

A study of mediating variables of the relationship between 360° feedback and employee performance

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The 360° feedback has been linked to several positive outcomes like improved performance, better interpersonal communication and smoother work relationships. Both academicians and practitioners would like more clarity regarding the link between 360° feedback and employee performance and the mediating factors in this relationship. This study empirically examines these mediating effects with a sample of executives ($N = 198$) working in four organizations in western part of India. The results show that interpersonal communication and quality of working life have a complete mediating effect. Leader–member exchange quality and perceived organizational support were found to have a partial but significant mediating effect. An elementary form of an integrated model, which includes all the four mediating variables and their interrelationships, has been developed conceptually. This model is examined and built up empirically using structural equation modelling.

Keywords: 360°; feedback; interpersonal communication; quality of work life; perceived organizational support; leader–member exchange quality

Introduction

The human capital is increasingly being seen as a source of competitive advantage, and its improvement is therefore of paramount importance. Use of employee feedback techniques comes across as the method common to most organizations when it comes to improving their human capital (Baker 2010), and thus a study of effective feedback techniques becomes pertinent. Buchner (2007) argues that the effectiveness of performance management will be constricted if it is limited to top-down processes. The 360° feedback is a process whereby multiple sources like immediate superiors, subordinates, peers and customers provide evaluation for an individual by providing a more balanced and comprehensive view of her/his performance. The 360° feedback is an effective tool to change the culture and norms of giving and receiving feedback (Dalton 1998), and may lead to smoother work relationship among managers and encourage use of teamwork by improving interpersonal communication about work behaviours and expectations (Antonioni

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1996, 2000). Researchers have linked 360° feedback to enhanced employee performance (Flannigan 1997; Klagge 1995; Morical 1999; Swain and Schubot 2004) and this improved performance may come through improved communication and receptiveness to feedback (Rao and Annapurna 2002; Singh and Vohra 2005), enhancement in skill levels of participants (Hazucha, Hezlett, and Schneider 1993) and enhanced continuous learning (Tornow 1998). London and Smither (1995) contend that feedback from multiple sources enhances individuals' understanding of the self vis-à-vis other sources of rating leading to positive changes in behaviour and improved performance.

Studies mentioned above clearly indicate that there are mediating factors which enhance employee performance when 360° feedback is implemented in organizations. However, most work in the Indian context has been qualitative, and suggests that 360° feedback may be useful only as a development tool and not as a performance measure. In this article we aim to find empirical support that 360° feedback system provides enhanced interpersonal communication, better superior-subordinate relationship, enriched working life and more perceived organizational support. This in turn leads to improvement in employee performance. In the last part of the article, we also look at interlinkages among the four mediating variables to develop an integrated model. This study thus makes a case for increased use of 360° feedback even as a performance measure.

Theoretical background and hypotheses

Effect of 360° feedback system on employee performance

Various researchers (e.g. Baker 2010) have mentioned the possible positive outcomes of having 360° feedback system for employees. Morical (1999) contends that 360° processes enhance performance, communicate critical behaviours for success and provide direction for individualized developmental planning. Tornow (1998) suggests that 360° feedback institutionalizes performance management and thus leads to organizational development by focusing on key communication processes. Researchers (Antonioni 2000; Dalton 1998; Ghorpade 2000; Rao and Annapurna 2002; Swain and Schubot 2004; Vukotich 2010) also suggest that 360° feedback may have indirect effect on employee performance by bringing positive changes to their behaviour and improving their communication and receptiveness to objective feedback. This holds good even in entrepreneurial motivation (Singh 2010) provided the number of raters is adequate (Hensel et al. 2010). Brutus, Fleenor, and London (1998) point out that multiple rating sources provide comprehensive information since each rater-group looks at a unique aspect of individuals' work, and in fact, evidence of incongruence has been found across different raters (Hassan and Rohrbaugh 2009). Further, discrepancies between self-ratings and others' ratings motivate them to make behavioural adjustments for self-development provided they have a self-efficacy for development and this in turn may lead to improved performance (Brutus, Fleenor, and London 1998). Moreover, managers can use this information from others' ratings for goal-setting, and performance is likely to improve with systematic planning and organizational support (London and Smither 1995), though one must design and implement it carefully (Atwater, Brett, and Charles 2007; Tosti and Addison 2009), and also look at it from a gender perspective (Ely, Ibarra, and Kolb 2011). Recent literature (e.g. Bracken and Rose 2011) suggests that given relevant content, credible data, accountability and census

participation, 360° process can create both organization change and behaviour change. While studies conducted in the Indian context earlier suggested that 360° feedback was limited to changes in areas like communication (Rao and Annapurna 2002), and thus may be used only as a developmental tool (Rao and Rao 2005), later studies indicate that there is a positive effect of 360° feedback on one's professional life (Rao and Chawla 2008). Thus, it is likely that the presence of 360° feedback system would have a greater positive effect on employee performance than other feedback systems as suggested in the following hypothesis in the sense that employees in organizations which have 360° feedback system for performance appraisal are likely to perform better than employees in organizations which have traditional (supervisor appraised) performance appraisal systems:

Hypothesis 1. Presence of 360° feedback system will have a positive effect on employee performance.

