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The effect of organisational justice across firm HR practices on employee job satisfaction and firm performance

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Abstract: The purpose of this study is to explore the relationship between organisational justice and firm performance through job satisfaction. The study investigates the relationship using the partial least squares (PLS) structural equation modelling (SEM) approach with SmartPLS (v.3.3.3) software. The sample includes 335 responses from employees working in the manufacturing and service sectors in Bangladesh. The data are collected through an online questionnaire. The study reveals that all three dimensions of organisational justice have a significant positive influence on job satisfaction. Furthermore, an increase in job satisfaction has a positive impact on firm performance. The study also examined the mediating effect of job satisfaction on the relationship between organisational justice and firm performance. Interactional justice indirectly impacts firm performance through job satisfaction. Additionally, IPMA revealed that managers need to concentrate more on procedural justice to improve job satisfaction. This paper advances the literature related to organisational behaviour by empirically showing the importance of organisational justice in improving a firm's performance through job satisfaction. The implications are that policymakers, employers and managers can improve job satisfaction and firm performance by addressing fairness and equity in the decision's outcome, process, and interpersonal treatment in the workplace.

Keywords: organisational justice; procedural justice; interactional justice; distributive justice; partial least squares; PLS; structural equation modelling; SEM; firm performance; job satisfaction; mediating effect; IPMA.

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1 Introduction

In the literature, organisational justice has been widely recognised for improving employee morale and thus increasing firm performance (FP) (Imamoglu et al., 2019; Oh, 2019). Organisational justice refers to the perceived fairness among employees based on how they are treated by the organisation (Nadiri and Tanova, 2010; Karkoulilian et al., 2016; Oh, 2019). The concept of organisational justice can be found in the literature as early as the 1960s when French (1964) defined organisational justice as fair, just, and equitable practices toward employees, and the authors identify and emphasise distributive justice (DJ) and corrective justice. According to the Elsevier database, organisational justice remains a research focus with an increasing amount of attention from researchers even today. Although different authors have defined organisational justice from multiple points of view over time, the true essence has remained similar to an equitable employment practice that employees find fair. Many different factors can impact an employee's perceived fairness on the job, including work, rewards, and work distribution (Herda, 2012). However, among the different models of organisational justice proposed, the three-item model proposed by Colquitt (2001) remains the most widely discussed and studied. The Colquitt model identifies three types of justice, namely, distributive, procedural and interactive justice.

Job satisfaction, on the other hand, is a century-old construct that refers to a multifaceted psychological response from employees that result from certain factors on the job; it is a measure of the employee's contentedness with the job. Job satisfaction has also been historically associated with employee attitudes and work performance (Cranny et al., 1992; Raziq and Maulabakhsh, 2015). Several factors can identify employee satisfaction at work. Since job satisfaction and employee performance are correlated with each other, lower job satisfaction will usually result in lower employee productivity and higher turnover, among the many other problems associated with lower job satisfaction. FP can be measured by an array of different variables and factors. However, both job satisfaction and organisational justice constructs have been found to be related to FP (Imamoglu et al., 2019; Oh, 2019; Edmans, 2012; Zhou et al., 2008).

Although the components of this study, organisational justice, job satisfaction, and FP, have been widely researched, this particular study intends to identify the relationships, if any, between organisational justice and FP through job satisfaction. This study seeks to understand whether job satisfaction plays any role in understanding the possible impact of organisational justice on FP. Therefore, this study attempts to bridge the gap in the literature by proposing an integrated model that combines factors from organisational justice and its impact on FP mediated by job satisfaction.

This study aims to answer the following research questions:

- 1 What is the impact of organisational justice on job satisfaction?
- 2 What is the impact of job satisfaction on FP?
- 3 What are the critical factors that need special managerial attention to improve job satisfaction?

To examine the above research objectives, a survey instrument was designed using the existing literature, and 335 responses were collected from employees working in the manufacturing and service sectors in Bangladesh. The first two questions were examined using the partial least squares (PLS) structural equation modelling (SEM) approach, and the third question was assessed using importance-performance map analysis (IPMA).

The contribution of this paper is threefold. First, it adds to the existing body of literature on organisational behaviour by empirically showing the relationship between organisational justice and FP through job satisfaction. Second, the study proposes an integrated model that investigates the relationship between organisational justice and FP through job satisfaction. The integrated approach also examines the mediating effect of job satisfaction on the relationship between the three parameters of organisational justice [DJ, procedural justice (PJ) and interactional justice (IJ)] and FP. Third, this study conducts IPMA in PLS to generate additional insights into the predictors of job satisfaction. Very few studies have performed such analyses, particularly in the context of job satisfaction. Finally, it examines the relationships in the context of an emerging market such as Bangladesh.

