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# **Examining the role of transformational leadership of portfolio managers in project performance**

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Research into the role of transformational leadership in project based organisations has generally focused on project managers or senior managers and less so on portfolio managers who oversee multiple projects to achieve business objectives. This study examines the impact of transformational leadership behaviour of portfolio managers on project performance directly and indirectly through other intervening variables such as climate for innovation and innovation championing. Using a questionnaire survey, data were obtained from 112 project managers in a UK project based organisation. Transformational leadership behaviour of portfolio managers was found to have a positive and significant relationship with project performance. Innovation championing and climate for innovation both partially mediated the relationship between transformational leadership and project performance. The study confirms the importance of portfolio managers in enhancing project performance and identifies the need for project based organisations to cultivate transformational leadership behaviour among them for enhanced performance. It also highlights the need for further exploration of the role of portfolio managers in improving project performance.

**Keywords:** Championing behaviour, Climate for innovation, Portfolio managers, Project performance, Transformational leadership

## **1. Introduction**

The need for organisations to respond to the rapidly changing and often conflicting expectations from clients and remain competitive in the current harsh economic environment has resulted in a continuous search for innovative approaches aimed at improving project performance (Kissi et al., 2009; Koch and Bendixen, 2005). Although research suggests behavioural concerns fundamentally influence project performance, limited behaviour-related research has been undertaken in project organisations (Tuuli and Rowlinson, 2009). The focus of research has traditionally been on deriving efficiencies (Muller and Turner, 2007). Leadership behaviour in general and transformational leadership in particular has long been considered an important individual factor that influences innovation and performance in the workplace (Keegan and Den Hartog, 2004; Yang, Huang and Wu, 2010b). Most studies investigating the impact of transformational leadership in organisational performance have however tended to focus on senior management (e.g. Jung et al., 2003, 2008; Sarros, Cooper and Santora, 2008) or project managers and less so on middle level managers generally and portfolio managers in particular (Kissi et al., 2009, 2010a; Styhre and Josephson, 2006). In project-based organisations, leadership behaviour of portfolio managers is important in facilitating improved project performance. Portfolio managers in this study are middle level managers running divisions of the company under study. Their role involves having strategic overview of projects led by different project managers which are not necessarily inter-related. Their primary aim is to ensure business objectives are achieved. They are distinguished from programme managers in that programme management involves managing a group of related

projects in a coordinated way to achieve benefits not possible if managed individually (PMI, 2004). In the context of this study, the projects could be coming from different clients. Portfolio managers have the responsibility of ensuring projects collectively meet the organisation's and the clients' objectives. They also hold regular project progress review meetings with project managers. As they are in regular contact with the project managers, it is expected their workplace behaviours would have a direct or indirect effect on how project managers and project team members conduct themselves in delivering projects. Ultimately that is expected to reflect on project outcomes. However, limited research has been undertaken on this important constituency and their impact on project success, (Cheng et al, 2005; Jonas, 2010; Muller and Turner, 2007). The emphasis of our study is therefore on the transformational leadership behaviour as a managerial competency (Turner and Muller, 2005) exhibited by portfolio managers and how that influences project performance directly as well as indirectly through other intervening variables.

This study draws from the concept of direct and indirect transformational leadership defined in relation to how distant the subordinate is from the leader (Shamir 1995; Yammarino, 1994). Two aspects of indirect leadership underlie this study; the bypass and the cascading effect (Yang, Zhang and Tsui, 2010a). The bypass effect is where transformational leadership directly influences the performance of followers further removed from the leader in the organisational hierarchy while the cascading effect of transformational leadership occurs where the leader impacts on the performance of frontline employees indirectly by influencing the leadership behaviour of the immediate follower who in turn influences the performance of their subordinates. Leadership can also impact performance through other intervening variables such as workplace climate.

The study sought to contribute to a better understanding of the mechanisms through which transformational leadership behaviour of portfolio managers influence project performance. Our study had three primary objectives. Firstly, to investigate the direct effect of transformational leadership of portfolio managers on project performance bypassing project managers. Secondly, to investigate the cascading effect of transformational leadership on project performance by influencing the innovation championing behaviour of project managers, and thirdly, to examine the effect of transformational leadership on project performance acting through the work place climate. Consistent with Schneider and Reichers' (1983) suggestion that climate studies should be facet specific to yield meaningful and useful results, we focused on 'climate for innovation'. Climate for innovation is considered as creating the enabling environment that encourages project team members to adopt innovative approaches to delivering projects. Innovation championing behaviour in this study is defined as 'the project manager's observable actions directed towards seeking, stimulating, supporting, carrying out and promoting innovation in the projects (Dulaimi, Nepal & Park, 2005: 566). Project outcomes have often been measured on the basis of financial, budget and quality performance (Salter and Torbett, 2003; Shenhar, Levy and Dvir, 1997). Beyond these traditional measures, we recognise that projects generally have different stakeholders with varying expectations and views on project success (De Wit, 1988). Project performance in this study is therefore multi-dimensional in nature incorporating both short and long term measures (Dulaimi et al, 2005; Shenhar et al., 1997). In subsequent sections we discuss the hypothesised relationship among the key constructs derived from extant literature, outline the statistical analyses undertaken and present key findings together with their theoretical and practical implications.

## **2. Theory and hypotheses**

### **2.1 Transformational leadership**

Transformational leadership is an approach to leading that changes followers, causing them to look beyond self-interest in favour of the group's objectives by modifying their morale, ideals and values, (Pieterse et al, 2010). It is associated with stimulating and inspiring followers to deliver extraordinary results while developing their own leadership abilities (Bass and Riggio, 2006). As a higher order construct, transformational leadership comprises several components (Pieterse et al, 2010). Podsakoff et al (1990) identified six dimensions of transformational leadership. These were articulating vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectations, individualised support and intellectual stimulations. According to Podsakoff et al. (1990), by articulating vision, the leader identifies new opportunities for the unit, develops, articulates and inspires others with his or her vision and shows them how to achieve the vision. Also, by providing an appropriate model, the leader lives the espoused values which become examples to the followers to emulate. In addition, the leader fosters the acceptance of group goals by promoting team effort towards the achievement of set goals. Moreover, high performance expectation behaviour of the leader is reflected in the leader's expressed belief in the ability of the followers to deliver excellence and high quality performance. Individualised support by the leaders is expressed in the show of respect and concern for the individual's needs. Finally through intellectual stimulation, the leader challenges the assumptions employees hold about their work and encourages them to look at different ways of doing it better (Podsakoff et al., 1990, 1996).