Mediating effect of interpersonal communication

The 360° feedback surveys substitute for what individuals hesitate to tell each other. Using a case study, Antonioni (2000) reported that the CEO of a company believed that the 360° feedback process in his organization improved the productivity of the employees by improving interpersonal communication about work behaviours and expectations. The employees also engaged more in conversations about work-related issues, which in turn encouraged teamwork and made it more effective. Another case study illustrated that 360° feedback brought out immediate and dramatic changes in behaviour when used as a developmental tool (Ghorpade 2000). Rao and Annapurna (2002) examined the magnitude of change exhibited in managerial roles and leadership qualities as a result of 360° feedback process. They found that participants exhibited high changes in areas like communication and relationship with subordinates for managerial roles. Since improvement in interpersonal communication is linked to enhancement in performance (El-Ansary 1993; Galimberti et al. 2001), it seems likely that the effect of 360° feedback is transferred to performance improvement by increased interpersonal communication. This can be formally hypothesized as follows:

Hypothesis 2. Interpersonal communication will mediate the relationship between 360° feedback and employee performance.

Mediating effect of leader–member exchange quality

Wayne, Shore, and Liden (1997) found that leader–member exchange was positively related to performance. Though there is serious dearth of studies that relate 360° feedback to leader–member exchange, Anseel and Lievens (2007) found that feedback environment has a positive impact on the quality of leader–member exchange. Thus, one can deduce that the relationship between 360° feedback system and performance improvement can be expected to be mediated by the perceptions of the quality of leader–member exchange, leading us to the following hypothesis:

Hypothesis 3. Leader–member exchange quality will mediate the relationship between 360° feedback and employee performance.

Mediating effect of quality of working life

Tornow (1998) defines performance management as a process of managing effective work relationships that promote mutual understanding and opportunity to influence. The 360° feedback thus acts as an organizational developmental tool, which helps create this connectivity and focuses on maintaining quality of working relationships. Further 360° feedback enhances communication, teamwork, perceptions of organizational support, etc. as discussed in the preceding literature. Since these are the elements of quality of working life, it is plausible that 360° feedback enhances the perceptions of the quality of their working life among employees. Given that enhanced perceptions of quality of working life lead to better performance (Katz, Kochan, and Gobeille 1983), it is plausible that the effect of 360° feedback is transferred to performance improvement by perceptions of better quality of working life. This is put forward in the following hypothesis:

Hypothesis 4. Quality of working life will mediate the relationship between 360° feedback and employee performance.

Mediating effect of perceived organizational support

Maurer, Mitchell, and Barbeite (2002) found that the variables most highly associated with self-efficacy for development were access to learning and development resources, social support for development and an emphasis on development by the organization. These variables seem to indicate an individual's perception of organizational support forthcoming in his/her attempt at self-improvement. Employees appear to seek a balance in their exchange relationships with organizations by demonstrating attitudes and behaviours commensurate with the amount of commitment they feel the employer has for them (Wayne, Shore, and Liden 1997). By doing so, the repayment of these obligations reinforces giving and strengthens the mutually beneficial exchange between the employee and organization (Dienesch and Liden 1986). Employees develop exchange relationships with organizations, as evidenced by research on perceived organizational support (Wayne, Shore, and Liden 1997). Eisenberger, Fasolo, and Davis-LaMastro (1990) found a positive relationship between perceived organizational support and the constructiveness of anonymous suggestions for improving organizational effectiveness as judged in terms of the usefulness and concreteness of the suggestion. Based on Hutchison and Garstka (1996) findings that goal-setting and feedback affect employees' perception regarding support provided by the organization, it seems likely that the relationship between 360° feedback system and performance improvement would be mediated by the perceptions of the individuals regarding organizational support. This is formalized in the following hypothesis:

Hypothesis 5. Perceived organizational support will mediate the relationship between 360° feedback and employee performance.

