener, 2007), role clarity (Setiawati et al.,

2022), Procedural Justice (PJ) (Arisman et al., 2022), Distributive Justice (DJ) (Susiana et al., 2017), feedback (Hartmann and Slapničar, 2009), intrinsic and extrinsic motivation (Lau and Roopnarain, 2014). Selecting the appropriate measures are used to evaluate the employee's performance is very important as it can influence their attitudes, such as their perception of Organizational Justice (OJ), Employee Satisfaction (ES), and organizational commitment. Recently, due to the inadequacy of Financial Measures (FM), the use of Non-Financial Measures (NFM) has been emphasized in accounting literature (Arisman et al., 2022). The traditional PM methods have used FM, such as: 1) My ability to meet my budget; 2) My ability to avoid unfavorable budget variances; 3) My ability to meet or better budgeted costs or sales; and 4) My ability to achieve budgeted cost reduction or budgeted sales growth (Marie et al., 2014). Using FM to evaluate employee's performance might lead to higher employee performance through their perceptions of justice in the measuring stages and their ES as a consequence (Lau and Roopnarain, 2014). However, the use of FM does not necessarily lead to adverse consequences. Consequently, it is likely that superiors, who rely on budget targets to evaluate their subordinates, will also provide these subordinates high budgetary participation in order to solicit the favorable behaviors (Tan and Lau, 2012). FM are perceived more accurately as they are objective (Chia et al., 2014). The use of FM for performance evaluation may be too limited, dense, incomplete, retrospective, and examine employee's actions with short-term thinking and fail to capture the long-term consequences of their efforts properly. Due to these shortcomings, organizations are paying more attention to the NFM, as they may be broader, focusing on long-term behaviors of the employee's and investigating the different performance aspects (Lau and Roopnarain, 2014). There are three advantages of using non-financial measurements. First, managers can obtain business progress information from the company before the financial statements are published. Second, employees can obtain information from superiors about the behaviors needed to achieve strategic goals. Third, investors can receive more accurate information about the overall performance of the company since the use of non-financial measures that reflect intangible values, for example the productivity of the

research and development department (Arisman *et al.*, 2022). The use of NFM for performance evaluation, such as ES, citizenship behavior, and attempts to educate colleagues, emphasize the long-term goals and cover a wide range of areas (He and Lau, 2012). Hence, PM based on several NFM may improve employee's job satisfaction. An employee may perform well in indicators, such as customer satisfaction, product development, and innovation. Hence, if employees are evaluated based on these parameters, they will understand the performance measurement rationally and as a result, they will have reasonable satisfaction and high satisfaction with the evaluation process (Tan and Lau, 2012). The previous studies also indicate that adopting NFM for evaluating employee's performance through PJ has a significant impact on their job satisfaction (Chia *et al.*, 2014). Therefore, it seems that using multiple performance measures (MPM) will lead to the employee's job satisfaction (Lau and Martin-Sardesai, 2012). However, many companies in the world use FM and NFM at the same time. Has led to the emergence of comprehensive performance management systems (CPMS), such as balanced scorecard, which has placed greater emphasis on NFM (He and Lau, 2012). Over the past decade, adopting a balanced scorecard as a tool for measuring performance has been one of the most controversial topics in management accounting literature. The use of FM should be considered in today's fast competitive business conditions. The NFM is used to supplement the FM counterparts. Using these measures to evaluate performance has raised concerns for employees. The employee's responses to PMS may play a critical role in determining the success of these systems (Chia *et al.*, 2014). The purpose of this study is to investigate the influence of using FM and NFM on employee's attitudes. A study by Lau and Sholihin (2005) showed that employee's job satisfaction is influenced by FM and NFM. FM and NFM are significantly related to employee's job satisfaction through PJ (Chia *et al.*, 2014) and DJ (Susiana *et al.*, 2017). The mere use of FM has short-term effects on employee's, which are more frequently addressed in the accounting literature. However, the use of NFM along with FM ones has a positive effect on the long-term motivation and behavior of employee's (Lau, 2011). Therefore, an appropriate combination of these two measures can have behavioral effects on

the motivation (Lau and Roopnarain, 2014), better understanding of PJ (Nuhu *et al.*, 2022), DJ (Susiana *et al.*, 2017) of the employee's, and finally affect their attitudes toward the organization and ES (Lau and Martin-Sardesai, 2012). Therefore, there is a need to understand how performance evaluation measures are effect on perceive justice, and employee's behaviors. There is also a need to understand whether employee's response due to using NFM is different from what is achieved through the use of FM ones. While numerous studies have been conducted on the behavioral effects of NFM (Lau and Moser, 2008), however, in the comprehensive PMS, few studies have examined the behavioral effects of NFM alongside the FM ones on the perceptions of PJ and DJ in the organization compared to the FM (Lau and Roopnarain, 2014; Lau and Martin-Sardesai, 2012).