### **2.2 Transformational leadership, innovation championing and project performance**

Leadership in general and transformational style of leadership particularly has been highlighted as an important individual factor exerting significant influence on performance in organisations directly or indirectly through other intervening variables such as culture and climate (Gumusluoglu and Ilsev, 2009; Jung et al, 2003, 2008; Kissi, Dainty and Liu, 2012a). Particularly, transformational leadership has been associated with motivation of followers in pursuit of organisational goals (Jung et al, 2003, 2008), organisational citizenship behaviour (Podsakoff et al, 1996), employee commitment (Keegan and Den Hartog, 2004) and work attitude (Podsakoff et al., 1990) which in turn induces enhanced performance (Jung et al., 2003, 2008; Sarros, et al., 2008). Pinto et al., (1998) suggested that transformational leadership is relevant in the project based environment as it enables managers to transform their project teams and ultimately impacts project performance. Yang et al. (2010b) highlighted the importance of leadership on project performance suggesting it has been one of the major issues for both research and practice. Research has shown that transformational leadership positively affect performance irrespective of whether it was conceptualised in terms of subjective or objective measures (Bass and Riggio, 2006). The effect of transformational leadership has been found to be relevant at different levels of the organisational hierarchy (Yang et al., 2010a). The effect of transformational leadership at higher levels of organisational hierarchy on frontline employees at least two steps removed has been referred to as distant transformational leadership. Distant transformational leadership occurs where leaders influence subordinates from the distance by articulating vision, using rhetorical symbolic communication and providing an example for them to follow (Shamir, 1995; Yang et al., 2010a). Transformational leadership behaviour could also enhance the performance of subordinates directly by influencing their behaviour and by providing support (Podsakoff et al., 1996). Hence the effect of leadership could circumvent hierarchical links and be experienced at lower levels of organisations (Yammarino, 1994). It is therefore

possible for portfolio managers to influence project performance directly, bypassing project managers in the same way as transformational leadership of middle managers have been found to directly influence the performance of frontline employees (Yang et al., 2010a). We therefore propose that;

**Hypothesis 1:** Transformational leadership behaviour of portfolio managers positively influences project performance.

Empirical evidence has generally supported a positive impact of transformational leadership on followers' attitude, effort, and "in role" performance (Podsakoff et al., 1990). However, Podsakoff and his colleagues contended the most important effects of transformational leadership should be their impact on "extra-role" rather than the "in-role" performance (Podsakoff et al., 1990: 109). Transformational leaders, according to Bass and Avolio (1994:3) motivate subordinates to do more than what they are simply required to do "and often even more than they thought possible". Besides directly impacting distant followers' performance, research suggest leadership can also indirectly influence performance through their immediate subordinate leaders who are linked to the distant followers (Antonakis and Atwater, 2002; Yang et al., 2010a). It is possible that by modelling the innovative behaviour expected, portfolio managers can influence the innovation championing behaviour of project managers. Moreover, Gumusluoglu and Ilsev (2009) asserted that intellectual stimulation dimension of transformational leadership enhances exploratory thinking and articulating vision inspires idea generation both of which are characteristics of innovation championing behaviour. Research suggests the transformational leadership behaviour exhibited by portfolio managers could inspire project managers to do more than just delivering projects the "usual" way and go the extra mile in search for new and innovative solutions. Furthermore, leaders who exhibit transformational leadership are able to win the trust of their direct followers (Podsakoff et al., 1990) and with it an increased confidence to try new approaches to delivering projects with the knowledge of their managers' support. Hence project managers are more likely to exhibit innovation championing behaviour where portfolio managers exhibit transformational leadership. For that reason we posit that;

**Hypothesis 2:** Transformational leadership behaviour of portfolio managers positively influences the innovation championing behaviour of project managers.

Calls have been made for enthusiastic and dedicated individuals called "innovation champions" to promote innovation (Nam and Tatum, 1997; Dulaimi et al, 2005, Kissi et al, 2010b). In the project setting, Dulaimi et al. (2005) considered the project manager's role as key in this respect adding that certain behaviours they exhibit could positively influence innovation and project outcomes. Whereas some researchers have found evidence of the link between innovation championing and project performance (Nam and Tatum, 1997) and business outcomes in general (Panuwatwanich et al, 2008) others such as Markham (1998) have questioned this assertion. In an earlier study examining the impact of championing based on the views of project team members, Markham (1998) found no evidence in support of this link. In defence of this proposition however, Howell and Shea (2001) suggested the contradictory findings by Markham (1998) could be attributed to the fact that the particular study investigated the team's response to the champion's influence tactics rather than the champion's direct impact on project outcomes. Indeed Markham (1998: 502) remarked that "the role of the champion is still vital and interesting across different types of innovation projects". For that reason we support the assertion of Howell and Shea's (2001) that champions of innovation can make a decisive contribution to innovation by actively

promoting its progress through key stages. Within a construction context, this view was further supported by Dulaimi et al (2005) who in a study of 32 project managers and 94 project team members in Singapore found that project managers exercise leadership, provide direction and take responsibility for achieving project goals. This leadership competency demonstrated by project managers has been identified as an important project success factor (Cheng et al., 2005; Dainty et al., 2004; Muller and Turner, 2007). Similarly, Kissi et al. (2012a) found the innovation championing behaviour exhibited by project managers was primarily responsible for the success of the projects investigated. From above it could be seen that transformational leadership could indirectly impact on project performance by influencing innovation championing behaviour of project managers in a similar fashion as middle managers have been found to influence frontline employees' performance through the transformational leadership of frontline supervisors (Yang et al 2010a). We therefore posit that;

**Hypothesis 3:** Innovation championing behaviour of project managers partially mediates the relationship between transformational leadership behaviour of portfolio managers and project performance

### **2.3 Transformational leadership, climate for innovation and project performance**

Climate has been defined as a characteristic ethos or atmosphere within an organisation at a given point in time which is reflected in the way the members perceive, experience and react to the organisational context (Rollinson and Broadfield 2002: 597). The study of organisational climate is important as employees draw conclusions regarding what is important to their leaders based on their observations and take steps to align their own priorities with their perceptions of what is important to the organisation. In the workplace the psychological meaning individuals associate with the stimuli received from their leaders play an intervening role between the stimuli and their response (James et al., 2008, Kissi et al., 2009). Project team members and project managers constantly receive signals from portfolio managers regarding their expectation, particularly during project reviews. Such signals play a significant role in influencing performance. According to Podsakoff et al. (1996), besides the influence on their direct subordinates, leaders can also influence performance indirectly by shaping the context within which they operate. Climate for innovation is created where the context is shaped and made conducive for project managers and team members to explore innovative approaches to delivering projects without being overly concerned about recrimination in event of negative outcomes. A key element of climate for innovation is the leader's support for innovation (Scott and Bruce, 1994).

