11 Organisational Behaviour
Competitive Session

A Paradigm for Measuring the Effectiveness of Managerial Performance in Chinese Business Organizations

Ramudu Bhanugopan

School of Management & Marketing, Charles Sturt University, Wagga Wagga, Australia

Email: bramudu@csu.edu.au

Ying Wang

School of Management & Marketing, Charles Sturt University, Wagga Wagga, Australia

Email: disa1377@gmail.com

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ABSTRACT:
This paper presents a new paradigm to measure the performance of managers working in Chinese business organizations. Through a survey, data were collected from 306 organizations, involving 405 managers. The findings demonstrated a two-factor model for managers' performance, namely, managers' performance in general and mangers' performance regarding to interpersonal communication. Furthermore, the results revealed that organizational variables have significant influence on managers' performance. Implications for theory and practice are discussed, along with directions for future research.

Keywords: Performance, Manager, China, Organization

INTRODUCTION

It is critically important for organisations to monitor and motivate performance of their managers (Bol, 2011; Kihn, 2007; Lindebaum & Jordan, 2012; Merchant, 2006). Although organisations have attempted to adopt various types of measures, traditionally measuring the managers' performance (MP) is divided into three broad categories: (i) financial measures; (ii) non-financial measures; and (iii) combinations of financial and non-financial measures (Abdalkrim, 2013; Akdemir, Erdem, & Polat, 2010; De Waal, 2012; Kihn, 2007; Merchant, 2006; Nzuve & Omolo, 2012). Kihn (2007) points out that non-financial criteria are especially important for organisations in a rapidly changing environment of global competition and global operations. As global environment is of prime interest to the current study, it adopted non-financial measures. The objectives of this study are to construct a predictive performance model via the identification of the behaviours leading to effective MP in China; and to explore the impact of demographic and organisational characteristics on MP.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Previous studies indicated the importance of managerial performance evaluation (Baiman & Demski, 1980; Demski & Feltham, 1976; Hemmer & Labro, 2008; van Veen-Dirks, 2010). Existing literature, based on the work of Demski and Feltham (1976) depicts two major roles of managerial performance measurement: (1) the decision-facilitating role; and (2) the decision-influencing role. Demski and Feltham (1976) claim that managers' performance evaluation also plays decision-facilitating role. This is supported by Baiman and Demski (1981), who state that information may be collected and provided to the managers and employers before an action, in order to improve the action choices. In contrast, they refer decision-influencing role as to the use of information for

motivating managers and employees—information may be gathered after an action to evaluate the outcome of the action choice, in order to motivate managers or employees to perform well via the effects of rewarding actions (van Veen-Dirks, 2010, Wang, & Bozionelos, 2007).

Measures for Managers' Performance

Nowadays, organisations all over the world face enormous challenges, due to an unprecedented business environment that changes rapidly and becomes increasingly complex (Akuratiyagamage, 2007; Dastgeer & Rehman, 2012). Organisations thus recognise that the performance of managers is critical to organizational success and competitiveness (Beier & Kanfer, 2010; Bulut & Culha, 2010; Gegenfurtner & Vauras, 2012; Newman, Thanacoody, & Hui, 2011; Shen & Darby, 2006). Past studies indicate that organisations and scholars have increasingly adopted various measures to evaluate MP (Dainty, Cheng, & Moore, 2005; Ittner & Larcker, 2003; Kasper, Muehlbacher, Kodydek, & Zhang, 2012; Kihn, 2007). For example, Dainty et al. (2005) developed a competency-based model for predicting managerial performance in the construction industry. The model contains12 competencies that define performance excellence among managers, such as achievement orientation, information seeking, focus on client's needs, teamwork and initiative. In addition, Ittner and Larcker (2003) propose a causal model, which consists of six domains, such as selection and staffing, empoyee satisfaction, and customer satisfaction. Other researchers apply other criteria, such as planning, investigating, evaluating, coordinating, supervising, negotiating and coordinating (Gul & Chia, 1994; Leach-López, Stammerjohan, & McNair, 2008; Tsui, 2001). The purpose of this study then, is to analyse the perceptions of managers by employing an MP scale in the Chinese context. Thus, the following hypotheses are proposed:

Hypothesis 1: The latent factors of managers' performance are optimal extrapolative predictors.

Hypothesis 2: The measures of managers' performance would support a multivariate effect.