Literature Review

Comprehensive Performance Measurement Systems (CPMS)

CPMS are not only used in organizations to ensure that employees' behavior is consistent with organizational objectives and strategies, but also to help employees in doing their job, in searching for opportunities, and in solving problems (Van Veen-Dirks *et al.*, 2021). PMS plays two main roles: (1) as an instrument for strategic implementation and ensuring the planned actions are concurrent with the organization's goal achievements, (2) as a motivation control tool to affect the individual's peak behavior, which will ease the organization's goal achievement (Zid *et al.*, 2021). In general, the CPMS is being used in the PMS where the two measures of FM and NFM ones are implemented for the PM (Tran and Järvinen, 2022). The FM is considered as the oldest, most popular, and most comprehensive performance evaluation measure (Marie *et al.*, 2014). These measures facilitate the comparison of staff performance within the different units of the organization and senior executives are primarily aware of these performance evaluation measures (Lau and Roopnarain, 2014). Since these measures are more objective and also focusing more on these measures often aligns with organizations' plans for profitability, organizations usually implement them in order to evaluate their employee's performance (Lau and Sholihin, 2005). Although these types of measures contain valuable information for the users, they are not

capable of evaluating the performance of employee's in achieving goals in all different aspects (Lau, 2011). Therefore, it is necessary to examine the NFM along with FM ones in order to fill the PM gaps (Nuhu *et al.*, 2022). One of the significant developments in management accounting during the recent periods has been the use, and acceptance of NFM, which has affected the efficiency of management accounting methods in today's competitive environment (Lau and Oger, 2011). The use of NFM to evaluate performance is a more complete and appropriate approach from the perspective of employee's, and it is for overcoming the shortcomings of traditional PMS (Lau and Berry, 2010). Although the NFM is not new, these measures have played a prominent role in evaluating the employee's performance in recent decades (Lau, 2015). Proponents of the use of NFM believe that utilizing, such measures for performance evaluation has many benefits at the individual, and organizational levels, and will lead to increasing citizenship behavior, loyalty, performance, and employee's job satisfaction (Lau and Berry, 2010; Lau, 2015). The essential feature of the NFM is that they are expressed within the framework of non-financial terms. Since most tasks in the service organizations are non-financial, it is essential to use NFM to evaluate the performance (Lau, 2011).

Procedural Justice

Procedural Justice (PJ), which is a part of organizational justice, refers to perception of members in an organization toward a degree of fairness of official organizational procedures related to rewards (e.g., wages, personnel management systems, and promotion) (Ha and Lee, 2022). From an organizational management perspective, PJ is usually defined as a fairness, and transparent process an organization uses to decide, resolve disputes or distribute resources, and responsibilities. At the same time, from another perspective, PJ is usually described as fairness, and transparency associated with the processes, methods, and mechanisms used to determine the outcomes of employee's activities (Razak and Ismail, 2018). Lin and Hsieh (2010) have defined the PJ as the perceived justice of decision-making methods. According to Tyler (1987), PJ is related to the procedure that the company adopts to distribute the results, procedures, and employee's reactions to the fairness of this particular approach. Maitland (2017) defines the PJ as the appropriateness

of the allocation process. If the organizational approaches meet the interests of everyone, and are based on accurate information, provide an opportunity for the staff survey, and comply with the general ethical norms, there is PJ in the organization (Graso *et al.*, 2020). Procedural justice perception, represents a critical outcome of a performance evaluation system (Tran and Järvinen, 2022) and is one of four indicators for assessing the system's quality (Baird *et al.*, 2021). It refers to perceived fairness regarding processes applied in making evaluation decisions such as performance ratings and bonuses. It is considered even more important than perceived fairness of individual outcomes because of the protections that fair procedures offer (Tran and Järvinen, 2022). Along this argument, it is appropriate to focus on perceptions of procedural justice in the research, as the use of financial and non-financial evaluation measures may allow for bias in the evaluation process; hence it relates to justice perceptions regarding the system. Swalhi *et al.*, (2017) expressed that although the perception of justice depends on the results, the process of achieving these results is more critical (Karkoulian *et al.*, 2016). PJ is proportional to the final results, and fits more to the methods, processes, and mechanisms for achieving them (Folger and Cropanzano, 2001). According to Leventhal (1980), PJ refers to people's perception of justice in resource allocating within a social system. As pointed out by Swalhi *et al.*, (2017), PJ is rooted in social interactions, and affects the employee's perceptions of their relationship with the organization. Leventhal (1980) states six principles for fair evaluation procedures: 1) consistency; 2) correctability; (3) accuracy; 4) bias suppression; 5) ethicality and 6) representativeness. Consistency means that the procedures should be applied consistently across personnel and time. Correctability means that there should be some grievance system for correcting poor decisions. Accuracy refers to the collection of accurate information and valid facts for making decisions. Bias suppression relates to neutral, impartial and bias-free procedures. Ethicality means that procedures should conform to standards of ethics and morality. Lastly, representativeness aims to ensure that the concerns of all groups affected by the decision are taken into account.