Jung et al. (2003) found a significantly positive relationship between transformational leadership and organisational climate supportive of innovation. Kissi et al. (2012a) also found that leadership behaviour was instrumental in creating the right environment that fostered the successful delivery of the innovative projects investigated in a study of three innovative projects. Sarros et al. (2008) further identified the transformational leadership dimension of articulating vision, reflected in the provision of adequate resources had a strong influence on climate for innovation. Scott and Bruce (1994) suggested that the quality of relationship between employees and their managers influence their perception of the work environment as supportive of innovation and impact on their innovativeness. Similarly supervisors who are supportive and non-controlling help to create an environment conducive to enhanced employee creativity and performance (Kissi et al., 2012a; Oldham and Cummings, 1996; Shalley and Gilson, 2004). It is expected that the transformational leadership dimension of individualised consideration exhibited by portfolio managers could help in building good

relationships while providing the needed resources to influence perceptions of climate for innovation. Hence we propose that;

**Hypothesis 4:** Transformational leadership behaviour of portfolio managers positively influences project manager's perceptions of climate for innovation

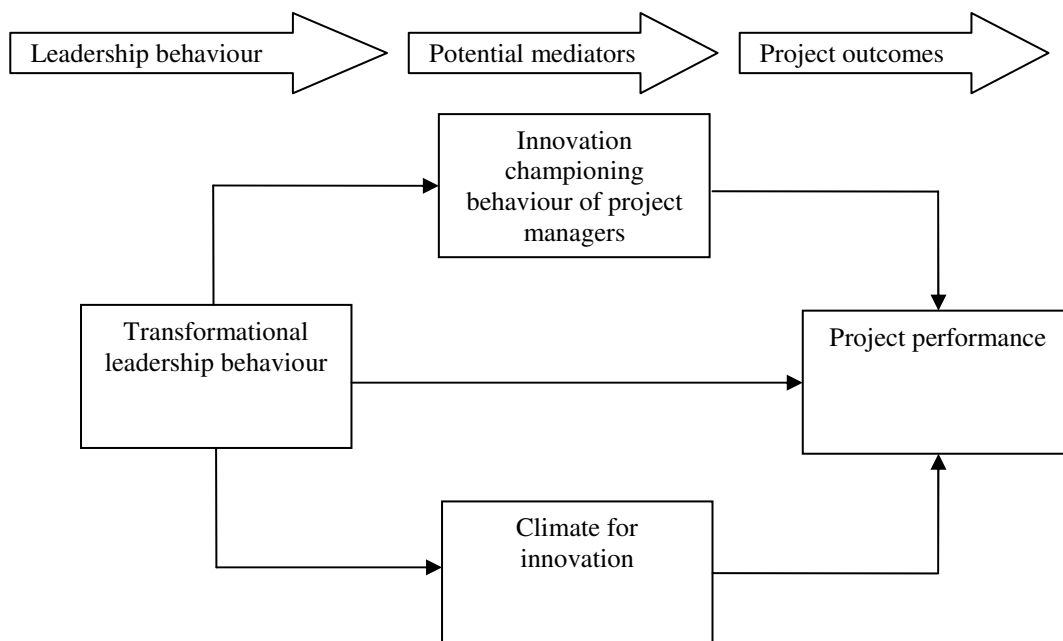
Scott and Bruce (1994) identified the key dimensions of climate for innovation as support for innovation and resource supply. These were found to impact on project performance indirectly through the level of innovation (Dulaimi et al., 2005). Scott and Bruce (1994) suggested employees' perceptions of the extent to which innovation is encouraged in the work place and the resources that are made available will impact their perception of the organisational climate and influence their tendency to take risks and adopt innovative approaches to their work which could influence project outcomes. Perceptions of organisational priorities inform how project members channel their energies, abilities and efforts (Schneider et al, 1994; Kissi et al, 2009) and determine their motivation, attitudes and behaviour, (Kozlowski and Hults, 1987) in the course of delivering project. In a study involving 12 managers in knowledge-intensive service firms, De Jong and Den Hartog (2007) found that creating the environment supportive of innovation is associated with both the generation and implementation of ideas which could impact on performance. Similarly, Oldham and Cummings (1996) in a study of 171 employees found that the employees were at their most creative when they operated in a supportive environment. In such a supportive environment project teams will also be encouraged to try new approaches to delivering projects without being overly concerned about possible recriminations should the unexpected happen, (Kissi et al., 2012a). This could ultimately influence project outcomes. Furthermore, Pawar and Eastman (1997) suggested that leadership can achieve organisational goals by confronting and reshaping context. In the same way, it is suggested that portfolio managers can influence project performance by shaping the organisational context and creating an environment where project delivery teams give their best to achieve project objectives. We therefore propose that;

**Hypothesis 5:** Climate for innovation partially mediates the relationship between transformational leadership of portfolio managers and project performance.

### **3. Research method**

#### **3.1 Sample and procedure**

The objectives of the study were to examine ways by which portfolio manager's transformational leadership behaviour influence project performance directly as well as indirectly through intervening constructs as hypothesised above and shown in the research model in Fig 1. We considered quantitative data collection and testing of hypotheses as the most suitable approach to achieve the objectives. The organisation under study employed about 8,000 staff based in 40 offices across the United Kingdom with a turnover of about £500 million. The company which also has businesses in the Middle East and Australia operates in diverse markets broadly grouped into three segments, namely; government services, regulated industries and infrastructure services organised into divisions. The company's current key activities include planning, designing, maintaining and operating the physical and administrative infrastructure that supports modern society.



**Figure 1:** Conceptual relationship between transformational leader behaviour of portfolio managers, potential mediators and project performance.

It is associated with infrastructure ranging from roads and railways, through water and energy, to local government property, schools, back-office support functions and also offers management consultancy services. Project managers in the organisation were the source of data. Project managers were selected as they constitute the closest group portfolio managers work with and are under their direct influence. They could therefore provide more accurate feedback on the transformational leadership of the portfolio managers. Moreover, since they are directly responsible for project outcomes, they could provide accurate information on project performance. An internet based questionnaire was prepared and sent via an e-mail link to approximately 350 project managers working across the UK. Respondents were initially given two weeks to respond. At the end of the two weeks, we extended the response deadline by another week.