Individual and organizational differences in managers' job performance

Previous studies show evidence that demographic characteristics, such as educational background, age and management level, can influence managers' job performance (Barker & Mueller, 2001; Bhagat, Bolton, & Subramanian, 2010; Chevalier & Ellison, 1999; Gottesman & Morey, 2006; Jalbert, Rao, & Jalbert, 2011; Petkevičiūtė & Giedraitis, 2013). There are two competing arguments of relationship between education and managers' job performance. Some researchers claim that educational background as a proxy for intelligence is a critical issue for managers' job performance (Barker & Mueller, 2002; Gottesman & Morey, 2006; Jalbert et al., 2011). Barker & Mueller, (2002) claim that managers with a good educational background are supposed to be more intelligent, and thus achieve better performance. However, other researchers (such as Chevalier & Ellision, 1999, Gottesman & Morey, 2006) find managers' job performance is unrelated to their educational background. For instance, a study by Gottesman and Morey (2006) indicates that educational background is insignificant to MP. This result is similar to the findings of Chevalier and Ellision (1999), who also found that educational background has little influence on performance. In addition, Gottesman and Morey (2006) found that managers' age is generally negatively related to their performance. Therefore, the following hypothesis is posited:

Hypothesis 3: The factors of managers' performance are all significantly influenced by demographic variables and organizational characteristics.

METHODS

Sampling framework and strategy

The initial pool of participants consisted of managers drawn from different management levels in various organizations located in China. The list of these organizations was compiled from both the

Economy and Commerce Committee and the National Chamber of Commerce. In total 306 organizations consented to participate including private, public and foreign owned.

Prior to the actual data collection, a pre-test with a draft version of the questionnaire was performed with 22 managers. Then, the questionnaire package was sent to specific contacts at each organization, for distribution to managers. The completed questionnaires were collected by the contact person and returned to the researcher. Out of the 1,100 questionnaires distributed, 422 were returned, of which 405 were fully completed and usable. This yielded a response rate of 36.81%. The survey employed in this study was bilingual; was presented in both English and Chinese and back-translation procedures were conducted (Brislin, 1986).

Measures

This study collected data on MP through questionnaires. All substantive variables were adopted from existing literature, including nine items, based on research conducted by Tsui (2001), Gul and Chia (1994) and Leach-López et al. (2008). Respondents were asked to rate each on a nine-point Likert scale, based on their perceived overall performance and eight sub-dimensions, namely planning, investigating, coordinating, evaluating, supervising, staffing, negotiating and representing. Response options for all items ranged from 1 = very low, to 9 = very high. Cronbach's alpha values of 0.89 for general business performance, and 0.91 for interpersonal performance indicate satisfactory convergence of the items.

Control Variables

Since demographic factors can affect these perspectives, this study controlled participants' gender, age, educational qualification, management level, years of managerial experience, and industry. This study also controlled organisational factors—organisation size, organisation age, and organisation ownership. Managers working in participating organisations provided the data for these variables.

Analytical Strategies

This study used the two-stage analytical approach recommended by Anderson and Gerbing (1988) to assess the models. First, exploratory factor analysis (EFA) with principle axis factoring (PAF) was employed by SPSS20.0 to test the factor structure of the items; and to evaluate the model for validity and reliability. Secondly, structural equation modeling (SEM) was employed using LISREL 8.70 to test the theoretical model. Before testing the model, a series of confirmatory factor analyses (CFAs) was conducted. The results were evaluated in terms of the following indices suggested by Hair, Black, Babin, Anderson and Tatham (2006). Finally, multivariate analysis of variance (MANOVA) was conducted to analyze if there were adequate evidence to show that demographic and organizational variables were significant predictors in estimating the individual factors.

RESULTS AND DISCUSSION

Of usable returns from the survey (n = 405), 54.3% (n = 220) were from males and 45.7% (n = 185) were from females. Most participants 74.1% (n = 290) were aged from 20 to 40. The education level for the majority of participants was a bachelor degree: 67.9% (n = 275). Regarding management level, 46.9% (n = 190) were in entry level, 43.2 % (n = 175) were at the middle level and 9.9% (n = 40) were at the senior level. The years of managerial experience of respondents was relatively evenly dispersed, 28.9% (n = 117) two to five years, 24.9% (n = 101) six to ten years, 20.7% (n = 84) 11 to 15 years, 25.4% (n = 103) more than 16 years. Regarding the organizational characteristics of the participants (n =306), about 89% (n = 273) were from Chinese organizations, 48.1% (n = 147) were state-owned and 41.2% (n = 126) were privately-owned. They had an average organization age of 18 years (s.d. = 2.188) and an average organization size of 675 employees (s.d. = 1.882).