Interrelationships among mediating variables

The 360° feedback involves better interaction with the superior owing to increased communication and interaction (Podsakoff and Jing-Lih 1986) and thus could lead

to better quality of exchange between the member and his superior. Kacmar et al. (2003) have reported that the perceptions of quality of leader–member exchange are stronger among individuals reporting frequent communications with their supervisors than among those reporting infrequent communications. Further, association has been found between a subordinate’s report on the quality of their relationship with their supervisors and the perception of the supervisor about the quality of their communication (Yrle, Hartman, and Galle 2002).

Considering that the measures of quality of working life include perceptions of working relationships and employee welfare activities of the organization, it stands to reason that interpersonal communication would have a direct effect on the perceptions of quality of working life as well. This is further bolstered by Craver’s (1983) study, which suggests linkage between improved communications and improved quality of working life.

Although perceived organizational support and leader–member exchange have unique antecedents and are differentially related to outcome variables (Wayne, Shore, and Liden 1997), it seems plausible that an enhanced perception of the quality of leader–member exchange would also enhance the perceptions of support from the organization.

Studies (Gellis, Johngchun, and Sung 2004; Kwakman 2001) have suggested that there is a relationship between perceptions of quality of working life and those of organizational support.

Based on the preceding literature, an elementary model depicting these relationships can be developed as shown in Figure 1. These interrelationships among mediating variables is examined later using structural equation modelling.

Method

Sample

The data for the survey were collected from executives working in four organizations in India. The organizations were chosen because they were almost similar in most other ways (in terms of size, turnover and other HR systems) save for the fact that

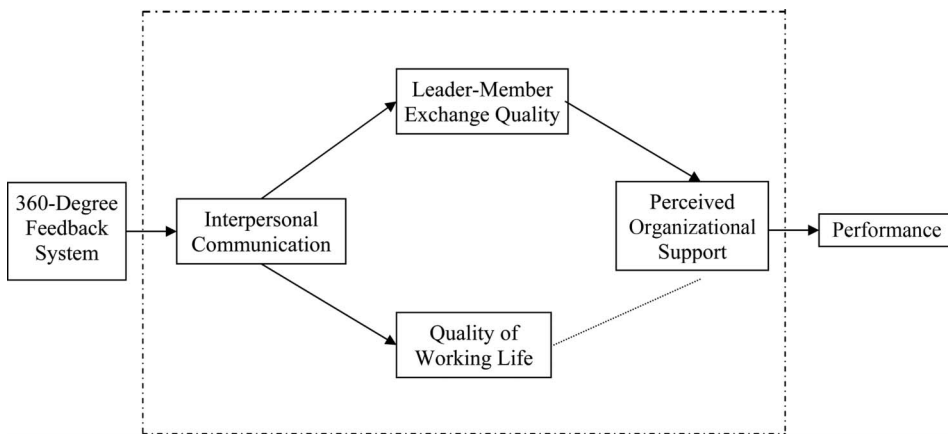


Figure 1. An elementary model of interrelationships among the mediating variables.

two had 360° feedback system linked to reward and development (for a period of more than 5 years) and the other two had the conventional system in which only the superior did the appraisal. The two organizations used an appraisal system which was carried out by the superior, peer group and subordinates, apart from a component of self-assessment. The choice of members from peer group and subordinates was based on the horizontal linkages and reporting structure, respectively. The other two organizations had the traditional appraisal system where the appraisal was done by the immediate supervisor. Thus, it was reasonable to suggest that the difference in performance between these two sets could be attributable to the kind of feedback and appraisal system they had. Of the 400 questionnaires sent out, 198 usable responses were obtained (49.5%). The respondents included 153 males (77.27%) and varied in terms of age and work experience. The average age of the respondents was 29.2 years and the average work experience was 51.78 months. The respondents were working at executive level in various departments.

Measures

The presence/absence of 360° feedback process was a dummy variable having the value one when an organization has 360° feedback process and zero otherwise.

The scale used to measure perceptions about self-performance was developed for this study. It consisted of five items. The mean of the performance measure for this study came out to be 3.0081, with a median of 3.0000, a standard deviation of 0.9441, a skewness of -0.002 and Kurtosis of -0.535 . The standard error of skewness is 0.173 while the standard error of Kurtosis is 0.344. The responses show good distribution on performance since the mean and median are similar, and skewness and Kurtosis are less than twice their standard errors. Overall, there does not seem to be an evident bias due to the dependent variable measure used in this study. Both Cronbach's coefficient α (1951) and construct reliability of this measure for the sample in this study are 0.88 (shown in Table 1). Factor score weights also satisfy the desired condition. The regression weights for all five items were significant at $p \leq 0.001$.