The paper is structured in the following manner. First, we perform an in-depth literature review and develop hypotheses to be tested based on the literature findings. Then, we discuss the methodology adopted for this study in detail before analysing the survey response from the service sector and manufacturing sector employees to test the hypotheses. Then, in the discussion section, we explain the implications of the results and conclude the paper with managerial implications and possible future research avenues.

2 Literature review

This study expands on the body of knowledge on organisational justice and examines the extent to which organisational justice leads to job satisfaction within an organisation to ultimately impact firms' performance.

2.1 *Organisational justice*

Organisational justice refers to employees' perceptions about the degree of fairness with which the organisational authorities treat them, influencing their attitudes and behavioural reactions to such perceptions (Nadiri and Tanova, 2010; Karkoulou et al., 2016; Oh, 2019). Studies show that individuals' perceptions of organisational justice can have a significant impact on their level of organisational commitment, job satisfaction, turnover intentions, and organisational commitment (Moorman, 1991; Colquitt, 2001; Cropanzano et al., 2007; Karriker and Williams, 2007; Parker et al., 2011; Rita Silva and Caetano, 2014; Chan and Lai, 2017). Employees' perceptions of organisational justice have often been found to dominantly influence their level of job satisfaction, and several studies in the literature have found a positive relationship between organisational justice and job satisfaction (Clay-Warner et al., 2005; Bakhshi et al., 2009; Al-Zu'bi, 2010; Fatt et al., 2010). Organisational justice is a multidimensional construct that includes three components. *DJ* refers to the perceived fairness of a decision's outcome and allocation of resources that impacts the individuals in the organisation (Adams, 1965; Colquitt et al., 2013). *PJ* refers to the perceived fairness of the process using the decision-making process for the distribution of outcomes (Colquitt, 2001; Crawshaw et al., 2013). *IJ* reflects the interpersonal treatment people receive from authority when the processes are implemented (Bies and Moag, 1986).

DJ was founded on the theoretical premise of equity theory (Adams, 1965), which argues that individuals hold the fairness of organisational outcomes rather than the level of outcome in higher regard (Bakhshi et al., 2009). Adams' theory of equity also suggests that individuals assess their own inputs (education, knowledge, and effort) and outputs (wages, raises, bonuses, and recognition), and equity is perceived to be achieved when employees observe that their rewards reflect their effort (Clay-Warner et al., 2005; Whitman et al., 2012). It is important to note that DJ is based on equity exchange (Lambert, 2003), which suggests that an individual employee's effort and contribution to the organisation determines the outcome. With DJ, employees try to measure their effort put into the organisation against the outcome to assess the fairness of that outcome. The perception of unfairness can result in resentment and anger that can influence employees' behaviour and attitudes at work (Farmer et al., 2003).

While DJ focuses on the outcome, PJ considers the processes or methods adopted to make a decision (Greenberg, 1987; Farmer et al., 2003). It is based on employees' perceptions of equity regarding organisational policies and procedures utilised in managerial decision making and resource allocation (Elamin and Alomaim, 2011). Leventhal et al. (1980) state that individuals usually perceive a process to be fair when it eliminates bias, maintains consistency regardless of context, reflects the voice of affected individuals, presents accurate information, provides a mechanism to correct flawed or inaccurate decisions, and aligns with moral and ethical standards. Employees often determine the fairness of a situation by the degree of control they have over the situation (DeConinck and Johnson, 2009), and employee turnover is more common in

organisations where employees experience low levels of PJ (Daileyl and Kirk, 1992; Bal et al., 2011).

IJ is related to the quality of interpersonal treatment provided by decision-makers (Cropanzano et al., 2002), and it can be ensured by treating employees in the organisation with dignity (Baron, 1993; Bies and Moag, 1986; Greenberg, 1993), providing the rationale for decisions, paying attention to employee concerns and addressing employee issues with empathy (Skarlicki and Folger, 1997). The absence of IJ might lead to counterproductive behaviours in organisations such as theft, workplace aggression, or retaliation. Later, two more subcategories of IJ were identified: informational justice and interpersonal justice (Folger and Cropanzano, 1998). Interpersonal justice suggests treating individuals with respect, dignity, and politeness when decisions are formed, while informational justice provides sufficient explanations that are timely, specific, and true (Colquitt, 2001).

2.2 Job satisfaction

Job satisfaction is one of the most defined and measured constructs used in organisational behaviour studies. It is often expressed as one of the most influential indicators of happiness at the workplace (Zhang et al., 2014). Job satisfaction or employee satisfaction is the employee's attitude, which includes multifaceted psychological responses to one's job, and such responses have cognitive, affective, and behavioural components (Cranny et al., 1992).