EAF was conducted to establish dimensionality and convergent reliability and variability of the relationship among nine items regarding to manager's job performance. In order to uncover the underlying dimensions of managers' job performance, PAF was carried out with Promax rotation to extract factors based on the latent root orientation (eigenvalue > 1). Table 1 reports the results from factor analysis, and indicates the importance of the variables to the successful performance of managers' jobs. First, KMO was employed to determine the appropriateness of applying factor analysis. Kaiser (1974) suggests that KMO values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb. Data of this study showed the KMO value was 0.931which falls into the range of being superb. The Bartlett's test of sphericity, χ^2 = 3060.595 showed significant correlation amongst a number of variables at $p < 0.001$. Therefore, the factor analysis was appropriate for this data.

Insert Table 1 about here

Secondly, a two-factor result was derived—Factor 1: managers' general business performance; and Factor 2: managers' interpersonal performance. Factor 1 contained four items and accounted for 66.68% of the variance. Factor 2 consisted of five items and accounted for 71.31%. The Cronbach's α of the two factors were 0.89 and 0.91 respectively. According to Hair et al. (2006), factors with loadings are greater than 0.50 indicate an adequate individual item reliability. Nevertheless, this study suppressed all loadings less than 0.40 in the output. As shown in Table 1, all nine items had a significant factor loading, range from 0.834 to 0.905. Table 2 provides the sample average, standard deviation, and correlations for the main variables. The MPG and MPI correlated positively and significantly at $p < 0.01$ level ($r = 0.802$, $p < 0.01$). The coefficients estimations for control variables at individual level were statistically significant at the $p < 0.05$ level or higher. The coefficient estimations for all three independent variables

at organizational level were significant at $p < 0.01$ level.

Insert Table 2 about here

In order to analyze the relationship between the latent (unmeasured) and observed (measured) variables and; to test the convergent and discriminate validity, data were imported into LISREL 8.70 for CFA, based on the results of the EFA. CFA was employed to confirm the scale structure of managers' performance in a Chinese context based on the data collected from Chinese managers. Results confirmed that the first model (Model 1) consisted of two dimensions tested by nine items in total: four items measured managers' performance in general (MPG); and five items measured managers' performance in interpersonal relationship (MPI) (see Table 3).

Insert Table 3 about here

CFA results showed that the first model (Model 1), containing all nine items, indicated poor fit and the possibility of improvement with $\chi^2/df = 6.09$, GFI = 0.92, AGFI = 0.86, RMSEA = 0.112, CFI = 0.98 (see Table 4). A re-specification process was conducted to obtain a better model fit. One non-significant item (MP6) from MPI was removed from Model 1, and the second model was developed (Model 2). Model 2 consisted eight items indicating a better fit with $\chi^2/df = 4.16$, GFI = 0.95, AGFI = 0.91, RMSEA = 0.089, CFI = 0.99. On this basis, a final model (Model 3) was converged through dropping two more items (MP4 and MP5) that were not significant from Model 2. Model 3 fitted the data well, since all fit indices were well under the suggested fit with $\chi^2/df = 2.82$, GFI = 0.96, AGFI = 0.95, RMSEA = 0.066, CFI = 0.99. Figure 1 shows the path diagram of Model 3 that contains two factors; and each factor involved three items. The two factors are highly correlated ($p < 0.05$), whilst all six items had significant loadings values, ranging from 0.79 to 0.89. The above analyses support that the MP factors are optimal extrapolative predictors, thus providing support to H1 and H2 by establishing dimensionality and interrelation between the factors.

Insert Table 4 about here

Insert Figure 1 about here

This study also used a multivariate analysis of variance (MANOVA) to test how demographic and organizational variables influence Chinese managers' performance. MANOVA was performed to investigate the relationship between two dependent variables, i.e. MPG and MPI, and nine control variables (N = 405). Table 5 demonstrates the results of MANOVA, including group means and standard deviations for each dependent variable. First, the table presents the goodness of fits of the model and the statistical significance of the estimated parameters. Results showed that there were significant effects of the demographic and organizational variables on MPG (F = 3.918, p = 0.000, adjusted R^2 = 0.061) and MPI (F=5.648, p = 0.000, adjusted R^2 = 0.994).