Distributive Justice

Distributive justice refers to people's sense of

justice about pay distribution. This sense is first affected by the absolute values of salaries. The higher the actual pay, the higher its utility value, the more attractive it is to individuals, and the relatively higher the sense of justice. Additionally, it is influenced by the relative values of salaries (Zhou and Ma, 2022). Individuals will compare the ratio of their own income and input with those of others within the same organization (Williams *et al.*, 2020). If the ratio is basically the same, they should possess a sense of organizational justice. However, if there is a big difference, two outcomes are possible: One is that if an individual's actual income is less than the income, they feel they deserve, they will feel that they have suffered a loss and feel aggrieved (Schnauffer *et al.*, 2022). The other is that if their actual income is more than the income, they feel they should receive, they will think that they have obtained an undeserved benefit and feel guilty. In addition, individuals will compare the ratio of their own income and input with those of individuals from other organizations with similar educational backgrounds and abilities (Zhou and Ma, 2022). If the ratio is basically the same, there will be a sense of interorganizational justice, but if there is a big difference, there will be a sense of interorganizational unfairness (Georgellis *et al.*, 2019). Maitland (2017) has defined the DJ as the perceived justice of the appropriateness of the allocating results. ES with job outcomes, such as satisfactory payment has a direct impact on the perceptions of the DJ (Folger and Konovsky, 1989). The staff compare the incomes, and their share of the company with their incomes, then determine the levels of the DJ based on the perceived degree of justice (Palaiologos *et al.*, 2011). Thurston and McNall (2010) stated that when employees understand that designing a PMS is to support one of the abilities, the perception of DJ is higher among them. Ambrose and Schminke (2003) expressed that the DJ is often considered economic exchanges rather than the social ones.

Employee Satisfaction

Job satisfaction is an employee's positive attitude towards his work, which arises based on an assessment of the work situation. A pleasant work state of affairs is fashioned if the character and sort of labor to be done is in accordance with the wants and values of the staff. Thus, satisfied employees prefer their work situations than dissatisfied employees,

who do not like their work situations. Job satisfaction is the first aspect that is achieved before an employee has organizational commitment (Jufrizen and Kandhita, 2021). Evaluation reactions have a crucial role in creating the desirable business, and organizational attitude, and enhancing motivation to increase performance. Satisfaction with all evaluation reactions has been further evaluated. Of all the evaluation reactions, satisfaction has been examined more. Job satisfaction is an essential goal of organizations to achieve as it has been shown that profitability, productivity, employee's retention, and customer satisfaction are related to staff satisfaction. Motivated employee's enhance customer satisfaction, and positively affect organizational performance (Palaiologos *et al.*, 2011). Job satisfaction may be a real behavior that's displayed by everybody as work performance created by workers in accordance with their role within the company. Job satisfaction is the difference between the amount of rewards an employee receives and the amount they believe they should receive, as well as a general attitude toward one's work. It is a general attitude which is the result of several special attitudes including work factors, self-adjustment and individual social relationships outside of work. The job satisfaction is felt by the employee is influenced by two factors, namely: 1) Intrinsic factors are factors that come from within the individual that are brought by each employee since starting to work in their workplace, and 2) Extrinsic factors are factors related to - things that come from outside the employee, such as the physical condition of the work environment, interactions with other employees, the payroll system, and so on (Jufrizen and Kandhita, 2021). In a related study, Yousef *et al.*, (2017) illustrated that job satisfaction refers to the attitude of employees toward their job, its rewards, and benefits, and the organizational, social, and physical characteristics of the environment in which they work. Study on organizational behavior have divided job satisfaction into two main categories, including internal, and external job satisfaction. Internal job satisfaction is defined as the positive attitude of employees toward recognition, success, available opportunities in the organization, and development of human capacities, and responsibilities. In contrast, external job satisfaction is often associated with employee's positive attitudes toward service compensation,

interpersonal relationships, supervisors' supervision, organizational policies, and procedures, safety, and health, opportunities for continuous growth, work, and overall working life environment, social interactions at work, and job security status. If employees have a positive attitude toward internal, and external job satisfaction, this may lead to increasing job satisfaction in the organization (Razak and Ismail, 2018). Dissatisfied employees often try to find alternative jobs, while satisfied ones remain in the organization for an extended period (Son and Ok, 2019).

Goal Setting Theory

The goal setting theory assumes that a person's individual goals consciously influence motivation through one of the following four mechanisms, namely goals build effort to achieve goals, goals direct attention and effort toward goals, goals increase persistence to strive, and goals influence action directly by encouraging the use of knowledge with tasks and strategies. Goal setting theory indicates that a person will be motivated to make an effort when a goal is to be achieved. Goal setting theory explains that goal setting not only affects work, but also motivates employees to seek or use the most effective work methods (Gomes et al., 2021). Without doubt, Locke and Latham's (1990) Goal Setting Theory has been the most influential work motivation theory to date. The core prediction of this theory is that setting clear, specific, but also challenging goals has a motivational effect on individuals that leads to higher performance in a task that when goals are unclear and unchallenging. Attaining goals, in turn, results in increased job satisfaction, and organizational commitment (Locke and Latham, 2002). This was also proved to be true for individual performance in economic games. For example, Corghnet et al., (2018) ran an experiment using different agency models, and reported that agents performed better in the presence of goal setting, even under weaker monetary incentives. As Locke and Latham (2013) evidenced, the predictions of goal setting theory have been supported in almost every possible context. However, goal setting theory still has a boundary condition that has been somewhat neglected in prior studies, which is the effect of how goals are set has on individuals' goal attainment. Prior studies on goal setting showed that an actor's performance will