The respondents provided data on their observation of transformational leadership behaviour of portfolio managers. They further assessed their own championing behaviour and the organisational climate. Finally they provided data on the performance of their projects. The sources of the instruments used in the study are discussed in the next section. Following elimination of responses with substantial missing data, we analysed 112 completed responses, representing a usable response rate of 32%. This compares favourably to other web based surveys. Research findings suggest a mean response rate of 34% and standard deviation of 22 for all web based surveys (Shih and Fan, 2008). Table 1 outlines the characteristics of the respondents.



**Table 1:** Table of Frequencies

<b>Item/range</b>	<b>Frequency</b>	<b>%</b>
<b>Age Group</b>		
Less than 40 years old	44	39.3
40 years and above	68	60.7
Total	112	100.0
<b>Business Stream</b>		
Others	36	32.4
Infrastructure	75	67.6
Total	111	100.0
<b>Project Fees</b>		
Less than 80k	58	51.8
80k and above	54	48.2
Total	112	100.0
<b>Project Cost</b>		
Less than 300k	55	49.5
300k and above	54	50.5
Total	109	100.0
<b>Tenure in Company</b>		
Less than 5 years	54	48.6
5 years and more	55	51.4
Total	109	100.0
<b>Experience as PM</b>		
Less than 5 Years	62	55.4
5 Years and More	50	44.6
Total	112	100.0
<b>Level of Education</b>		
Below 1st Degree	23	20.5
Above 1st Degree	89	79.5
Total	112	100.0
<b>Client Type</b>		
Private Sector Client	14	12.6
Public Sector Client	97	87.4
Total	111	100.0

Sample size (N) =112 individuals

### 3.2 Measures

We measured transformational leadership using Podsakoff et al.'s (1990) 22-items instrument on a 7 point Likert scale (1-“Strongly Disagree” and 7-“Strongly Agree”). The choice of Podsakoff et al.'s (1990, 1996) transformational leadership measurement instrument was informed by the fact that the most recognised alternative, the Multifactor Leadership Questionnaire (MLQ) has been found to lack the ability to distinguish between the various dimensions of transformational leadership implying they are not easily discerned by followers (Careless, 1998). Moreover the instrument has been validated and used in the project environment (Yang et al., 2010b). We also measured championing behaviour with Dulaimi et al.'s (2005) 21-item instrument on 5 point Likert scale (1-“Not at all” and 5-“Frequently”). Project performance was measured with 11-item scale developed by Dulaimi et al. (2005) on a 5-point scale (1-“Not at all” and “A great deal”). Climate for innovation was measured with Scott and Bruce's (1994) 22 items instrument on a 5 point Likert scale (1-“Strongly Disagree”

and 5-“Strongly Agree”). The same instruments were used by Dulaimi et al., (2005) in measuring climate for innovation in their study. These instruments have therefore been validated in the project setting. In addition Dulaimi et al.’s (2005) project performance measures were adopted as they were multidimensional in nature and incorporated both long and short term measures of project performance. Moreover adopting the instrument would enable us to compare the result of this study with that of Dulaimi et al., (2005). The instruments used in the study are included in Appendix 1. Control and demographic variables such as age, tenure, average project fee, and educational level were also measured. Previous research on innovative behaviour identified level of education as positively influencing innovation championing behaviour. In addition project size which has been measured by the level of project fee has been found to influence levels of innovation and ultimately project performance (Dulaimi et al., 2005). Moreover research suggests experience gained by project managers from being engaged in previous projects (Dulaimi et al., 2005) whilst reflected in job tenure may also reflect in the age of the individual hence age was included in the control variables. The inclusion of these control variables enabled us to determine the unique contribution of the variables of interest in the study.

### **3.3 Statistical methods**

We approached the analysis of the data in four steps. Since the project managers who were surveyed worked in different streams of business, we conducted an analysis of variance (ANOVA) to check for significant differences in responses from the different groups. The responses from the infrastructure services of the business which had the highest number of responses was treated as one group and checked against the others. We found no significant differences. We therefore combined the responses in subsequent analysis. The second stage involved factor analysis of the constructs using the principal component analysis with varimax orthogonal rotation to establish the dimensionality of transformational leadership, climate for innovation, innovation championing behaviour and project performance. The third stage involved hierarchical multiple regression analysis to test proposed hypotheses regarding the relationship among transformational leadership of portfolio managers, innovation championing behaviour of project managers, climate for innovation and project performance. We also investigated the mediating effect of championing behaviour and climate for innovation on the relationship between transformational leadership and project performance. In testing the mediated relationship we adopted the 4 steps method proposed by Baron and Kenny (1986). Firstly, the independent variable in this case transformational leadership must be related to the mediator variable, championing behaviour or climate for innovation; secondly, the independent variable must be related to the dependent variable (i.e. project performance); thirdly, the mediator variable must significantly relate to the dependent variable; finally when the mediator variable is controlled for, the relationship (i.e. coefficient) between the independent variable and dependent variable should either no longer be significant or substantially reduced with reference to that in the second step for partial mediation to exist or the coefficient should reduce to zero where there is full mediation. In addition to the four steps above, we further undertook a test of significance of the indirect effect of the predictor variable following the procedures outlined by Sobel (1982).

## **4. Results and analysis**

### **4.1 Factor analysis, correlations and control variables**

Exploratory factor analysis using principal component analysis with VARIMAX orthogonal rotation was undertaken to confirm the number of factors underlying the constructs in the proposed model and to determine the pattern of loadings. The 112 cases included in the

analysis met and exceeded the minimum sample size of 100 required to meet the recommended cases to variable ratio of 5:1 for each construct (Panuwatwanich et al., 2008). As detailed in Table 2 the Kaiser-Meyer-Olkin (KMO) measures ranged between 0.833-0.902, exceeding the recommended figure of 0.6 (Field, 2009), highlighting a high level of sampling adequacy.