Insert Table 5 about here

Secondly, analysis of the individual dependent variables indicated the educational qualification (F = 5.65, p < 0.01), management level (F = 9.19, p < 0.01) and industries (F = 2.41, p < 0.01) of the participants had significant effect on MPG, whist other control variables showed slight effects on MPG. The mean score of managers with a doctorate degree (M = 6.57, SD = 1.51) was higher than managers with a diploma (M = 4.99, SD = 1.71), managers with a bachelor degree (M = 5.71, SD = 1.37), and managers with a master degree (M = 5.89, SD = 1.50). Managers at senior level (M = 6.27, SD = 1.24) and managers from financial and insurance industry (M = 6.35, SD = 1.08) achieved better performance in general than other groups of participants.

MPI was also significantly affected by managers' educational qualification (F = 4.81, p < 0.01), management level (F = 13.94, p < 0.01) and industries (F = 1.81, p < 0.05). Managers with doctorate degree (M = 6.54, SD = 1.46), senior managers (M = 6.27, SD = 1.17) and managers working in financial

and insurance industry (M = 6.09, SD = 1.35) had better performance in interpersonal communication than others. Moreover, two of three organizational variables, number of employees ($F = 3.45$, $p < 0.01$) and years of establishment ($F = 2.10$, $p < 0.01$), had significant effects on MPI. Managers from organizations with 401 to 1000 employees (M = 3.73, SD = 1.36) and managers from organizations established over 30 years (M = 5.76, SD = 1.49) reported higher mean scores of MPI than other managers. Hence, H3 and H4 are supported.

The main aim of this study is to build conceptual model of managers' performance (MP) in a Chinese context; and to explore how demographic and organizational characteristics influence on managers' performance in China. At first, this study yielded a two-factor model of mangers' performance. Results confirm the existence of two key factors of Chinese managers' performance: (i) managers' performance in general, and (ii) managers' performance of interpersonal communication. This finding is inconsistent with previous studies (i.e. Gul & Chia, 1994; Leach-López et al., 2008; Tsui, 2001) that develop one-factor model for managers' performance. Moreover, the current study also highlights the potential impact of demographic and organizational characteristics on mangers' performance, in organizations doing business in China. Results of this study have shown that Chinese managers' performance is significantly associated to their educational qualification. This finding is broadly consistent with previous studies (i.e. Barker & Mueller, 2002; Gottesman & Morey, 2006; Jalbert et al., 2011) that indicate managers with good educational background are supposed to be more intelligent, and to achieve better performance. However, this result is inconsistent with other researchers' studies (i.e. Chevalier and Ellision, 1999, Gottesman & Morey, 2006), who find managers' performance is irrelevant to their educational qualification.

IMPLICATIONS

The empirical findings of this study contribute to the management literature in several ways. The most direct implication of this study was the two-factor model generated from the SEM analysis. This parsimonious model may assist in developing and establishing frameworks and provides guidance for evaluation on managerial performance. On another level, the results of this study highlight the potential impact on how demographic and organizational variables influence managers' performance working in the organizations doing business in China. On the one hand, results from MANOVA indicate managers with different backgrounds have different perspectives on managers' performance. On the other hand, our study has advanced the current research on MP across organizational characteristics in China.

This study also has a number of substantial implications for practices, along with its contribution to theory. To be more specific, one of the most important outcomes of present study is the two-factor model of managers' performance in a Chinese context, which contains six items. This model provides theoretical framework to any organizations and individuals who intend to study MP related topics in Chinese context. In addition, for practice, this study suggests that Chinese owned and operated organizations should explore ways to enforce their managers' performance. Results indicate that participants from Chinese organizations (i.e. both state-owned and private) seem to report less confidence in the performance of their managers than foreign-invested organisations. Private-owned Chinese organizations represent the lowest scores in both fields of managers' performance. Therefore, private organizations should make serious benchmarking efforts to improve in these areas, such as offer management development and training programs.