Job satisfaction research output during the COVID-19 pandemic has yielded different results in different sectors, for example even though the most burnout were faced by healthcare sector employees but nurses and other medical professionals also reported higher job satisfaction during this period (Soto-Rubio et al., 2020; Giménez-Espert et al., 2020). One of the early studies from China indicated that the prevailing job satisfaction level among the frontline and medical staff has been higher than previous measures and were relatively decent in the face of the pandemic (Yu et al., 2020).

Some have also indicated that a decreased sense of job security in some sectors caused by pandemic induced lockdown and economic turmoil has resulted in a decreased sense of job satisfaction in those specific sectors (Nemțeanu et al., 2022). Other studies have confirmed that during the pandemic a higher job satisfaction level can be explained through a series of factors such as employee relations (Bulińska-Stangrecka and Bagieńska, 2021). On the other hand some studies conducted in the corporate service or manufacturing sector has showed a decreased level of job satisfaction due to job insecurity, burnout (Mahmoud et al., 2021).

2.3 Three components of organisational justice and job satisfaction

Several studies have explored the relationship between organisational justice and job satisfaction. While most of the studies in the literature show that all three elements of organisational justice, i.e., DJ, PJ, and IJ, have a positive influence on job satisfaction, the individual impact of all three components is debatable. A meta-analysis by Cohen-Charash and Spector (2001) indicates that DJ is a significant predictor of job satisfaction. On the other hand, in a meta-analysis conducted by Colquitt et al. (2001), it was found that PJ is more of an important indicator. However, a study by Fernandes and Awamleh

(2006) revealed that while distributive and IJ significantly influenced job satisfaction, PJ did not.

Folger and Konovsky (1989) proposed that employees' perceptions of DJ influence their satisfaction related to outcomes such as pay. McFarlin and Sweeney (1992) found that DJ is a stronger predictor of employee job satisfaction. Previous studies have also found that DJ positively influences job satisfaction (Leung et al., 1996). DJ has also been found to have a strong positive relationship with job satisfaction through perceived organisational support (Ohana, 2012). Another study conducted by Schappe (1998) also showed a strong positive correlation between job satisfaction and DJ in comparison to the other organisational justice elements. Therefore, based on our findings, we propose the following hypothesis:

Hypothesis 1 DJ positively relates to job satisfaction.

Studies indicate that PJ can positively influence employee satisfaction (Fields et al., 2000; Clay-Warner et al., 2005; Lambert et al., 2007). As per García-Izquierdo et al. (2012), in the context of promotion, maintaining complete transparency accounted for a higher degree of perceived PJ, where PJ was defined as an antecedent of job satisfaction. The following hypotheses aim to draw a more accurate relationship between job satisfaction and levels of PJ within an organisation. Therefore, based on the findings above, we suggest the following hypothesis.

Hypothesis 2 PJ positively relates to job satisfaction.

While exploring interactions between employees and supervisors, it was found that there is a high degree of trust and support when supervisors treat employees with IJ (Masterson et al., 2000). IJ has been reported to positively influence job satisfaction (Hao et al., 2016). In addition, Donovan et al. (1998) reported that the perception of interpersonal treatment has a direct positive relationship with job satisfaction. Therefore, we hypothesise that,

Hypothesis 3 IJ has a positive effect on job satisfaction.

2.4 Job satisfaction and FP

The relationship between job satisfaction and FP is a matter of significant interest to scholars and practitioners. Several past and current studies indicate that job satisfaction can significantly impact a firm's value (Becker and Gerhart, 1996; Pfeffer, 1994; Zhou et al., 2008; Bakotić, 2016). Job satisfaction influences employee motivation, which results in a productive workplace (Raziq and Maulabakhsh, 2015). Clark (1997) indicates that employees can feel withdrawn from the organisation if they are not satisfied with the assigned tasks, uncertain about their workplace rights, experience an unsafe work environment, lack supportive coworkers and supervisors, and lose their voice in the decision-making process. Clark (1997) further highlighted that if employees are not satisfied with their job, it will result in poor performance and termination, ultimately increasing additional costs. Therefore, employee job satisfaction is considered a vital element that impacts the way organisations perform, and employees should be provided with a satisfying working environment where their opinion will be valued. Previous studies have indicated that a high level of job satisfaction has a positive influence on firms' performance (Huselid, 1995; Edmans, 2012; Ellinger et al., 2002; Mafini and

Poore, 2013), and organisations with more committed employees have higher retention and increased productivity (Fatt et al., 2010). Study by Muttaqin et al. (2020) indicated how job satisfaction during pandemic resulted into higher employee performance and then into FP, therefore, we can draw the following hypotheses to determine the relationship between job satisfaction and FP.