The 24 items used to measure perceptions were adapted from Bienvenu (1971). Both Cronbach's coefficient α and construct reliability of this measure for the sample in this study are 0.91. The regression weights for 23 items were significant at $p \leq 0.001$. The regression weight for fifth item was significant at $p \leq 0.01$. The mean and standard deviation were 3.0894 and 0.5790, respectively.

The seven items used to measure perceptions about leader-member exchange quality were taken from Liden, Wayne, and Stilwell (1993). Both Cronbach's coefficient α and construct reliability of this measure for the sample in this study are 0.91. The regression weights for all seven items were significant at $p \leq 0.001$. The mean and standard deviation were 3.0779 and 0.8385, respectively.

The 14 items used to measure perceptions about quality of working life were adapted from Carlson (1978) and Walton (1973). Both Cronbach's coefficient α and construct reliability of this measure for the sample in this study are 0.91. The regression weights for all 14 items were significant at $p \leq 0.001$. The mean and standard deviation were 3.0779 and 0.7053, respectively.

The 17 items used to measure perceived organizational support were taken from Eisenberger et al. (1986). Cronbach's coefficient α and construct reliability of

Table 1. Pair-wise Correlations, Cronbach's α onstruct Rreliability.

	Variables							Construct reliability
	Performance	Interpersonal communication	Leader-member exchange quality	Quality of working life	Perceived organizational support	360° feedback system	Number of items	
Performance	1						5	0.88
Interpersonal communication		1					24	0.91
Leader-member exchange quality			1				7	0.91
Quality of working life				1			14	0.91
Perceived organizational support					1		17	0.89
360° feedback system						1	1	—

Notes: *** $p < 0.001$.

this measure for the sample in this study are 0.89 and 0.87, respectively. The regression weights for 15 items were significant at $p \leq 0.001$. The regression weights for fifth and sixth items were significant at $p \leq 0.05$ and $p \leq 0.01$, respectively. The mean and stand deviation were 3.0561 and 0.6484, respectively.

In the Harman single factor test, the χ^2 value decreased from 5375.276 with 2203 degrees of freedom (df) to 4784.879 with 2190 df. Since the difference of 590.397 is much higher than the cut-off value of 34.53 at $p \leq 0.001$ with 13 df, there is very low probability of having common method bias.

Analyses

The first statistical data analysis method to test the effect of mediating variables is structural equation modelling (SEM) using AMOS 16 programme. Also, the estimation method is maximum likelihood estimates (MLE). Unlike ordinary least squares (OLS) regression estimates, MLE do not assume uncorrelated error terms. Two common measures of overall fit are: χ^2 (or discrepancy) and standardized root mean residual (SRMR). The χ^2 test simultaneously tests that specification of factor loadings, factor variances/covariances and error variances are valid for the model under study. Higher associated probability value means closer fit between this model and the perfect fit. The SRMR is the average difference between the predicted and observed variances and covariances in the model, based on standardized residuals. The two measures of relative fit are: Tucker–Lewis Index (TLI) and root mean square error of approximation (RMSEA). The TLI ranges from 0 to 1 and good fit is indicated by value close to 0.95 (for large samples). The following cut-off points are considered for RMSEA: value less than 0.05 indicates good fit, value between 0.05 and 0.08 indicates reasonable fit, value between 0.08 and 0.10 indicates mediocre fit and value greater than 0.10 indicates poor fit.

Before doing any hypothesis testing using causal models in SEM, the measurement model needs to be examined. Measurement model is used for confirmatory factor analysis, which also helps us to establish the convergent and discriminant validity of the measures. This was done by calculating construct reliability (Hair et al. 1998) and factor score weights (given in Appendix 5). The desirable value for construct reliability is 0.8 or more. In case of factor score weights, it is required that factor scores of observed variables should be highest for its linked latent variable. Harman single factor test (Podsakoff et al. 2003) is done to look at the possibility of bias due to common method variance that may occur in a study based only on self-reports. The χ^2 value for single factor model is compared with that of the hypothesized six-factor model. The probability of common method bias is low if $\Delta\chi^2$ is more than the given cut-off value.

Initially, the effect of the independent variable (X) on the dependent variable (Y) is seen. The critical ratio is calculated by dividing unstandardized estimate of the regression coefficient with its standard error. The effect is statistically significant if the critical ratio has probability value less than 0.05. The mediating effect is there if the presence of the mediating variable decreases the direct effect of independent variable on dependent variable. The direct effect becomes insignificant if the probability value of its critical ratio becomes greater than 0.05. In order to test for the significance level of the mediating effect, the following two models are compared: one, where regression weight of independent variable on dependent variable is freely

estimated; and two, where this regression weight is fixed at 0. There is complete mediation if $\Delta\chi_1^2 < 3.84$ and partial mediation at $p \leq 0.01$ if $\Delta\chi_1^2$ lies between 3.84 and 6.64.