**Table 2:** Summary of Exploratory Factor Analysis results

Construct	KMO*	Variance Explained (%)	Cronbach's alpha
Transformational Leadership	.902	83.19	.85-.95
Fostering Commitment (7)			
Intellectual Stimulation (3)			
High Performance. Expectation (2)			
Articulating Vision (4)			
Individualised Support (4)			
Championing Behaviour	.814	49.8	.71-.84
Leads Innovation (9)			
Dem. commitment (4)			
Stimulates Innovation (6)			
	.861	47.23	.80-.89
Climate for Innovation			
Support for Innovation (11)			
Resource Supply (7)			
	.833	76.75	.72 - .92
Project Performance			
Enhancing Company image (3)			
Team Development (4)			
Project Efficiency (2 )			
Promote Learning (2)			

On the basis of a combination of Eigen values and scree plots we extracted 5 factors of transformational leadership from 20 items, 3 factors of championing behaviour from 19 items, 2 factors of climate for innovation from 18 items and finally 4 factors of project performance from 11 items. These factors respectively explain 83.19%, 49.8%, 47.23% and 76.75% of the variance in the constructs. All items with factor loading of less than 0.5 were eliminated from further analysis in order to ensure the final items were representative of each factor (Field, 2009). Consequently, we removed 2 items from the championing behaviour measures and 4 items from the climate for innovation measures. Comparing the dimensions of transformational leadership in this study to the original instrument by Podsakoff et al. (1990), the sub-dimensions ‘modelling behaviour and ‘fostering acceptance of group goals’ loaded onto one factor which we labelled “fostering commitment” in this study. Consistent with the original study 2 and 3 factors of climate for innovation and innovation championing respectively were extracted. Four factors of project performance were extracted in this study although no factor analysis was undertaken in Dulaimi et al.’s (2005) original study. The Cronbach’s alpha (reliability coefficients) of all the scales ranged from 0.71-0.95 exceeding 0.7 level which is generally considered good (Panuwatwanich et al., 2008). Cronbach’s alpha greater than 0.8 is considered excellent (Field, 2009). Our focus in this study was to

understand the relationships among the constructs as a whole as opposed the impact of the individual dimensions. For that reason we used the composite constructs in further analyses. The use of the aggregated factors is consistent with previous studies using similar constructs, (Jung et al. 2003, 2008; Dulaimi et al., 2005; Sarros et al., 2008).

Table 3 shows the descriptive statistics and zero-order correlations among the dimensions of the control variables and the composite constructs. With the exception of the relationship between transformational leadership and climate for innovation and which had relatively stronger correlation than expected, all the relationships were consistent with the anticipated patterns of hypothesized relationships. These demonstrate the instruments used effectively discriminated between the constructs.

**Table 3:** Descriptive Statistics and Inter-correlations

	Mean	SD	1	2	3	4	5	6	7	8
1 Age	0.48	0.50	-							
2 Job Tenure	0.50	0.50	0.23**	-						
Level of	0.82	0.38	-0.16*	-0.02	-					
3 Education										
4 Project Fees	0.48	0.50	0.03	0.06	0.03	-				
Transformational	4.84	1.08	0.12	0.05	0.00	0.10	-			
5 Leadership										
Championing	3.94	0.42	0.05	0.04	0.01	0.30**	0.33**	-		
6 Behaviour										
Climate for	2.95	0.60	0.03	0.04	-0.16*	-0.03	0.57**	0.15	-	
7 Innovation										
Project	3.72	0.56	-0.14	-0.17*	0.07	0.24**	0.33**	0.44**	0.30**	-
8 Performance										

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ . Sample size=112 individuals. Control variables are coded as follows: Age is coded 0=less than 40, 1=over 40. Job tenure is coded 0=less than 5 years; 1=more than 5years. Education is coded 0=less than degree, 1=degree and above. Project fees is coded 0=less than 80k, 1=80k and above.

#### 4.4 Tests of hypotheses

Since 7 and 5 point Likert scales as well as categorical measures were combined in the study, standardised betas are reported and used in the test of hypotheses. Hypothesis 1 stated that transformational leadership behaviour of portfolio managers is positively related to project performance. Results of the regression analysis are detailed in Table 4 below. In step 1, only the control variables were included in the model. Of the control variables, project fees came out as a significant predictor ( $\beta = 0.237$ ,  $p < 0.05$ ). The control variables explain 6% of the variance in project performance. The result of step 2 indicates that transformational leadership have a significant and positive relationship with project performance ( $\beta = 0.328$ ,  $p < 0.001$ ) and explains 10% of the variance in project performance. Hence hypothesis 1 is supported.

**Table 4:** Regression analysis of transformational leadership as a predictor of project performance

Variables	Project Performance					
	Step 1			Step 2		
	B	SE	Beta	B	SE	Beta
Age	-.105	.106	-.095	-.145	.101	-.132
Job Tenure	-.174	.106	-.159	-.180	.100	-.164
Level of Education	.012	.136	.009	.014	.129	.010
Project Fees	.260	.103	.237*	.232	.097	.211*
<b>Transformational Leadership</b>				.167	.045	.328***
R2		0.092			0.197	
Change in R-Squared		0.092			0.105	
F Change		2.628*			13.528***	
ANOVA (F)		2.628*			5.061***	
Adjusted R2		0.057			0.158	
Unique Variance		0.057			0.101	

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Sample size=112 individuals.

Hypothesis 2 proposed a positive and significant relationship between transformational leadership behaviour and innovation championing behaviour of project managers. Table 5 outlines the results of the regression analysis. The first model with only the control variables had project fees as the only significant variable ( $\beta=0.281$ ,  $\rho < 0.01$ ). The control variables explain 5% of the variance in championing behaviour. Step 2 involved the addition of the transformational leadership variable which indicates a significant and positive relationship with championing behaviour ( $\beta=0.291$ ,  $\rho < 0.01$ ). Hypothesis 2 is therefore supported with transformational leadership uniquely explaining 8% of championing behaviour.

Hypothesis 3 suggested that championing behaviour mediates the relationship between transformational leadership and project performance. The results for hypotheses 1 and 2 satisfy the first two conditions for mediation as outlined by Baron and Kenny (1986). From Table 6, championing behaviour has a positive relationship with project performance ( $\beta=0.348$ ,  $\rho < 0.05$ ) thus satisfying the third condition for mediation. Controlling for championing behaviour in the hierarchical regression in step 3 from table 6 showed the regression coefficient for transformational leadership reduced from  $\beta=0.328$  in Table 4 to  $\beta=0.227$ , representing 31% drop. In addition, Sobel's test confirms the significance of the indirect effect of transformational leadership on project performance as a result of its positive relationship with championing behaviour (Sobel's test statistic=2.630, SE= 0.024,  $\rho < 0.01$ ). This confirms championing behaviour partially mediates the relationship between transformational leadership and project performance, thereby supporting hypothesis 3.

**Table 5:** Regression analysis of transformational leadership as a predictor of championing behaviour

Variables	Championing Behaviour					
	Step 1			Step 2		
	B	SE	Beta	B	SE	Beta
Age	.034	.082	.040	.006	.079	.007
Job Tenure	.007	.082	.008	.003	.078	.003
Level of Education	-.011	.106	-.010	-.010	.101	-.009
Project Fees	.237	.080	.281**	.218	.077	.258
<b>Transformational Leadership</b>				.114	.036	.291**
R2		0.082			0.165	
Change in R-Squared		0.082			0.083	
F Change		2.31			10.255**	
ANOVA (F)		2.31			4.063**	
Adjusted R2		0.046			0.124	
Unique Variance		0.046			0.078	

Notes: \*p<0.05; \*\*p<0.01, \*\*\*p<0.001. Sample size=112 individuals.