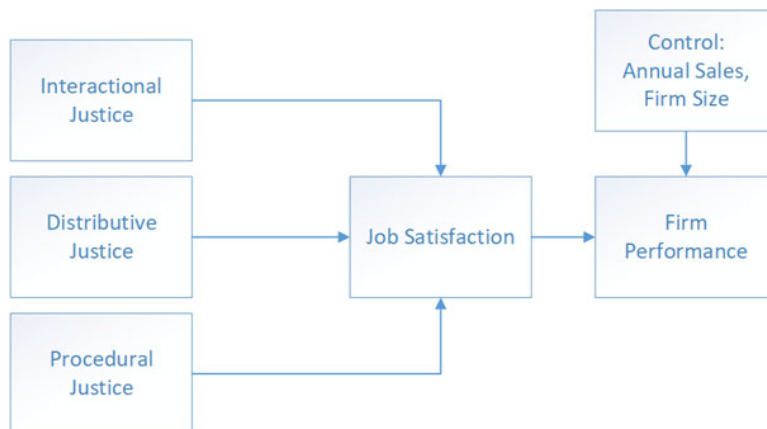
Hypothesis 4 Employee job satisfaction positively relates to firms' performance.

2.5 Control variables

In this research, to lower the variance in FP, we included two control variables: firm size (e.g., the total number of employees) and annual sales. The possibility of having higher financial and labour resources in large organisations can result in variance in how various organisations perform (Wu and Chuang, 2010; Low et al., 2011). Similarly, annual sales were also identified as a control variable in previous studies to reduce variance in FP (Huselid, 1995). A 2020 study based on the banking sector from the same emerging market also indicated a strong correlation between compensation, training spending and firm financial performance (FP) (Huda et al., 2020).

The theoretical framework and the hypothetical relationship among factors are shown in Figure 1.

Figure 1 Proposed research model (see online version for colours)



3 Methodology

This study aims to understand the impact of organisational justice on FP. It also attempts to understand the mediating role of employee satisfaction resulting from perceived organisational justice to establish the findings and to ascertain any possible correlation between prevailing organisational justice and FP. To test the hypotheses, a survey was used to collect data and later analysed through quantitative methods. We also received approval of our research protocol from the North South University Institutional Review Board/ Ethics Review Committee (IRB/ERC).

The survey is a common method for collecting data from an organisation that allows them to share their industry experience and their perceptions of different organisational aspects (Rungtusanatham et al., 2003). This method is particularly suited for this study because it fits closely with the purpose of this study.

The questionnaire is divided into two sections, where the first section collects information about the respondent demography, firm characteristics such as occupation, number of years in this job, annual sales, number of employees, business scope, etc. The second section collects information pertaining to the different constructs of the study. The survey did not collect any personally identifiable information.

3.1 Data collection

A survey was distributed to both the manufacturing and service sectors in Bangladesh. A broad industry coverage has been achieved within these two sectors to make the findings more generalisable. The industries are electronics industry, engineering, financial service, insurance, online delivery service, paint and coating manufacturing industry, pharmaceuticals, real estate, telecommunications, tobacco industry.

The data were collected through an online questionnaire, and we used the accidental sampling method. For this purpose, we approached employees who work in the service or manufacturing sector in Bangladesh, and those employees who have been with their current employer for a minimum of two years were selected for the sample.

Table 1 Descriptive statistics of participant demography

<i>Description</i>		<i>Frequency</i>	<i>Percentage</i>
Age group	0–25	42	12.54
	26–35	160	54.61
	36–45	89	21.24
	46–55	34	8.97
	Above 55	10	2.9
Gender	Male	286	85.37
	Female	49	14.63
Industry	Manufacturing	42	12.54
	Service	293	87.46
Annual sales	Less than 5,000	41	12.24
	5,000 to 10,000	12	4.08
	10,000 to 15,000	174	61.7
	15,000 to 20,000	38	27.74
	More than 20,000	70	37.43
Size (no of employees)	Less than 1,000	29	8.66
	1,000 to 2,000	88	26.27
	2,000 to 3,000	112	33.43
	3,000 to 4,000	40	11.94
	More than 4,000	66	19.7

Participants who worked for different manufacturing and service companies were solicited through e-mail and the organisation's LinkedIn discussion board. Hardcopy surveys were also distributed in some cases but were limited due to the COVID-19 pandemic. Hair et al. (2016) recommended that a sample size of 200 participants can be adequate when performing reliable and robust SEM techniques. With that in mind, we sent out 600 survey requests, and 410 participants responded to the study. However, due to missing entry, incomplete data, and absence of consent, we removed many responses who did not meet the criteria and concluded with 335 samples. We had a response rate of approximately 68 percent. It is noteworthy that the data were collected during the COVID-19 pandemic, which could partially explain the low response rate. The analysis was performed using SmartPLS (v.3.3.3) software (Ringle et al., 2015). The descriptive statistics of the participants' demographics are shown in Table 1.