Alternative method

There is an alternative method for testing the mediating effect. The estimation is done using OLS method. Preacher and Hayes (2004) have developed a macro for users of SPSS package that carries out the following six-step process. The first five steps are based on the method suggested by Baron and Kenny (1986).

- (1) The first step establishes that there is an effect that may be mediated. The effect of the independent variable on the dependent variable should be significant.
- (2) In the second step, independent variable should be regressed on the mediating variable and this effect should also be significant.
- (3) In this step, the independent variable is controlled to establish that the relationship of the dependent variable with the mediating variable is not on account of both being caused by the independent variable.
- (4) The fourth step also uses the equation taken in the third step. In this step, relationship between dependent and independent variable is seen after controlling for the mediating variable. If independent variable is not having any effect on dependent variable in the presence of mediating variable, then there is complete mediation. Partial mediation is when the effect of independent variable on the dependent variable decreases in the presence of mediating variable (though the effect is still significant).
- (5) Sobel: the significance of the mediating effect is tested using Sobel test (1982). This test assumes that sampling distribution is normal. When z -value exceeds the critical value of ± 1.96 at $\alpha = 0.05$, one can reject the null hypothesis that there is no mediating effect.
- (6) Effect: in order to overcome the debatable assumption of normal distribution, Preacher and Hayes (2004) have recommended non-parametric bootstrapping procedure where no such assumption is required. A confidence interval is derived using the empirically derived bootstrapped sampling distribution. If 0 lies between the lower level and upper level values at 95% confidence interval, then one can reject the null hypothesis that there is no mediating effect.

Results

Bivariate correlations of all the study variables are given in Table 1. All the correlations are significant at $p \leq 0.001$ significance level. There is strong support for Hypothesis 1 that presence of 360° feedback has a positive effect on employee performance. Figure 2 shows the results for the structured equation modelling. The critical ratio of the regression estimate is significant at $p \leq 0.001$, which means that 360° feedback has statistically significant positive effect on performance. The fit of the model is good from both aspects, overall fit and relative fit. The χ^2 value at 8 df is 14.828. So, the p value is greater than 0.05, which means a good overall fit. The SRMR is 0.0385, which again indicates a well-fitting model. The two measures of

relative fit, TLI and RMSEA are also within accepted standards. The TLI is as high as 0.98, which indicates good fit. The RMSEA is 0.066, which indicates reasonable fit.

There is strong support for Hypothesis 2. Interpersonal communication has a complete mediating effect in the relationship between 360° feedback system and employee performance. Figure 3 shows the model where the direct effect of 360° feedback on performance is statistically insignificant in the presence of interpersonal communication. The figure in brackets is the standardized regression estimate in the absence of interpersonal communication, which is statistically significant as mentioned above. The fit of the model is reasonable as indicated by RMSEA value of 0.073. The other measures of fit are slightly below the prescribed standards, probably because of substantial increase in parameter to sample size ratio (the number of parameters increased from 13 to 64). Significance level of the mediating effect is tested by comparing the two models: one, where regression weight of 360° feedback on performance is freely estimated; and two, where this regression weight is fixed at 0. The difference in χ^2 values of the two models at 1 df has p value greater than 0.05, thus verifying complete mediation. The result of complete mediating effect of interpersonal communication is also confirmed by the alternative test of Preacher and Hayes (2004) using SPSS package. The z -value = 5.34 of Sobel test is significant

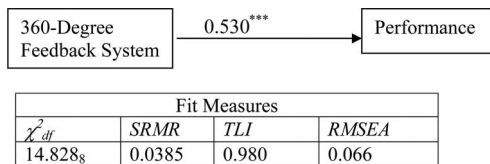


Figure 2. Effect of 360° feedback system on performance. Notes: *** $p \leq 0.001$. SRMR, standardized root mean residual; TLI, Tucker–Lewis Index; RMSEA, root mean square error of approximation.