**Table 6:** Regression analysis of the mediation effect on championing on project performance.

Variables	Project Performance								
	Step 1			Step 2			Step 3		
	B	SE	Beta	B	SE	Beta	B	SE	Beta
Age	-.105	.106	-.095	-.123	.097	-.112	-.148	.095	-.134
Job Tenure	-.174	.106	-.159	-.178	.096	-.162	-.182	.094	-.165
Level of Education	.012	.136	.009	.018	.124	.013	.018	.121	.013
Project Fees	.260	.103		.131	.098	.120	.133	.095	.122
			.237*						
<b>Championing Behaviour</b>				.543	.115		.452	.118	.348*
<b>Transformational Leadership</b>						.418***	.115	.045	.227*
R2		0.092			0.253			0.298	
Change in R-Squared		0.092			0.161			0.046	
F Change		2.628*			22.149***			6.656*	
ANOVA (F)		2.628*			6.960***			7.228	
Adjusted R2		0.057			0.216			0.257	
Unique Variance		0.057			0.159			0.041	

Notes: \*p<0.05; \*\*p<0.01, \*\*\*p<0.001. N=112

Hypothesis 4 proposed that transformational leadership of portfolio managers is positively related to the project manager's perceptions of climate for innovation. Table 7 shows that the control variables had negligible effect on climate for innovation. Transformational leadership uniquely contributed 34% of the variance in climate for innovation upon addition to the model. The results further show a strong and highly significant relationship between transformational leadership and climate for innovation ( $\beta=0.586$ ,  $\rho<0.001$ ). Hypothesis 4 is therefore supported.

**Table 7:** Regression analysis of transformational leadership a predictor of climate for innovation

Variables	Climate for Innovation					
	Step 1			Step 2		
	B	SE	Beta	B	SE	Beta
Age	.011	.121	.009	-.068	.099	-.056
Job Tenure	.045	.120	.037	.033	.098	.027
Level of Education	-.259	.155	-.163	-.256	.126*	-.161
Proj. Fees	-.033	.117	-.028	-.090	.095	-.074
<b>Transformational Leadership</b>	-	-	-	.328	.044	.586***
R2	0.03			0.366		
Change in R-Squared	0.03			0.336		
F Change	0.792			54.56***		
ANOVA (F)	0.792			11.872***		
Adjusted R2	-0.008			0.335		
Unique Variance	-			0.335		

Notes: \*p<0.05; \*\*p<0.01, \*\*\*p<0.001. N=112

Hypothesis 5 posited that climate for innovation mediates the effect of transformational leadership on project performance. From hypotheses 1 and 4, the first two steps necessary for mediation are met. From Table 8, climate for innovation has a positive relationship with project performance ( $\beta=0.326$ ,  $\rho<0.001$ ), thus satisfying the third condition for mediation. When controlling for climate for innovation in the fourth step presented in Table 8, the regression coefficient for transformational leadership reduced from  $\beta=0.328$  in Table 3 to  $\beta=0.210$ , representing 36% reduction. Sobel's test was further undertaken to test the significance of the indirect effect of transformational leadership. The result (Sobel's test statistic= 3.249, SE= 0.030,  $\rho<0.01$ ) confirm the significance of the indirect effect of transformational leadership on project performance through its positive relationship with climate for innovation. Hence climate for innovation partially mediates the relationship between transformational leadership and project performance, thereby supporting hypothesis 5.

**Table 8:** Regression analysis of the mediation effect of climate for innovation on project performance.

Variables	Project Performance								
	Step 1			Step 2			Step 3		
	B	SE	Beta	B	SE	Beta	B	SE	Beta
Age	-.105	.106	-.095	-.108	.101	-.098	-.132	.100	-.121
Job Tenure	-.174	.106	-.159	-.187	.100	-.171	-.186	.099	-.170
Level of Education	.012	.136	.009	.089	.131	.062	.061	.130	.042
Project Fees	.260	.103	.237*	.270	.097	0.246**	.248	.097	.226*
<b>Climate for Innovation Transformational Leadership</b>				.296	.082	.326***	.183	.100	.202
							.107	.055	.210
R2	0.092		0.195		0.223				
Change in R-Squared	0.092		0.103		0.028				
F Change	2.628*		13.186***		3.702				
ANOVA (F)	2.628*		4.986***		4.881***				
Adjusted R2	0.057		0.156		0.177				
Unique Variance	0.057		0.099		0.021				

Notes: \*p<0.05; \*\*p<0.01, \*\*\*p<0.001. Sample size=112 individuals

## 5. Discussion and conclusions

The primary objective of this research was to examine the role of portfolio managers in improving project performance directly as well as indirectly through climate for innovation and innovation championing. The results from this study demonstrate that high levels of portfolio managers' transformational leadership positively effect on project performance explaining 10% of the variance in project performance. This is consistent with the results of Waldman and Atwater (1994) who in a study of R&D project teams found that transformational leadership of higher level managers positively influence project outcomes. Also, Keegan and Den Hartog (2004) found transformational leadership of managers did have a positive impact on employees' commitment and motivation which could in turn influence employee performance in project environment. Our findings suggest that transformational leadership behaviour of portfolio managers could potentially bypass the hierarchical link between portfolio managers and project managers and be experienced directly at the project team level and consequently impact on project performance.

The direct effect of transformational leadership on performance of employees at lower levels of organisations is supported in previous studies (Dvir et al., 2002). Yang et al., (2010a) provide further evidence of the bypass effect of transformational leadership. Yang et al., (2010a) explained the bypass effect of transformational leadership behaviour of middle managers on the employee performance drawing on Bandura's (1986) theory of social learning and suggested that employee's identification with their organisation provides an important psychological avenue through which leaders directly influence the behaviour of their teams. Our findings suggest that by articulating a clear strategic objective for their division, portfolio managers could inspire delivery teams to put in the 'extra effort' required to achieve the desired goals. Furthermore high performance expectation expressed during project reviews could motivate the team members to aim at achieving higher standards of project performance. Given that previous research by Keegan and Dan Hartog (2004) as well



as Waldman and Atwater (1994) found no significant relationship between transformational leadership of project managers and project outcomes, it is possible that benefits of transformational leadership in the project environment could be derived from higher up the organisational hierarchy at the portfolio manager level rather than the project manager level. We found that transformational leadership of portfolio managers had a positive and significant relationship with championing behaviour, uniquely explaining 8% of the variance in innovation championing behaviour. This finding is consistent with previous studies which found transformational leadership engenders commitment and trust (Podsakoff et al., 1990, 1996), innovative behaviour among immediate followers (Pieterse et al., 2010) and performance beyond the expected level (Bass and Avolio, 1994). The study demonstrates this relationship holds within the project environment as trust in portfolio managers who exhibit transformational leadership is likely to encourage innovation championing behaviour among project managers in the knowledge that their managers will stand by them should they fail in their efforts to implement innovative solutions. This could lead to improved project performance.