Surveys were conducted between October 2020 and January 2021 using a non-probability sampling technique. Due to the pandemic, participants and even the authors had limited access to office and support services; hence, the accidental sampling technique allowed the respondents to control the time when they participated in the study according to their availability and willingness to participate (Gravetter and Forzano, 2018). This technique is utilised because it is easy to manage compared to other survey sampling methods.

3.2 Measure

The constructs evaluated in this study included DJ, PJ, IJ, job satisfaction, and FP. All three justice domains were measured using Colquitt's (2001) measure of organisational justice.

- 1 DJ: it is measured by four items, including 'Do the outcomes you receive from your job (e.g., pay, promotions, etc.) reflect the effort you have put into your work?' Items are measured on a five-point Likert-type scale to a very small extent (1) to a very large extent (5).
- 2 PJ: it is measured by seven items, including 'Have you been able to express your views and feelings during those procedures?', which refers to the procedures used to determine outcomes. Items are measured on a five-point Likert-type scale to a very small extent (1) to a very large extent (5).
- 3 IJ: It has two dimensions, informational and interpersonal justice. Because these two components have independent effects from each other, we included the nine items by Colquitt (2001), including 'Has (he/she) treated you with dignity?' to identify interpersonal justice and 'Has (he/she) communicated details in a timely manner?' to identify informational justice. In combination, the nine items represent IJ. Items are measured on a five-point Likert-type scale to a very small extent (1) to a very large extent (5).
- 4 Satisfaction (ESP): we measure employee job satisfaction with a scale adapted from Wood et al. (1986) by Zhou et al. (2008) in the past, and similar to them, items are measured on a five-point Likert-type scale from very unsatisfied (1) to very satisfied (5). Consistent with our aims, we adapted our measure to fit the need and included questions such as 'To what extent are you satisfied or unsatisfied concerning the salary level of your job?'.

- 5 FP: for the FP measure, we use the measure established by Chen et al. (2014). We take three factors, market share, sales growth, and profitability, and ask questions such as ‘Compared with the major competitors, how well does the organisation perform in the following items during the last two years: High sales growth compared to the major competitors’. The items are measured on a five-point Likert scale from strongly agree (1) to strongly disagree (5).

Control: to establish the findings, this study included annual sales and firm size (measured by number of employees) as control factors. The measurement items of the constructs and the sources of the items are given in Appendix.

4 Data analysis

For data analysis, we used the PLS SEM approach and SmartPLS (v.3.3.3) software (Ringle et al., 2015). We have a small categorical dataset with unknown frequency distribution; therefore, the PLS SEM approach was considered the best approach for this study (Hair et al., 2017). PLS SEM can analyse a series of relationships simultaneously, unlike other methods such as multiple regression, which analyse relationships between each construct individually (Hair et al., 2017). For a complex model such as ours with many indicators, PLS SEM is the most appropriate approach.

SEM was used to examine item reliability and validity, evaluate the model’s predictive relevance and effect size, and assess the structural model and hypothesis. Additionally, we performed IPMA in PLS SEM to identify critical factors that have higher importance but lower performance in explaining job satisfaction and FP.

4.1 Measurement model

Following Hair et al. (2017), composite reliability and Cronbach’s alpha were used to measure internal consistency reliability; item loading criteria and average variance extracted (AVE) were used to measure convergent validity; and the heterotrait-monotrait (HTMT) ratio of correlation was used to measure discriminant validity. To confirm internal reliability, the value of composite reliability and Cronbach’s alpha must be equal to or greater than 0.7 (Henseler et al., 2009; Hair et al., 2017). Table 2 shows that all constructs have composite reliability and Cronbach’s alpha above the threshold value, thus confirming internal reliability.

Table 2 Internal reliability and convergent validity

<i>Constructs</i>	<i>Item loading</i>	<i>Cronbach’s alpha</i>	<i>Composite reliability</i>	<i>Average variance extracted (AVE)</i>
Control 1	1	1	1	1
Control 2	1	1	1	1
DJ	0.812–0.894	0.885	0.92	0.743
ESP	0.733–0.894	0.846	0.891	0.62
FP	0.766–0.823	0.702	0.834	0.626
IJ	0.680–0.836	0.916	0.931	0.601
PJ	0.629–0.781	0.853	0.888	0.531

As Table 2 shows, the lowest values for item loading and AVE were 0.629 and 0.531, respectively, which are above the recommended threshold value of 0.5, thus confirming convergent validity (Fornell and Larcker, 1981). For discriminant validity, the HTMT ratio must be less than 0.85 to confirm validity (Henseler et al., 2015). As Table 3 shows, the HTMT ratio of each pair is below 0.85, thus establishing discriminant validity of all the constructs.