LIMITAIONS AND DIRECTIONS FOR FUTURE RESEARCH

There were a few limitations with this study. One of the limitations of the present study was

generated from the research method, as data were collected via surveys. Yang & Mossholder (2010) argue that results based on data from surveys, may have been biased by the Common Method Variance (CMV), which refers to the spurious variance that is attributable to the measurement method rather than to the constructs the measures represent (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In order to reduce this potential bias, this study employed the procedural remedy of assurance of anonymity and confidentiality (Podsakoff et al., 2003). To overcome this limitation, future studies may apply multiple sources (i.e. collect data from non-managerial employees as well), and also measure each variable at a different point in time (Johnson, Rosen, Chang, Djurdjevic, & Taing, 2012). This study was also limited in scope, as data collected from managers had a minimum of two years of management experience, which was a natural consequence of the assumption that participants had the authorities to the access of managers' performance. According to Ralston, Pounder, Lo, Wong, and Egri (2006), managers had over 15 years experience had significantly different perceptions managerial values because their values were ingrained from a more conservative time. Future researchers should collect data from different sources, such as peers, supervisors, self-report and subordinates.

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Table 1: Factor Structure and Reliability Analysis of "Managers' Performance" Variables

Factor Items	Scale Items	Factor Loadings	Cumulative Variance Extracted %	Cronbach Alpha, α
Factor 1 Managers' general business performance	MP1.Planning: Determining goals, policies and courses of action; work scheduling, budgeting, setting up procedures, programming	0.878	66.68	0.89
	MP2.Investigating: Collecting and preparing information for records, reports and accounts, measuring output; inventorying, job analysis	0.852		
	MP3.Coordinating: Exchanging information with people in your organization in order to relate and adjust programs; advising and liaison with other personnel.	0.862		
	MP4.Evaluating: Assessment and appraisal of proposals for reported or observed performance; employee appraisals, judging output records, judging financial reports; product inspection.	0.882		
Factor 2 Managers' interpersonal performance	MP5.Supervising: Directing, leading and developing your personnel; counseling, training and explaining work rules to subordinates; assigning work and handling complaints.	0.862	71.31	0.91
	MP6.Staffing: Maintaining the work force of your organization; recruiting, interviewing and selecting new employ	0.895		
	MP7.Negotiating: Purchasing, selling or contracting for goods or services, contacting suppliers, dealing with sales representatives.	0.887		
	MP8.Representing: Attending conventions, consultation with other firms, business club meetings, public speeches, community drives; advancing the general interests of your organization.	0.905		
	MP9.Overall Performance: Includes all of the areas listed above.	0.834		

Note:

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization. KMO = 0.931 (0.000 significance). Bartlett test of sphericity χ^2 = 3060.595. Composite scale reliability (CSR) = 0.944

Table 2 Descriptive statistics and Pearson correlations[a].

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Gender	1.46	0.50	–										
2. Age	2.00	0.84	-0.03	–									
3. Education qualification	2.14	0.64	-0.02	0.11*	–								
4. Management level	1.67	0.65	-0.16**	0.43**	0.22**	–							
5. Years of experience	2.43	1.16	-0.03	0.81**	0.06	0.46**	–						
6. Industry	7.77	4.19	0.04	-0.03	-0.09	0.08	0.02	–					
7. Number of employees	3.25	1.88	-0.16**	0.17**	0.19*	-0.04	0.18**	-0.18**	–				
8. Years of establishment	3.98	2.19	-0.07	0.36**	0.17**	0.03	0.37**	-0.06	0.55**	–			
9. Ownership	2.31	0.65	0.02	-0.01	-0.11*	0.14**	-0.01	0.17**	-0.23**	-0.34**	–		
10. Managers' general business performance	5.69	1.46	-0.03	0.06	0.18**	0.21**	0.08	-0.08	0.07	0.08	-0.09*	(0.89)	
11. Managers' interpersonal performance	5.45	1.74	-0.04	-0.03	0.18**	0.25**	-0.01	-0.01	0.02	0.01	-0.08	.081**	(0.91)

Note:

[a] N=405. Gender dummy coded (male = 0, female = 1).