Although research has shown that the leadership behaviour of project managers influences project outcomes (Yang et al, 2010b), there is no clear indication as to the type of leadership which will yield the desired project outcomes. Our study highlights a significantly positive effect of innovation championing behaviour on project performance in line with findings made by Dulaimi et al (2005), accounting for 16% of the variation in project performance. Similarly, Waldman and Atwater (1994) found that championing behaviour had a positive effect on project effectiveness in a research and development project environment. By exhibiting championing behaviour project managers facilitate the generation of ideas among team members and promote the advantages of an innovative idea. Furthermore, by demonstrating commitment and taking ownership of the process, project managers are likely to engender support and commitment among team members to make the project successful. A Study by Howell and Higgins (1990) on the personality characteristics of innovation champions found they exhibit transformational leadership to a greater extent than non-champions. It is therefore possible that the cascading effect of transformational leadership could influence the innovation championing behaviour of project managers who in turn influence project performance. This could result from the tendency of the direct subordinate to emulate portfolio managers (Yang et al., 2010a). This finding corroborates the cascading effect of transformational leadership in the project environment.

The evidence also suggests that transformational leadership of portfolio managers exerts a positive influence on climate for innovation, uniquely explaining 34% of the variance in climate for innovation. The result is consistent with findings by Sarros et al., (2008). In a study of 1158 managers in the private sector in Australia, Sarros and his colleagues found that transformational leadership accounted for 26% of the variance in organisational climate for innovation. The study particularly found that transformational leadership in organisations was linked to the provision of adequate resources, which enhances the perception of an environment encouraging of innovation. We also found climate for innovation influenced project performance and explained 10% of the variance. This is consistent with previous research that has shown that resource availability and support from management help to create a climate for innovation which in turn induces improved performance (Scott and Bruce, 1994). Kissi et al. (2012a) reviewed three types of innovative projects and concluded that middle level managers' in project environment influence project performance by helping to create a climate conducive to innovation. This indirect relationship is in line with findings by Panuwatwanich et al. (2008) whose study of 181 professional designers in the construction

industry found that leadership for innovation has an indirect effect on performance. Climate for innovation therefore provides an avenue through which transformational leadership can influence project performance. The results from this study further corroborates findings by Kissi et al. (2012b) who in a qualitative study identified individualised support as the most influential transformational leadership dimension influencing project performance both directly and indirectly through the organisational climate and championing behaviour. Articulating vision and fostering the acceptance of group goals both influenced climate for innovation and project performance while high performance expectation, modelling behaviour and intellectual stimulation were found to influence innovation championing and project performance.

Findings from this study have a number of significant theoretical implications. Firstly they deepen our understanding of the process through which transformational leadership of portfolio managers influences performance in the project environment. The study demonstrates that the bypass effect of leadership holds in the project environment as transformational leadership of portfolio managers had a direct effect on project performance, bypassing the influence of project managers. In addition the mediating influence of innovation championing behaviour supports the cascading effect of transformational leadership in project settings (Yang et al., 2010a). Portfolio managers could influence the delivery team as a whole through the climate for innovation. Our study highlights the importance of portfolio managers in enabling higher levels of performance in project based organisations. The study adds to the limited number of research on portfolio managers in literature and provides an insight into the role of this important constituency. It further identifies the need to further explore their influence in achieving project success. This is even more important given that context-related behaviours have in recent times been identified as one of the key factors that influence project success (Tuuli and Rowlinson, 2009). The findings also highlight a departure from the negative reporting of the role of middle level managers (Dopson and Stewart, 1993; Thomas and Linstead; 2002) and suggest they have an important function in enhancing project performance.

The findings from this study have a range of practical implications for project based professional services firms and particularly for portfolio managers. It is important that portfolio managers are aware of the impact of their work place behaviour on the performance of project managers and project team members. Portfolio managers can achieve this by modelling the kind of behaviour that will be expected of their project teams. In addition, intellectually stimulating their teams through intelligent questioning and expressing high performance expectation during project delivery could encourage creativity and innovative behaviour among project teams. Transformational leadership is most likely to be attractive to professional services organisations comprising mainly of individuals with a reasonably high level of education and an aspiration for challenging work which could stimulate professional development (Keller, 1992). Portfolio managers should therefore be conscious of this and adopt transformational leadership style in leading their teams. The position portfolio managers hold between the strategic decision making senior managers and operational delivery teams offers them the opportunity to influence the perceptions of their teams and send the right signals in respect of the expected innovative behaviour which could result in improved project performance. Investigations conducted by Keegan and Turner (2002) into project based organisations in various sectors including the engineering and procurement sector on their approach and attitude towards innovation revealed that irrespective of the industry, they do not create a climate conducive for innovation. Their findings suggested that the processes and procedures associated with the successful management of projects serve to

stifle innovation, noting that 'the efficient use of personnel time has become the critical criteria against which all projects were judged and the measurement system focused all efforts on making people accountable for their time' (Keegan and Turner, 2002: 375). Portfolio managers could therefore take steps to provide support for innovation and make the necessary resources including time available to their teams to help create the right environment that could lead to improved project performance. Given the direct and indirect impact of transformational leadership on performance, it is important that organisations make efforts to invest in developing transformational leadership competencies among portfolio managers.

In spite of the significant findings of this study, it is not without limitations. The cross-sectional nature of the study implies that no definitive causal inferences can be drawn among the constructs. For example, although the findings suggest that transformational leadership has a positive effect on climate for innovation, it is also possible that the nature of the work environment could influence the leadership behaviour of the portfolio managers. A longitudinal research design in the future could help establish the causal relationships among the constructs. The study adopted a quantitative approach and that has its disadvantages in that it fails to capture the nuances of, and complexities within the relationships studied. Future qualitative research design should examine in greater detail the processes through which the bypass and cascading effect of transformational leadership practically occurs in the workplace to influence project performance.