Table 3 Discriminant validity [heterotrait-monotrait (HTMT) ratio]

<i>Constructs</i>	<i>Control 1</i>	<i>Control 2</i>	<i>DJ</i>	<i>ESP</i>	<i>FP</i>	<i>IJ</i>	<i>PJ</i>
Control 1							
Control 2	0.605						
DJ	0.112	0.118					
ESP	0.121	0.098	0.656				
FP	0.387	0.159	0.296	0.46			
IJ	0.072	0.064	0.77	0.731	0.43		
PJ	0.114	0.137	0.772	0.646	0.314	0.737	

Table 4 Fornell-Larcker criterion and VIFs

	<i>Correlation matrix and square root of the AVE</i>					<i>VIF</i>	
	<i>DJ</i>	<i>ESP</i>	<i>FP</i>	<i>IJ</i>	<i>PJ</i>	<i>ESP</i>	<i>FP</i>
DJ	0.862					2.297	
ESP	0.57	0.787					1.012
FP	0.235	0.358	0.791				
IJ	0.692	0.648	0.347	0.775		2.22	
PJ	0.679	0.558	0.246	0.665	0.729	2.146	

We also measured the level of multicollinearity using collinearity coefficients and variance inflation factors (VIFs). Table 4 shows that all correlation coefficients are less than the threshold value of 0.9 (Hair et al., 2006). Furthermore, all the VIF values are below 3, far below the threshold value of 10 (O'Brien, 2007). Thus, the model has no multicollinearity problem. Additionally, Table 4 also confirms the discriminant validity of all constructs, as the square root of AVE for each variable is above the correlation coefficients of that variable with other variables (Fornell and Larcker, 1981).

4.2 Structural model

The hypotheses were tested by examining the structural model using a bootstrapping process with 5,000 bootstrapped subsamples to ensure stability. The goodness of the model was examined using R^2 , and the hypotheses were tested using path coefficients (β), t-statistics and p-values.

As Table 6 shows, the adjusted R^2 for job satisfaction (ESP) was 0.456, which means that 45.6% of the variance in job satisfaction can be explained by organisational justice. The results in Table 5 indicate that hypotheses H1 ($DJ \rightarrow ESP$, $\beta = 0.166$, $t = 2.284$), H2 ($IJ \rightarrow ESP$, $\beta = 0.424$, $t = 6.377$) and H3 ($PJ \rightarrow ESP$, $\beta = 0.163$, $t = 1.98$) were statistically significant. This means that DJ, IJ, and PJ positively affect job satisfaction.

Table 5 Structural model

<i>Hypothesis</i>	<i>Path</i>	β	<i>t-statistics</i>	<i>p-value</i>	<i>Result</i>
H1	DJ \rightarrow ESP	0.166*	2.284	0.022	Supported
H2	IJ \rightarrow ESP	0.424**	6.377	0	Supported
H3	PJ \rightarrow ESP	0.163*	1.98	0.048	Supported
H4	ESP \rightarrow FP	0.327**	6.899	0	Supported
Control variables	Annual sales	0.439	6.764	0	Significant
	Size (number of employees)	-0.252	4.134	0	Significant

Notes: n = 335, *Significant at $p < 0.05$, **Significant at $p < 0.01$.

Table 6 Coefficient of determination (adjusted R^2), predictive relevance (Q^2) and effect size (f^2)

<i>Endogenous construct</i>	<i>Adjusted R^2</i>	Q^2	f^2			
			<i>DJ</i>	<i>IJ</i>	<i>PJ</i>	<i>ESP</i>
ESP	0.456	0.281	0.022	0.15	0.023	
FP	0.243	0.15				0.141

The adjusted R^2 for FP was 0.243, which means that 24.3% of the variance in FP can be explained by job satisfaction. Table 5 shows that hypothesis H4 (ESP \rightarrow FP, $\beta = 0.327$, $t = 6.899$) was statistically significant. This means that job satisfaction positively affects FP.

The p-values for both the control variables, annual sales and size, were less than 0.05 ($p < 0.05$). This means that the impacts of two control variables were statistically significant in explaining the variance in FP.

Additionally, we examined the predictive relevance of endogenous constructs and the effect size. The predictive relevance of the endogenous constructs Stone-Geisser's Q^2 was measured using the blindfolding procedure in SmartPLS (v.3.3.3) software (Ringle et al., 2015). As Table 6 shows, for both endogenous constructs, Q^2 values were well above zero (ESP is 0.281 and FP is 0.150), indicating high predictive relevance of the model.

The effect size was measured using f^2 values for DJ on job satisfaction (ESP), IJ on job satisfaction (ESP), PJ on job satisfaction (ESP), and job satisfaction (ESP) on FP (FP). As Table 6 shows, the effect size of IJ on job satisfaction and job satisfaction on FP are medium, as in both cases $f^2 > 0.10$. The f^2 values of DJ on job satisfaction and PJ on job satisfaction indicate small effect sizes, as the f^2 values are approximately 0.02 in both cases (0.022 and 0.023, respectively).