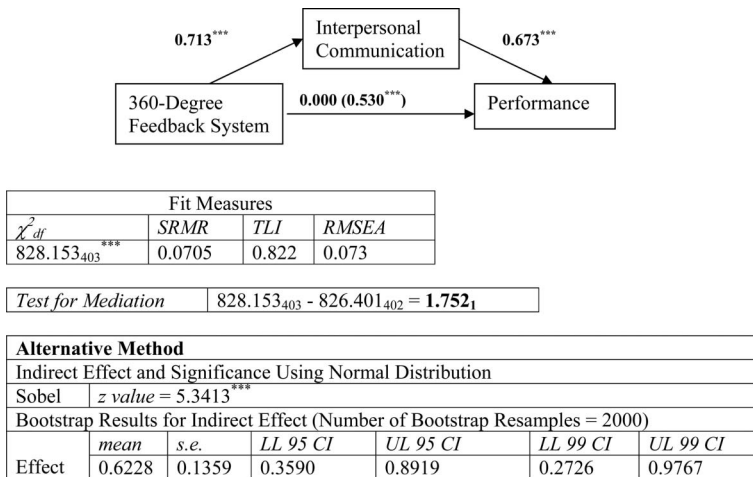


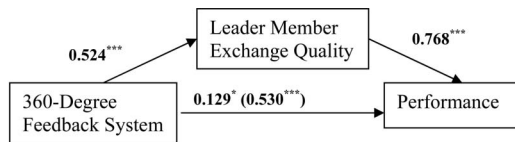
Figure 3. Mediating effect of interpersonal communication. Note: *** $p \leq 0.001$.

at $p \leq 0.001$, and bootstrap results show that 0 does not lie between lower and upper values.

There is support for Hypothesis 3. However, the mediating effect of leader–member exchange quality on the relationship between 360° feedback system and employee performance is partial. Figure 4 shows the model that illustrates the decrease in significance level of the direct effect of 360° feedback on performance in the presence of leader–member exchange quality. The SRMR value of 0.0497 indicates a well-fitting model. The TLI value of 0.954 indicates good fit, and RMSEA value of 0.071 indicates reasonable fit. The test for the significance level of the mediating effect by comparing two models shows p value of χ^2 to be less than 0.05, thus indicating partial mediation. However, the alternative test of Preacher and Hayes (2004) using SPSS package shows that the leader–member exchange quality has complete mediating effect.

There is strong support for Hypothesis 4. Quality of working life has a complete mediating effect in the relationship between 360° feedback system and employee performance. The model in Figure 5 depicts that the direct effect of 360° feedback on performance is statistically insignificant in the presence of quality of working life. The RMSEA value of 0.094 indicates a mediocre fit of the model. The other measures of fit are slightly below the prescribed standards. Significance level of the mediating effect tested by comparing the two models verifies complete mediation. The alternative test of Preacher and Hayes (2004) using SPSS package confirms the complete mediating effect of quality of working life.

There is support for Hypothesis 5. However, the relationship between 360° feedback system and employee performance is only partially mediated by perceived organizational support. The model in Figure 6 illustrates the decrease in significance level of the direct effect of 360° feedback on performance in the presence of perceived organizational support. All measures of fit are slightly below the prescribed standards. The p value of χ^2 statistic in the test of comparing two models for the



Fit Measures			
χ^2_{df}	SRMR	TLI	RMSEA
123.651 ₆₂ ***	0.0497	0.954	0.071

Test for Mediation	128.645 ₆₃ - 123.651 ₆₂ = 4.994₁*
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Alternative Method						
Indirect Effect and Significance Using Normal Distribution						
Sobel	z value = 7.1195***					
Bootstrap Results for Indirect Effect (Number of Bootstrap Resamples = 2000)						
Effect	mean	s.e.	LL 95 CI	UL 95 CI	LL 99 CI	UL 99 CI
Effect	0.7450	0.0947	0.5650	0.9368	0.5110	0.9863

Figure 4. Mediating effect of leader–member exchange quality. Notes: * $p \leq 0.05$; *** $p \leq 0.001$.

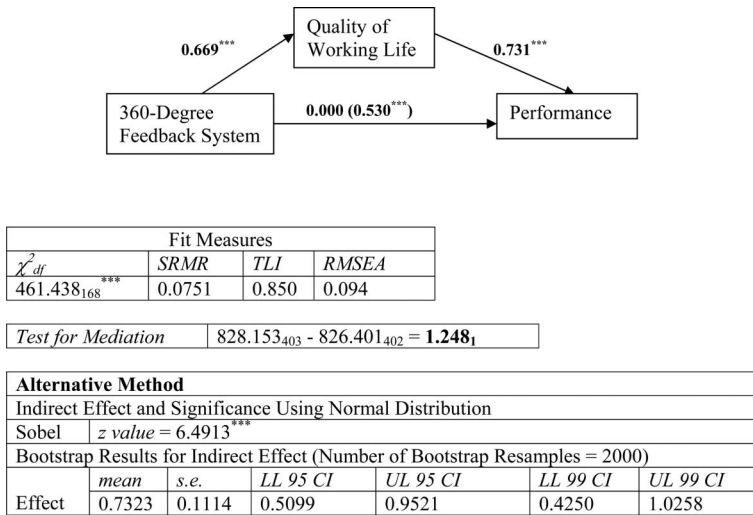


Figure 5. Mediating effect of quality of working life. Note: *** $p \leq 0.001$.