Whereas our study argues portfolio managers positively influence project performance, it is also possible the level of innovation contributed significantly to the project performance measures observed. Future research should control for the level of innovation in order to clarify the degree of portfolio managers' direct impact on project performance. Common source bias could be an issue in this study as project managers were the only source of data. Future studies should include social desirability measures and obtain data from different sources including team members and portfolio managers to address this bias. At 8% the explanatory power of transformational leadership on innovation championing behaviour is relatively weak. Moreover, the level of correlation between transformational leadership and climate for innovation was higher than expected. This could be because transformational leadership has been found to match closely with the determinants of innovation such as encouragement, recognition and challenge in the workplace place (Gumusluoglu and Ilsev, 2009). Future studies should therefore adopt a different instrument for measuring transformational leadership or better explanatory measures for innovation championing and climate for innovation to explore these relationships in more detail. Finally, we based the study on one organisation. Although the size and diversity of the company mitigates this limitation, future research should focus on an industry wide survey to confirm the generalisability of the relationships identified in this study of a single but large project organisation.

### **Acknowledgement**

The authors would like to thank David Bentley for helpful comments and the EPSRC for the funding the project on which this paper is based.

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## **Appendix 1 – Survey Questionnaire**

### **Section 1: About You**

1. Please indicate which of these qualifications you have?
  - a) Dip, b) HND c) BSc. d) B Eng e) MSc f) M Eng. g) MBA h) DEng i) PhD j) other .....
2. Which business stream do you work for?
3. Please indicate which of the following age groups you fall in.
  - a) Less than 25
  - b) 25-30
  - c) 30-35
  - d) 35-40
  - e) More than 40 years
4. How many years have you been working with the company?
  - f) Less than 2 years
  - g) 2 – 4
  - h) 5 – 7
  - i) 8 – 10
  - j) More than 10 years
5. How long have you been working as a Project Manager?
  - k) Less than 2 years
  - l) 2 – 4
  - m) 5 – 7
  - n) 8 – 10
  - o) More than 10 years



6. Which of the following apply to you

- p) My projects are mainly for private sector clients
- q) My projects are mainly for public sector clients
- r) Other clients (please specify)

7. On average what is the value of projects (fees) you have been managing ;

- s) Less than 20k
- t) 20-40k
- u) 40-60k
- v) 60-80k
- w) More than 80

8. On average what is the value of projects (implementation cost) you have been managing ;

- x) Less than 100k
- y) 100-200k
- z) 200-300k
- aa) 300-400k
- bb) More than 400k

## **Section 2: About your Divisional Manager/Director**

Please indicate to what extent you agree that the following statements are true descriptions of the 'Divisional Manager/Director' behaviours in the workplace. (1=strongly disagree, 2=disagree, 3= fairly disagree, 4=neither agree nor disagree, 5=fairly agree, 6= agree, 7= strongly agree).

- 9. Is always seeking new opportunities for the unit/department/organisation.
- 10. Paints an interesting picture of the future for our group.
- 11. Has a clear understanding of where we are going.
- 12. Inspires others with his/her plans for the future.
- 13. Is able to get others committed to his/her dreams of the future.
- 14. Leads by "doing" rather than simply by "telling".
- 15. Provides a good model to follow
- 16. Leads by example.
- 17. Fosters collaboration among work groups.
- 18. Encourages employees to be "team players"
- 19. Gets the group to work together for the same goal.
- 20. Develops a team attitude and spirit among his/her employees.
- 21. Shows us that he/she expects a lot from us.
- 22. Insists on only the best performance.
- 23. Will not settle for second best.
- 24. Acts without considering my feelings.
- 25. Shows respect for my personal feelings.
- 26. Behaves in a manner that is thoughtful of my personal needs.

27. Treats me without considering my personal feelings.
28. Has provided me with new ways of looking at things which used to be a puzzle for me.
29. Has ideas that have forced me to think some of my own ideas I have never questioned before
30. Has stimulated me to think about old problems in new ways.

### **Section 3: Organisational Climate for Innovation**

Please indicate the extent to which the following describes the working environment in Mouchel? (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree).

31. The reward system here benefits mainly those who don't rock the boat
32. This organization publicly recognizes those who are innovative
33. The reward system here encourages innovation
34. This organization gives me free time to pursue creative ideas during the workday
35. Personnel shortages inhibit innovation in this organization
36. Lack of funding to investigate creative ideas is a problem in this organization.
37. There is adequate time available to pursue creative ideas here
38. There are adequate resources devoted to innovation in this organization
39. Assistance in developing new ideas is readily available
40. This place seems to be more concerned with the status quo than with change
41. In this organization, we tend to stick to tried and true ways
42. The people in charge around here usually get credit for others' ideas
43. This organization is open and responsive to change
44. People around here are expected to deal with problems in the same way
45. The best way to get along in this organization is to think the way the rest of the group does
46. A person can't do things that are too different around here without provoking anger
47. This organization can be described as flexible and continually adapting to change
48. Around here, a person can get in a lot of trouble by being different.
49. The main function of members in this organization is to follow orders which come down through channels
50. Around here, people are allowed to try to solve the same problems in different ways
51. Our ability to function creatively is respected by the leadership
52. Creativity is encouraged here

### **Section 4: About your "Innovation Championing" Behaviour**

Please indicate the extent to which you display the following behaviours in your project management responsibilities (1=not at all, 2=once in a while, 3=sometimes, 4=fairly often, 5=frequently).

53. I enthusiastically promote the advantages of new ideas and solutions
54. I express confidence in what the innovation can do and achieve
55. I challenge the way it has been done before as the only answer
56. I get others to look at problems from many different angles

57. I seek differing perspectives when solving problems
58. I maintain a network of contacts
59. I seek out new technologies, process, techniques and/or product ideas
60. I push innovation actively and vigorously
61. I show optimism about the success of innovation
62. I show tenacity in overcoming obstacles
63. I accept responsibility for the results
64. I give top priority to getting results
65. I coordinate and bring together the key individuals
66. I get the necessary resources (e.g. people, time, money) to implement new ideas, technology and/or solutions
67. I back the people involved
68. I seek to build trust
69. I get the problem into the hands of those who can solve them
70. I keep project stakeholders involved in the process
71. I set up harmonious and cooperative working environment among parties
72. I accept feedback
73. I seek to get support from the top level

### **Section 5: Project performance**

To what extent do you perceive that your projects have achieved or will achieve the following outcomes? (1=not at all, 2=just a little, 3=moderate amount, 4=quite a lot, 5=a great deal).

74. Enable and motivate innovation
75. Lead to improved project team satisfaction
76. Increase the level of productivity
77. Finish project within the budget
78. Finish project on time
79. Retain talents with the company
80. Enable competitive advantages to the company
81. Enhance the image of the company
82. Enhance client satisfaction
83. Enable continuous improvement
84. Facilitate learning within the project