Reliability indexes for measurement scales are reported in the diagonal (Cronbach's alpha)

**p < 0.01

*p < 0.05

Table 3 Structural parameters estimates for the structural models[a]

Structural path[b]	Model 1		Model 2		Model 3	
	Standard loadings	*t*-values	Standard loadings	*t*-values	Standard loadings	*t*-values
MPG→MP1	0.80	19.04**	0.81	19.17**	0.83	19.50**
MPG→MP2	0.79	18.59**	0.79	18.62**	0.81	18.79**
MPG→MP3	0.82	19.59**	0.82	19.60**	0.79	18.08**
MPG→MP4	0.88	22.04**	0.88	21.88**	---	---
MPI→MP5	0.89	22.70**	0.86	21.32**	---	---
MPI→MP6	0.86	21.56**	---	---	---	----
MPI→MP7	0.85	20.86**	0.86	21.30**	0.89	22.00**
MPI→MP8	0.83	20.18**	0.82	19.70**	0.82	19.56**
MPI→MP9	0.83	20.33**	0.86	21.40**	0.86	21.09**

Note:

[a] N=405; completely standardized solution.

[b] MPG= managers' performance in general;

MPI=managers' performance of interpersonal communication.

* $p < 0.05$

** $p < 0.01$.

Table 4 Fit indexes for nested models, staring with control variables[a].

Variables[b]	Model 1		Model 2		Model 3	
χ^2	158.43		79.01		36.69	
df	26		19		13	
χ^2/df	6.09		4.16		2.82	
p (χ^2)	0.000		0.000		0.001	
GFI	0.92		0.95		0.96	
AGFI	0.86		0.91		0.95	
RMSEA	0.112		0.089		0.066	
CFI	0.98		0.99		0.99	
$\Delta\chi^2$	-		79.43		33.32	
p ($\Delta\chi^2$)	-		0.000		0.001	
Sq. multiple correlation						
	MPG	MPI	MPG	MPI	MPG	MPI
MPG[b]	-	-	-	-	-	-
MPI[c]	0.89*	-	0.88*	-	0.86*	-

Note:

[a] N= 405; all variables included in the more constrained models, with paths constrained to zero.

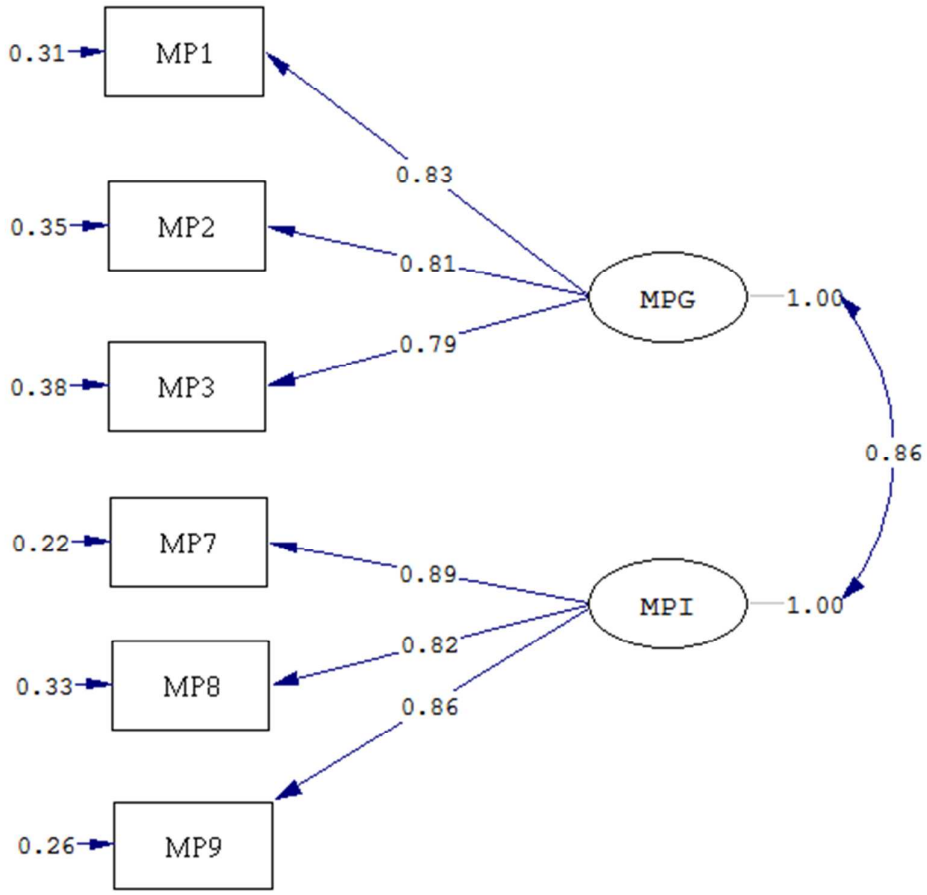
[b] MPG= Managers' Performance in General;

MPI=Managers' Performance of Interpersonal Communication.