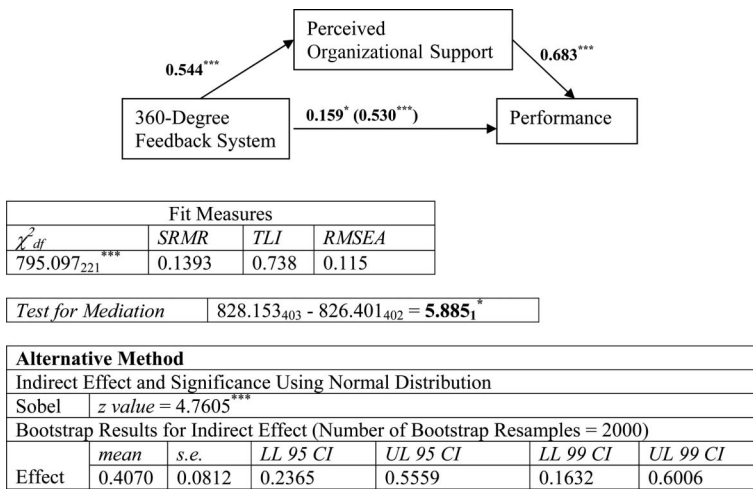


Figure 6. Mediating effect of perceived organizational support. Notes: * $p \leq 0.05$; *** $p \leq 0.001$.

significance level of the mediating effect is less than 0.05, thus verifying partial mediation. The result of partial mediating effect of perceived organizational support is also confirmed by the alternative test of Preacher and Hayes (2004) using SPSS package.

The integrated model

Figure 7 depicts the interrelationships among the mediating variables. Regression estimates of the relationships shown here are statistically significant with p value of critical ratio less than 0.001. The p values of other relationships are greater than 0.05,

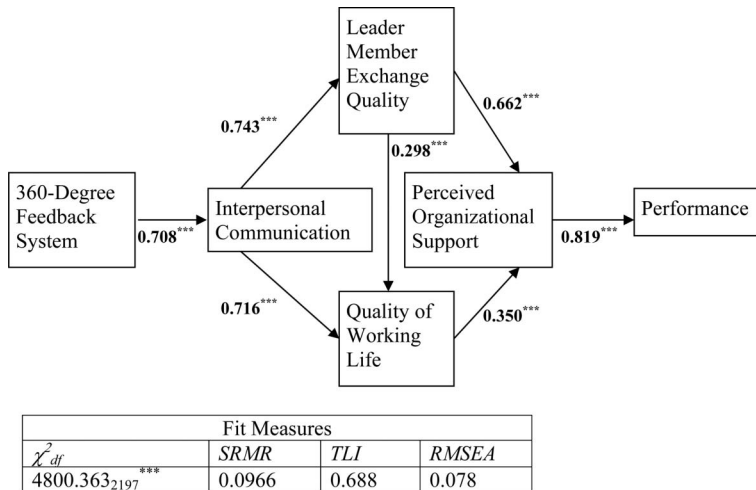


Figure 7. Integrated model. Note: *** $p \leq 0.001$.

and so their regression weights have not been freely estimated but have been fixed at 0. In other words, statistically insignificant relationships are not considered in the model to have a clear and simple model. The presence of interpersonal communication, leader–member exchange quality, perceived organizational support and quality of working life makes the relationship between 360° feedback and performance statistically insignificant.

The dependent variable (performance) is significantly affected by perceived organizational support, which in turn is significantly affected by leader–member exchange quality and quality of working life. Both leader–member exchange quality and quality of working life are significantly affected by interpersonal communication. It is also to be noted that leader–member exchange quality significantly affects perceptions about quality of working life. The independent variable (360° feedback) has a statistically significant effect on interpersonal communication.

The fit of the model is reasonable as indicated by RMSEA value of 0.078. However, the other measures of fit are below the prescribed standards (probable reason may again be substantial increase in parameter to sample size ratio).

Discussion

This study finds empirical support for the relationship between 360° feedback and employee performance. Though earlier works suggested that 360° feedback has a positive effect on employee performance, this relationship had not been previously examined empirically.