vary if the goals are set unilaterally by an authority figure or if set in a participative manner (Monzani et al., 2022). In the "old normal," a series of joint experiments helped resolve the controversy that mixed findings regarding goal setting type created (Latham et al., 1988). In this section, the framework of Adler and Borys (1996) was developed, in which they distinguished between permissive and coercive types of formalization. Since performance measurement can be conceived as a form of formalization, this framework can be used to contrast these two types of performance measurement. While Adler and Borys (1996) propose that "employees' attitudes to the system depend on the type of formalization with which they are confronted", Tessier and Otley (2012) emphasize that the orientation of the system, as enabling or coercive, needs to be separated from the assessment of the quality of the system to increase conceptual clarity and to make it possible to empirically examine the relationship between these two concepts. Building on these insights, hypotheses were developed about the relationship between the type of performance measurement system—enabling or coercive—and the employees' attitudes to these systems as captured by procedural fairness and red tape (Van Veen-Dirks et al., 2021). These studies consider performance measurement to be a form of formalization. Several scholars have investigated the characteristics of management control systems that make people experience them as more or less fair. These studies have focused on a range of characteristics including subjective versus objective systems (Bellavance et al., 2013; Van Veen-Dirks et al., 2021), diversity of performance measures and a focus on outcome versus effort in performance measures (Hartmann and Slapničar, 2012), bonus payments (Voußem et al., 2016), and participation in goal setting (Groen 2018). Some also highlight the importance of the management control system for procedural fairness and, for example, emphasize that an important dysfunctional consequence of a management control system can be that the system is not experienced as fair by the employees (Van Veen-Dirks et al., 2021). These authors further emphasize the importance of fairness by referring to the work of Folger and Cropanzano (1998): "when individuals perceive a lack of fairness, their morale declines, they become more likely to leave their jobs, and may even retaliate against the organization. Fair treatment, by

contrast, breeds commitment intentions to remain on the job and helpful citizen behavior that go beyond the call of formal duties” (Van Veen-Dirks *et al.*, 2021). Although these studies provide relevant insights into how management controls affect procedural fairness, the focus is on features of management control systems that have not been studied before. As such, the current research complements these studies by examining the effects of financial and non-financial measure on procedural justice and distributive justice. In addition, while the literature often refers to several normative procedural justice principles that can usually be traced back to the work of Hartmann and Slapničar (2012) comment that “these are not observable or designable characteristics of the performance evaluation themselves”. As a consequence, there is still only limited understanding of what the actual design and development process of the performance measurement system should be to achieve procedural fairness, distributive justice and, more broadly, a positive attitude toward the performance measurement system (Van Veen-Dirks *et al.*, 2021). Thus, it is expected that there is a direct relationship between CPMS and organizational justice.

H1a: FM is significantly related to PJ.

H1b: NFM is significantly related to PJ.

H1c: FM is significantly related to DJ.

H1: NFM is significantly related to DJ.

Self-Determination Theory

The self-determination theory (SDT) asserts that humans have the natural tendency towards intrinsic growth and motivation, where this intrinsic motivation and well-being require the fulfillment of three basic psychological needs, namely (1) autonomy (2) competency and (3) relatedness (Deci and Ryan 2000). The basic psychological needs stimulate the principle of self-determination theory on physical activities based on intrinsic motivation. Intrinsic motivation relates to activities involvement due to enjoyment and satisfaction achievement without requiring an external reward or incentive (Ryan and Deci, 2000). CPMS, a performance measurement information, is used as a control tool in performance evaluation to motivate individual behavior towards the organization’s desires. CPMS that integrates psychology needs of autonomy, competence and relatedness in the performance evaluation and

assessment of football players can enhance players’ intrinsic motivation. By using self-determination, these needs are satisfied or in other words, more comprehensive use of performance information, resulting in positive effects such as satisfaction, enjoyment, and happiness (Zid *et al.*, 2021). In this study, when CPMS containing comprehensive information of employee’s performance characterizing needs of autonomy, competency and relatedness is used more comprehensively, the employee’s self-determination increases in line with the need’s fulfillment. It encourages the employee’s increased satisfaction. Thus, it is expected that there is a direct relationship between CPMS and employee’s satisfaction.

H2a: FM is significantly related to ES.

H2b: NFM is significantly related to ES.

Justice Theory

Justice theory is an important incentive theory. It suggests that employees will feel happy, work hard, and have a relatively low turnover intention if they have a sense of fairness regarding the distribution of benefits according to their own judgment (Piotrowski *et al.*, 2021). However, if they have a sense of unfairness, they will be resentful, work with negative attitudes, and have higher turnover intention (Özkan, 2022). Organizational justice refers to people’s feelings toward the reasonable nature of pay distribution, and it includes distributive justice, procedural justice, and interactive justice (Tekin and Akyol, 2017). The concept of organizational justice emerges from the Adams Equity theory (1965), according to which a person perceives organizational justice based on equity and harmony assessment of inputs related to the outcomes, observing their own input–outcome ratio, and comparing it with their colleagues’ ratio (Amazue *et al.*, 2016). It focuses on components of each justice dimension in an exchange relationship with the organization; fairness of reward system, the fairness of decision outcomes, and the fairness of interaction between managers and subordinates. The perception of this fairness affects employees’ positive or negative feelings about their treatment in the organization. In turn, employees will become motivated and satisfied if they perceive that their treatment is fair and just and vice versa (Bakotić and Bulog, 2021). Many research suggested that perceived organizational justice influences employees’ attitudes