4.3 Mediating effects

Following Preacher and Hayes (2008), bootstrapping analysis with a 95% confidence interval was performed to examine the indirect effects of DJ, IJ and PJ on FP through job satisfaction. The results in Table 7 indicate a significant indirect effect of IJ on FP through job satisfaction ($\beta = 0.23$, 95% CI = 0.133 to 0.343). Furthermore, the mediating effect is statistically confirmed as $p < 0.05$ for this relationship. However, the mediating effects of job satisfaction on the relationship between DJ and FP and the relationship

between PJ and FP were found to be non-significant, as indicated by the results in Table 7. Therefore, in this model, job satisfaction only mediates IJ with FP.

Table 7 Specific indirect (mediation) effect

<i>Path</i>	β	<i>t-statistics</i>	<i>p-value</i>	<i>Lower</i>	<i>Upper</i>	<i>Mediation</i>
PJ \rightarrow ESP \rightarrow FP	0.079	1.215	0.224	-0.051	0.206	No
IJ \rightarrow ESP \rightarrow FP	0.23	4.309	0.000	0.133	0.343	Yes
DJ \rightarrow ESP \rightarrow FP	0.068	1.213	0.225	-0.033	0.19	No

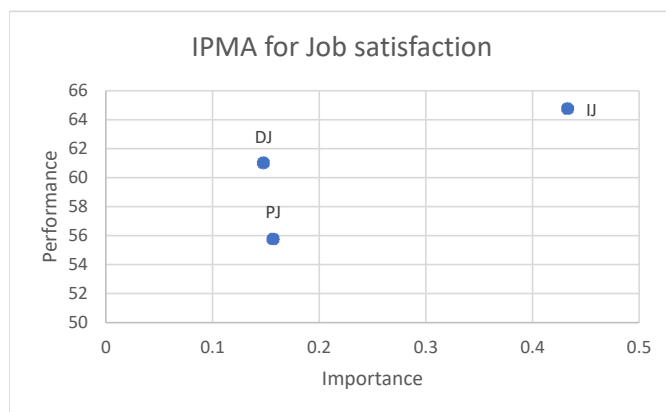
4.4 Importance-performance map analysis

To further analyse the model, we performed IPMA in PLS using job satisfaction as the target construct. As Ringle and Sarstedt (2016) stated, ‘The IPMA gives researchers the opportunity to enrich their PLS-SEM analysis and, thereby, gain additional results and findings’. IPMA allows us to examine the importance of the predecessor constructs and their performance in shaping the target construct. The goal is to identify factors that have relatively high importance but relatively low performance in describing the target construct (Hair et al., 2017). The importance of each predecessor construct is measured by its total effect (unstandardised path coefficients) on the target construct, and the performance is represented by its average latent variable scores. The performance scores were rescaled to a range of 1 to 100.

Table 8 IPMA for job satisfaction

<i>Latent constructs</i>	<i>Total effect</i>	<i>Performances</i>
DJ	0.148	61.028
IJ	0.433	64.749
PJ	0.157	55.812

Figure 2 IPMA for job satisfaction (see online version for colours)



The IPMA analysis was implemented only for job satisfaction. FP has only one predecessor construct; hence, IPMA was not conducted for FP. Table 8 shows the result

of IPMA analysis, and Figure 2 shows a graph of predecessor constructs' performance against importance score. IJ is an important factor in determining job satisfaction, as it has higher importance (path coefficients) than the other two factors in the proposed model. The performance of IJ in shaping job satisfaction is also higher than that of the other two factors. On the other hand, the performance of PJ is lower than DJ, but it has a higher importance score. Hence, managers can focus on improving the performance of PJ to increase job satisfaction.

5 Discussion

This study proposes an integrated model to understand the effect of organisational justice on job satisfaction and how it eventually impacts a firm's performance in Bangladesh. Prior literature has suggested that individuals' perceptions of organisational justice can significantly influence their level of job satisfaction, and several studies have established a positive relationship between job satisfaction and organisational justice (Clay-Warner et al., 2005; Bakhshi et al., 2009; Al-Zu'bi, 2010; Fatt et al., 2010). On the other hand, improved job satisfaction positively influences employee motivation and results in a productive workplace (Raziq and Maulabakhsh, 2015). Therefore, the literature also suggests that job satisfaction positively impacts a firm's performance (Ellinger et al., 2002; Mafini and Poee, 2013).

In this study, we find that organisational justice in the form of DJ, PJ and IJ positively influence employee job satisfaction. Further, job satisfaction positively impacts FP. The model explained 45.6% of the variance in job satisfaction and 24.3% of the variance in FP. The results show that all three justice dimensions significantly influence job satisfaction. This means that job satisfaction is influenced by employees' perceptions about fairness in decision outcomes, fairness in the process, and fairness in interpersonal treatment. This finding supports past studies and shows that when employees' perceptions of fairness in the workplace improves, their level of job satisfaction increases, and an increase in job satisfaction eventually improves the firm's performance.