The results show that both, interpersonal communication and quality of working life, have a complete mediating effect in the relationship between 360° feedback and performance. Openness, trust, better understanding of your colleagues and being supportive of others in the organization are the key points of interpersonal communication. Quality of working life looks at working conditions and relationships and also employee welfare. Further, both, leader–member exchange quality and perceived organizational support, have partial but significant mediating effect.

Leader–member exchange deals with the effectiveness of the superior–subordinate vertical dyads and perceived organizational support focuses on the critical role an organization can play in taking care of its employees.

This article also advances the works in the field of interpersonal communication, leader–member exchange, perceived organizational support and quality of working life in the context of 360° feedback. The integrated model shows that perceived organizational support significantly affects employee performance. Organizations looking to improve employee performance should take cognisance of this direct link. The effects of leader–member exchange quality and quality of working life on perceived organizational support have great practical and theoretical significance and need to be probed more deeply. Results also show that leader–member exchange quality significantly affects perceptions about quality of working life. Finally, it is also seen that interpersonal communication mediates the relationship of 360° feedback system with leader–member exchange quality (as suggested by Podsakoff and Jing-Lih 1986) and quality of working life.

This study is cross-sectional in nature and therefore causal inferences would need to be drawn with caution. Future studies may conduct longitudinal studies that are confirmatory in nature. Causal inferences in cross-sectional study should have conceptual bases and this article has tried to provide such bases. Future studies may use performance data reported by peers/superiors/subordinates or a combination of these for the individuals.

Another interesting inference can be made from the results of this study. The sample for this study was drawn from the organizations that used 360-feedback for both developmental purposes and determining rewards and benefits for their managers. A strong positive relation between the presence of this system and improvement in employee performance suggests that 360° feedback system could be utilized in the reward system in addition to the development system. This view differs from the observations made in the earlier studies (e.g. Bracken 1994; Conger and Toegel 2003; Nowack 1993; Rogers, Rogers, and Metlay 2002), which suggested that 360° feedback had utility only if used as a development tool and created problems when used in making reward related decisions. The argument given was that individuals attributed discrepancies between self-assessment and others' assessment to external causes if the feedback was linked to pay and other tangible benefits. This does not seem to be the case here with this sample. Perhaps, if administered transparently in an atmosphere of trust and openness, 360° feedback may encourage employees to accept constructive criticism and accept deficiencies. While conclusions from the current study have to be drawn with caution given the cross-sectional nature, this certainly suggests that the usefulness of 360° feedback in the reward system needs to be reconsidered.

From the HR practitioners' point of view, this study is very important. This expands their understanding of processes through which 360° feedback system can improve performance of employees in their organization. These insights will help them to design and implement effective 360° processes in their organization. Good communication among employees on various aspects of their work is the starting point in this chain and 360° feedback system is useful in enhancing it. Both superior–subordinate relationship and quality of working life for an employee can be better with effective interpersonal communication. These factors in turn will lead to employees perceiving more support from the organization. This in turn will lead to the last and the critical part of this chain, i.e. better performance of employees. The

HR practitioners can contribute towards better performance of employees by strengthening various aspects of this chain.

Support from the superiors and others in the organization and enriched working life may enhance the individual's self-efficacy for development. It also creates perceptions of commitment and involvement on the part of the top management. This in turn could motivate him to make behavioural changes for self-development as suggested by the theory of social exchange. This is in line with studies (e.g. Frisch 2001) which suggest that the effectiveness of 360° feedback process is enhanced if the organization supports the integrity of both the collection and use of resultant data efficiently, when superiors are able and motivated to support the development of those who will receive the feedback, and when the recipients of the feedback have self-efficacy for improvement.

Increased communication would go a long way in creating an atmosphere of openness, transparency and trust in the organization. The 360° feedback itself allows people to talk about things they may hesitate to discuss otherwise. This is in line with the study (Mahapatra and Chawla 2002) that concludes that Indian managers have a strong inclination to understand the requirements and expectations of the job from the superiors on a continuous basis in addition to high levels of liaison and communicating with them to get the required guidance and support.

Conclusion

This study shows that the improvement in performance by 360° feedback is largely due to improved interpersonal communication, finer leader-member exchange quality, more perceived organizational support and better quality of working life. These four aspects need to be taken care of by organizations looking to maximize the effect of 360° feedback on employee performance. This article is an original effort to conceptualize the variables mediating the relationship between 360° feedback and employee performance. Not only the individual effect of each variable is conceptualized and empirically examined, but also the relationships among them are explored to get a holistic picture of the phenomenon. The findings of this study regarding these interlinkages have useful implications for both academicians and practitioners.

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