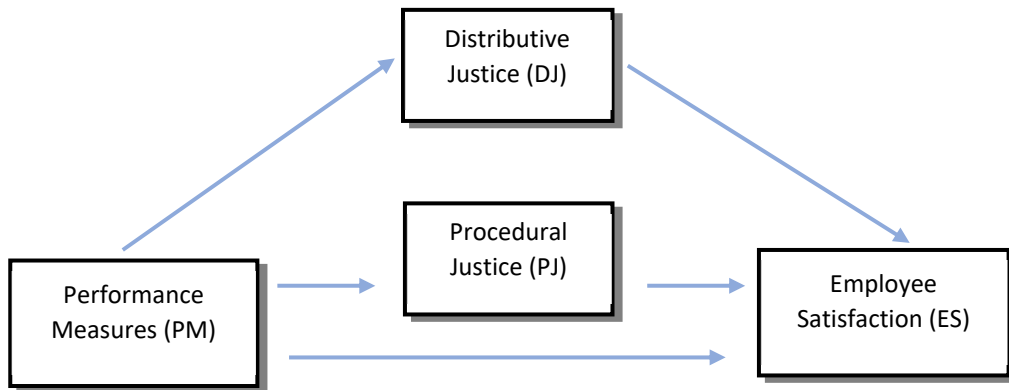


Fig. 1: Conceptual model

and behaviors that are crucial for individual and organizational success, such as organizational commitment, job performance, turnover intention, trust, organizational citizenship behavior (Mylona and Mihail, 2019; Jufrizen and Kandhita, 2021). Among many work-outcome variables that have been analyzed in relationship with organizational justice, job satisfaction has its significant place and share (e.g., Strom *et al.*, 2014). Researchers mainly empirically proved the significant positive effect of each justice dimension on job satisfaction (Sembiring *et al.*, 2020). Cohen-Charash and Spector (2001) in their meta-analysis of the role of organizational justice in the organization, highlighted findings that positive perceptions of justice and fairness are related to positive employees and organizational outcomes. Gori *et al.* (2020) pointed out that organizational justice predicts job satisfaction from a cross-cultural perspective. Further, Alamir *et al.* (2019) found that three organizational justice types impact organizational commitment through job satisfaction. Zahednezhad *et al.* (2021) found that all three organizational justice dimensions were positively linked with job satisfaction, suggesting that job satisfaction depends on perceived employees' organizational justice level. Empirical evidence also supported assumptions that different organizational justice components do not affect work outcome variables the same, among which job satisfaction stands out. This standpoint is maintained through yearly research, where empirical evidence exposed that some of the justice components accounted for more variance on work-related outcomes, like

job satisfaction, than others. In that vein, in his study, revealed that all three components of justice play a significant role in influencing employee's job satisfaction levels, emphasizing that distributive justice tends to be a stronger predictor of job satisfaction when compared to procedural justice (Bakotić and Bulog, 2021).

H3a: PJ is significantly related to ES;

H3b: DJ is significantly related to ES.

Hypotheses related to the mediating role of PJ and DJ variables are as follow:

H4a: PJ is mediated FM and ES;

H4b: PJ is mediated NFM and ES;

H4c: DJ is mediated FM and ES;

H4d: DJ is mediated NFM and ES.

The current study has been carried out in 2020 in Ahvaz- Iran.

The relationships between the research variables are presented in the conceptual model (Fig. 1):

MATERIALS AND METHODS

Participants

The statistical population of the current study is Khuzestan Regional Water Organization in Iran. For the appropriate sample size, researchers used a confidence level of 95%, an error margin of 5%. According to Saunders *et al.*, (2012), these percentages are suitable for social science researchers. Thus, 299 people were selected as the statistical sample. Data were collected using simple random sampling method. Data were analyzed using

Table 1: Estimation of the measurement model parameters

Constructs	Factor Loading	Std. Dev.	Min	Mix	Skewness	Kurtosis	AVE	Composite Reliability	Cronbach's Alphas (α)
FM							0.755	0.924	0.912
Fm1	0.931	1.290	1	5	-1.423	0.709			
Fm2	0.966	1.323	1	5	-1.237	0.266			
Fm3	0.928	1.303	1	5	-1.099	0.018			
Fm4	0.578	1.175	1	5	-0.739	-0.231			
NFM							0.544	0.857	0.856
Nfm1	0.794	1.157	1	5	-0.844	-0.117			
Nfm2	0.803	1.141	1	5	-0.769	-0.115			
Nfm3	0.791	1.120	1	5	-1.034	0.481			
Nfm4	0.628	1.143	1	5	-0.764	-0.284			
Nfm5	0.622	1.115	1	5	-0.979	0.307			
DJ							0.773	0.915	0.910
Dj1	0.931	1.175	1	5	-1.311	0.753			
Dj2	0.888	1.207	1	5	-1.264	0.657			
Dj3	0.822	1.171	1	5	0-1.298	0.883			
PJ							0.643	0.841	0.833
Pj1	0.692	1.342	1	5	-0.656	-0.789			
Pj2	0.896	1.300	1	5	-1.040	-0.060			
Pj3	0.833	1.350	1	5	-0.683	-0.802			
ES							0.742	0.933	0.933
Esat1	0.871	1.267	1	5	-1.263	0.405			
Esat2	0.907	1.308	1	5	-1.092	-0.015			
Esat3	0.922	1.255	1	5	-0.985	-0.151			
Esat4	0.860	1.266	1	5	-0.916	-0.185			
Esat5	0.734	1.140	1	5	-0.940	0.156			

descriptive and inferential statistics using SPSS25 and AMOS24 software.