Furthermore, this study evaluated the mediating effect of job satisfaction on the relationship between organisational justice (DJ, PJ, and IJ) and FP. It was found that job satisfaction only mediates IJ with FP. This indicates that IJ indirectly affects FP through job satisfaction. This finding is consistent with Chen et al. (2002), who suggested that IJ significantly impacts productivity. Our result indicates that treating employees with dignity and respect can eventually improve FP through job satisfaction.

The study also performed IPMA to identify critical factors that are relatively important but underperforming compared to other factors in explaining job satisfaction. Based on the IPMA results, IJ is the most important factor in explaining job satisfaction, and it also has high performance. However, IPMA revealed that managerial actions must be taken to improve PJ, as it has relatively higher importance but lower performance than DJ.

6 Implication, limitation and conclusions

The study was conducted to examine the role of organisational justice across firm HR practices in employee job satisfaction and FP. In this paper, we studied the relationship in

the context of Bangladesh. An integrated model is proposed that examines the relationship between organisational justice and FP through job satisfaction. The results indicated that organisational justice positively impacts employees' job satisfaction, which consequently improves the firm's performance.

This study has several theoretical and managerial implications. First, it advances the literature related to organisational justice theory by empirically showing the importance of organisational justice in improving a firm's performance. Second, the findings show that employers and managers can improve employee job satisfaction and level of performance by addressing equity and fairness in the decision's outcome, process, and interpersonal treatment. Third, the study shows that IJ has an indirect effect on FP through job satisfaction. Therefore, managers can improve a firm's performance by paying more attention to interpersonal treatment and treating employees with more respect and dignity. Fourth, the research provides insight to managers about critical factors that are important in explaining job satisfaction but have relatively lower performance. Our findings show that managers need to invest more resources in increasing fairness in organisational policies and procedures utilised in managerial decision making and resource allocations. The final implication is that policy makers can create a positive work environment with increased job satisfaction by improving the system, policies and procedures that govern employment practices in the country.

This study, however, has several limitations that should be noted for future research projects. First, the data were collected only from a single country, Bangladesh. Therefore, future research should be conducted to validate the model using samples taken from other countries. Second, the dataset was relatively small, so a larger dataset can be used for future research to obtain more robust results. Third, we used one-time cross-sectional data to test the proposed model. Future research could use longitudinal data to validate the model. Additionally, the data collection time frame coincides with the lockdown and economic turbulence caused by the COVID-19 pandemic, which could impact employee mindset and how they perceive organisational justice given that many people across industry are losing jobs. Finally, future research can go further and study the detailed effect of particular factors and take into consideration the impact of other factors, such as cultural dimensions, career aspirations and skill levels.

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Appendix

<i>Construct</i>	<i>Source</i>
Procedural justice	
1 Have you been able to express your views and feelings during those procedures?	Colquitt (2001)
2 Have you had influence over the (outcome) arrived at by those procedures?	
3 Have those procedures been applied consistently?	
4 Have those procedures been free of bias?	
5 Have those procedures been based on accurate information?	
6 Have you been able to appeal the (outcome) arrived at by those procedures?	
7 Have those procedures upheld ethical and moral standards?	
Distributive justice	
1 Does your (outcome) reflect the effort you have put into your work?	Colquitt (2001)
2 Is your (outcome) appropriate for the work you have completed?	
3 Does your (outcome) reflect what you have contributed to the organisation?	
4 Is your (outcome) justified, given your performance?	
Interactional justice-interpersonal justice	
1 Has (he/she) treated you in a polite manner?	Colquitt (2001)
2 Has (he/she) treated you with dignity?	
3 Has (he/she) treated you with respect?	
4 Has (he/she) refrained from improper remarks or comments?	
Interactional justice-informational justice	
1 Has (he/she) been candid in (his/her) communications with you?	Colquitt (2001)
2 Has (he/she) explained the procedures thoroughly?	
3 Were (his/her) explanations regarding the procedures reasonable?	
4 Has (he/she) communicated details in a timely manner?	
5 Has (he/she) seemed to tailor (his/her) communications to individuals' specific needs?	
Job satisfaction	
1 Salary level of your job.	Zhou et al. (2008)
2 The level of importance that your supervisor places on you.	
3 Opportunity for promotion.	
4 The degree of fairness with which my supervisor treats you.	
5 Sense of job accomplishment.	
Firm performance	
High sales growth compared to the major competitors	Chen et al. (2014)
High profitability compared to the major competitors	
High market share compared to the major competitors	