* $p<0.05$

** $p<0.01$.

Figure 1 Structural model (M_3) for management development (MD)



Chi-Square = 36.69, df = 13, P-value = 0.001, RMSEA = 0.066

Note:

MPG = Managers' Performance in General;

MPI = Managers' Performance of Interpersonal Communication.

Table 5 One-way MANOVA test for motivation for MPG and MPI by demographic and organization variables

	N	MPG		MPI	
Value Label[b]		**Mean**	**SD**	**Mean**	**SD**
Gender					
Male	220	5.74	1.34	5.52	1.63
Female	185	5.65	1.59	5.37	1.85
F		0.36		0.78	
Age					
20-30	123	5.50	1.82	5.39	2.00
31-40	177	5.81	1.33	5.61	1.65
41-50	86	5.72	1.07	5.26	1.45
51 and above	19	5.80	1.54	5.27	1.90
F		1.08		0.36	
Educational Qualification					
Diploma	43	4.99	1.71	4.76	1.90
Bachelor	275	5.71	1.37	5.44	1.73
Masters	73	5.89	1.50	5.71	1.56
Doctorate	14	6.57	1.51	6.54	1.46
F		5.65**		4.81**	
Management Level					
Entry Level	175	5.37	1.57	4.98	1.95
Middle Level	190	5.87	1.33	5.72	1.49
Senior Level	40	6.27	1.24	6.27	1.17
F		9.19**		13.94**	
Years of Management Experience					
2-5	117	5.62	1.67	5.56	1.87
6-10	101	5.54	1.58	5.33	1.80
11-15	84	5.78	1.26	5.39	1.69
16 or above	103	5.86	1.21	5.51	1.56
F		1.04		0.37	
Industry You Work					
Banking	26	5.97	1.86	5.51	2.28
Medical	14	5.32	1.66	5.07	2.05
Manufacturing	57	5.62	1.48	5.30	1.84
IT	25	6.31	1.32	5.81	1.50
Financial and Insurance	24	6.35	1.08	6.09	1.35
Education and Training	32	5.93	1.25	5.65	1.52
Construction	26	5.94	1.46	5.84	1.42
Agriculture	17	5.08	1.57	4.64	1.91
Retail Trade	15	5.16	1.85	4.87	2.06
Wholesale Trade	21	5.38	1.25	5.16	1.78
Information Media and Telecommunications	28	5.49	1.39	5.22	1.71

Accommodation and Food Services	20	4.76	1.30	4.59	1.84
Other Industries	100	5.77	1.36	5.72	1.54
F		2.41**		1.81*	
Number of Employees					
1-50	92	5.58	1.71	5.62	1.84
51-100	87	5.55	1.29	5.10	1.77
101-400	71	5.81	1.34	5.55	1.68
401-1000	33	6.00	1.25	5.72	1.36
1001-1500	26	5.10	1.35	4.43	1.69
1501or above	96	5.90	1.49	5.72	1.65
F		1.94		3.45**	
Years of Establishment					
1-5	59	5.56	1.91	5.66	2.00
6-10	73	5.66	1.68	5.63	1.78
11-15	67	5.68	1.37	5.28	1.90
16-20	54	5.40	1.22	4.94	1.60
21-25	23	5.91	1.18	5.37	1.82
26-30	28	5.56	1.27	4.95	1.42
30 or above	101	5.96	1.26	5.76	1.49
F		1.12		2.10*	
Ownership					
Foreign-Invested	43	5.97	1.52	5.86	1.66
State-Owned	195	5.77	1.34	5.47	1.66
Private	167	5.54	1.56	5.33	1.83
F		1.99		1.58	

Note:

[a] N=405.

[b] MPG= Managers' Performance in General;

MPI= Managers' Performance of Interpersonal Communication.

MPG: F = 3.918**, sig. = 0.000, adjusted R2 = 0.061

MPI: F = 5.648**, sig. = 0.000, adjusted R2 = 0.994

* $p < 0.05$

** $p < 0.01$