Measures

PM: This scale has been derived from [Tan and Lau \(2012\)](#) for the FM, and [Lau and Roopnarain \(2014\)](#) for the NFM. Employees were asked to what extent they agree with the relevant statements (how important each factor is when evaluating one's performance by the superior). OJ: This variable has been deduced from [Lau \(2015\)](#) PJ (Respondents were required to rate the fairness of the procedures employed by their superior to determine promotions, communicate performance feedback, and determine pay increases), and [Lau and Oger \(2012\)](#) for the DJ (The instrument comprises three items which ask the respondents to rate the fairness of the reward that they received taking into consideration the amount of effort that they had put forth, the responsibilities that they had, and the amount of education and training that they had and the work that they had done), respectively. ES: To measure this variable, the investigation performed by [Lau and Tan \(2012\)](#) has been used.

Demographic questionnaire

Demographic variables include gender, age, education, and years of experience.

RESULTS AND DISCUSSION

Researchers have also used the Average Variance Extracted (AVE) in order to assess the convergent validity of each variable. According to [Fornell and Larcker \(1981\)](#), the AVE value of a variable must be more than 50% to ensure convergent validity. [Table 1](#) shows that the AVE associated with each variable is more than 50%. In the next step, the composite reliability (CR) has been evaluated. [Bagozzi and Edwards \(1998\)](#) suggested that the CR value should be higher than 0.60. As observed from [Table 1](#), CR values exceed the recommended value. Furthermore, the researchers examined the reliability of the scale using Cronbach's alpha (α). [Nunnally \(1987\)](#) noted that α values greater than 0.70 indicate the reliability, and internal consistency of the research variables. The results in [Table 1](#) show, the Cronbach's alpha of the variables more than the minimum value of 0.7, therefore, reliability is confirmed. Before examining

the research hypotheses, the normality of the data is tested by using the kurtosis, and skewness coefficients. The kurtosis, and skewness coefficients range from -7 to 7, and -3 to 3, respectively (Byrne, 2016). As shown by Table 1, the data are normal, and parametric tests are used to test the hypotheses. The factor loadings of each structure are higher than 0.50 according to the suggestion of Yong and Pearce (2013), indicating that the validity of these structures is desirable.

Correlation results

Before testing the research hypotheses, the direct relationships of the research variables were tested. The results in Table 2 show a positive, and significant relationship between these variables.

Measurement model

Direct relationship hypotheses according to Kline’s (2015) suggestion, when the critical value is higher than 1.96, and the significance level is less than 0.05, this hypothesis is confirmed (Table 3).

Structural equal model (SEM)

The results of the structural model based on the research variables are presented in Fig. 2. The results in Fig. 2, and Table 3, show that FM has significantly related to PJ (0.378, R=0.429). Hence, H1a is supported. NFM has significantly related to PJ (0.246, R=0.306). Hence, H2a is supported. FM has significantly related to DJ (0.340, R=0.414). Hence, H1c is supported. NFM has significantly related to DJ (0.343, R=0.326). Hence, H1d is supported. FM has significantly related to ES (0.258, R=0.553). Hence, H2a is supported. NFM has significantly related to ES (0.169, R=0.178). Hence, H2b is supported. PJ has significantly related to ES (0.193, R=0.680). Hence, H3a is supported. DJ have a significantly related to ES (0.143, R=0.578). Hence, H3b is supported.

Mediation results

As shown in Table 4, The impact of FM, and NFM through of mediating role of PJ, and DJ on ES using the bootstrap method, as suggested by Hayes and Preacher (2010) using 5,000 bootstrap simulation samples, and

Table 2: Descriptive statistics, and correlations between the study variables

Variable	Mean	FM	NFM	DJ	PJ	ES
FM	3.9933	-				
NFM	3.7157	.135*	-			
DJ	4.0067	.414**	.326**	-		
PJ	3.5429	.429**	.306**	.541**	-	
ES	3.6040	.553**	.178**	.578**	.680**	-

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3: Path analysis for the research model (N=299)

Direct Path	Estimate	S.E.	C.R.	P-Value	Decision
DJ <--- NFM	.343	.086	5.196	***	Accepted
PJ <--- FM	.378	.060	6.009	***	Accepted
PJ <--- NFM	.246	.104	3.643	***	Accepted
DJ <--- FM	.340	.047	5.748	***	Accepted
ES <--- DJ	.143	.079	2.084	.037	Accepted
ES <--- PJ	.193	.067	2.786	.005	Accepted
ES <--- NFM	.169	.098	2.569	.010	Accepted
ES <--- FM	.258	.058	4.080	***	Accepted

95% confidence level was examined. The results of Table 4, showed that FM through PJ, and DJ have significantly related to ES (therefore, H4a, H4c is supported). Also, a significance level less than 5% ($p < 0.05$), PJ, and DJ play a partial mediating role in the relationship between FM, and ES. NFM through PJ, and perceived DJ have significantly related to ES (therefore H4b, H4d is supported). Also, with a significance level less than 5% ($p < 0.05$), PJ, and DJ play a partial mediating role in the

relationship between NFM, and ES.

The Test of Goodness of fit model

According to Hair et al. (2006), CMIN/DF (which is the minimum discrepancy, divided by its degrees of freedom) should be as high as 5 and according to the findings, the CMIN/DF value is less than two, and the Root Mean Square Error of Approximation (RMSEA) is less than 0.08. Furthermore, by comparing the indices

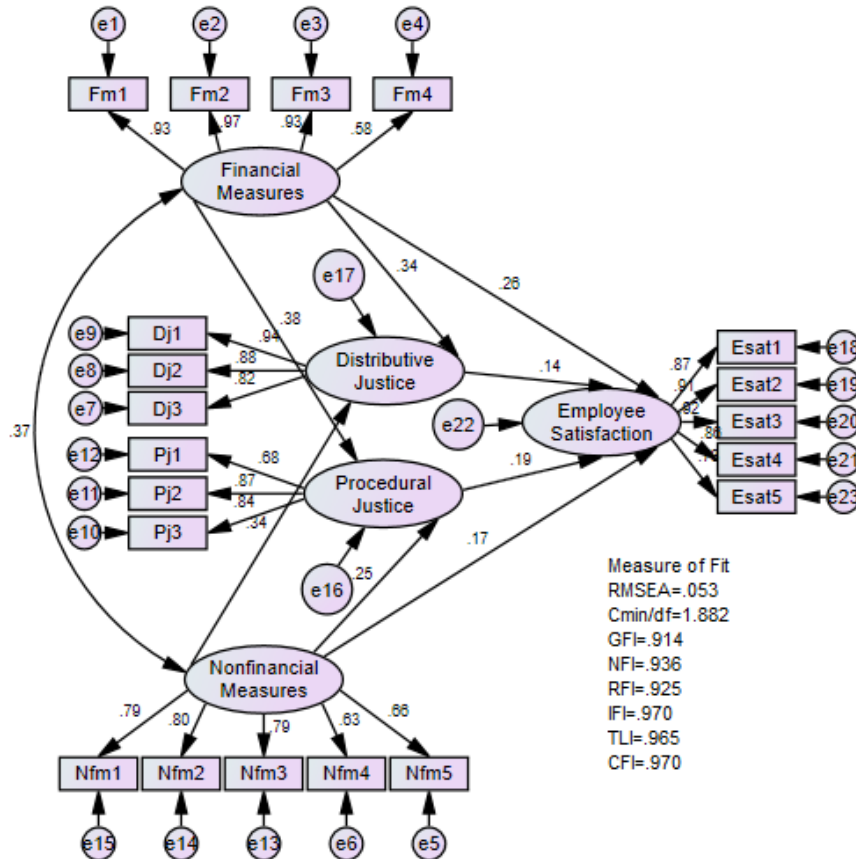


Fig 2: Structural model results: standardized (path) coefficients

Table 4: Mediation Effects in Structural Equation Models (N=299)

Indirect path	Total effect	Indirect effect	Mediation effect	P-Value	Decision
ES <--- PJ <--- FM	0.434	0.126	0.308	0.000	Accepted
ES <--- DJ <--- FM	0.434	0.120	0.316	0.000	Accepted
ES <--- PJ <--- NFM	0.610	0.198	0.413	0.000	Accepted
ES <--- DJ <--- NFM	0.610	0.228	0.383	0.000	Accepted

Table 5: The Assessment of Fitness of Final Fit Model

CFI	TLI	IFI	RFI	NFI	GFI	CMIN/DF	RMSEA	Goodness of fit index
≥ 0.95	≥ 0.95	≥ 0.95	≥ 0.90	≥ 0.90	≥ 0.90	< 2.00	≤ 0.08	Cut off value
0.970	0.965	0.970	0.925	0.936	0.914	1.882	0.053	Model Result

obtained from the model with the proposed values, the structural model gives a causal relationship between the variables, testing an excellent structural model (Table 5).

Discussion

Considering literature, this finding is consistent with the study of [Susiana et al., \(2018\)](#), and [Lau \(2015\)](#). Using FM that can be transformed into numbers (digits), can affect perceptions of PJ in the organization, and employees on the other hand, perceive PJ in the organization to be fair. Therefore, designing a performance evaluation method with FM can have good results. Other results of the study indicate that NFM have a significant relationship with PJ. The findings were confirmed by [Chia et al., \(2014\)](#). When evaluating employee performance, paying attention to NFM will motivate employees more favorably, and thereby improve the perception of PJ in the organization. The results showed that FM has a significant relationship with DJ. Looking upon literature, this finding is consistent with [Susiana et al., \(2017\)](#). If the attribution of results is based on performance evaluation measures, it leads to the desired satisfaction, and understanding of the DJ prevailing in the organization, and the organization should try to integrate its rewards, and feedback system into the performance evaluation system of the organization, and by doing so, thus distribution justice will also be tangible. The results showed that NFM had a significant relationship with DJ, and the results were in line with [Sholihin and Pike \(2009\)](#). Since employee's will be more involved in NFM, employee's perceptions of DJ will be more impactful, and employee's more satisfied if the same measures are evaluated, and promoted accordingly. The results showed that FM has a significant relationship with ES. These results are in line with [Lau and Martin-Sardesai \(2012\)](#). Using FM that can be evaluated using numbers can impact ES. It is suggested that managers should use the views of the staff in designing these measures. By participating in designing these types of measures for performance evaluation, their satisfaction will also be provided. The results showed that NFM had a significant relationship

with ES, and the very idea is in line with [Lau and Martin-Sardesai \(2012\)](#). Performance appraisal system is significant for maintaining human resources, and reward systems in organizations, and more importantly the measures used for performance evaluation should be favorable to the individual, and organization. DJ has a significant relationship with ES, supported by [Zhou and Ma \(2022\)](#). It is recommended that organizations use comprehensive performance appraisal methods in which most employee's or staff representatives are involved. The results showed that PJ had a significant relationship with ES, which was in study with [Lau and Tan \(2012\)](#), and [Zhou and Ma \(2022\)](#). It is recommended that staff be evaluated against the measures they have contributed to design. Monthly or yearly meetings to evaluate or change the status of performance evaluation are evaluated by the appropriate staff. Establish a comprehensive performance appraisal committee in which staff are actively involved. Managers allow employees to comment on their meetings, and provide opportunities for all employees to participate, and talk, leading to improved ES. DJ was the partially mediating the role of FM, and NFM, and ES, which is consistent with [Lau and Oger \(2012\)](#), and [Lau et al. \(2008\)](#). FM, and NFM in which employees are involved, and holding annual meetings, and understanding the comprehensive performance appraisal system they were involved in can be designed to provide ES. Feedback can also influence perceptions of distributed justice, and the use of flexible reward packages can improve employee's job satisfaction. PJ is partially mediating role of FM, and NFM, and ES, which is in line with [Chia et al., \(2014\)](#), and [Lau and Sholihin \(2005\)](#). Designing FM, and NFM that trigger employee engagement reflects a good understanding of PJ. Employees will have a better sense of PJ if they align their reward, and promotion systems with the desirable measures of call (combination of FM, and NFM). Also, staff representatives in monthly, and weekly meetings can influence the perception of organizational justice in the performance appraisal system, so it is essential that employees must be actively involved in the performance evaluation system.

CONCLUSION

In recent years, employee performance evaluation has continued to evolve. Many companies have abandoned traditional hierarchies and created more equal systems, even considering employee performance appraisal results. This has led to a variety of employee performance evaluation systems. Therefore, it is important to establish and improve the performance evaluation system in the direction of using comprehensive criteria for employee performance evaluation. Continuous improvement in employee performance creates a synergistic force that can support growth and development program and opportunities for organizational excellence. It is not possible to improve employee work behavior without researching and knowing the appropriate strategies for evaluating employee performance and the employee challenges in using financial metrics to evaluate performance. In this context, the purpose of this study was to examine the impact of financial and non-financial measures on employee satisfaction through the mediating role of procedural and distributive justice. The results showed that the factor loadings of all questions indicated a good validity of the questionnaire. In addition, the average variance extracted was commissioned to assess the convergent validity of each variable, giving the overall results a reasonable validity. Reliability was calculated by Cronbach's alpha and composite reliability, showing the optimal reliability for the research constructs. The relationships between the variables of interest were tested for normality of data recruitment skewness and kurtosis by Pearson's correlation coefficient, and the results showed a positive and significant relationship between the variables. Before testing the research hypotheses, the fit indices of the model were tested and the results showed that the model fit the research. The results of the research showed that financial measures are significantly related to procedural justice.

AUTHOR CONTRIBUTIONS

H. Khalilipour carried out the introduction, literature review, hypothesis development and data collection. M. Nadaf performed the methodology and data entry into the software and analyzed and interpreted the data. M. Hakkak designed the questionnaire, concluded, the research and manuscript preparation.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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ABBREVIATIONS (NOMENCLATURE)

<i>AVE</i>	Average Variance Extracted
<i>CA</i>	Cronbach's Alpha
<i>CFI</i>	Comparative Fit Index
<i>CPMS</i>	comprehensive Performance Management Systems
<i>CR</i>	Composite Reliability
<i>Dj</i>	Distributive Justice
<i>ES</i>	Employee Satisfaction
<i>Fm</i>	Financial Measures
<i>GFI</i>	Goodness of fit Index

<i>IFI</i>	Incremental Fit Index
<i>NFI</i>	Normal Fit Index
<i>Nfm</i>	Non-financial Measures
<i>Pj</i>	Procedural Justice
<i>PM</i>	Performance Measurement
<i>PMS</i>	Performance Measurement Systems
<i>RFI</i>	Relative Fit Index
<i>SEM</i>	Structural Equal Model
<i>RMSEA</i>	Root Mean Square Error of Approximation
<i>TLI</i>	Tucker Lewis Index

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