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Managerial Coaching Induces Psychological Engagement of Employees: Moderating Effect of Knowledge Management

GLOBAL ECONOMICS REVIEW

Abstract   *Project organizations are essential to economic development. In this context, we study the relationship of managerial coaching with psychological engagement at work and how to leverage this relationship through knowledge management. Data was collected from 463 managerial employees of different project-based-organizations in Pakistan using existing reliable scales. The hypotheses were tested through regression analysis. Results showed a significant positive link among managerial coaching, psychological engagement, and knowledge management. Knowledge management turned a suppressing effect on the relationship between managerial coaching and psychological engagement. However, this effect diminishes when there exists an effective knowledge management system as knowledgeable employees may dislike frequent coaching. The findings suggest that to augment psychological conditions for employee engagement at work, the organizations can benefit from developing a balanced culture of managerial coaching and its appropriate convergence with a knowledge management system.*

Key Words: Managerial Coaching, Psychological Engagement, Knowledge Management.

Introduction

Projects are an essential component of organizational life and overall economic growth. Their success largely depends on management skills and the effective engagement of the workforce. The inefficiency and ineffectiveness of human resources are attributed as a major reason for project failure in most cases. The concept of workplace managerial coaching has emerged as one of the vital skills used for the management and development of human resources at work. It is considered useful in meeting project management challenges (Berg & Karlsen, 2007) and is likely to foster change and high performance. Knowledge management is recognized as a tool to promote innovation at

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work by augmenting the creative abilities of employees (Iranzadeh & Bahrami, 2013); however, it is a relatively less researched area (Ellinger & Kim, 2014). Project managers are more concerned with employees' engagement and quality of work performed by their teams. Employee engagement is attributed to desirable outcomes at work (Anthony-McMann et al., 2017). The use of coaching within projects needs to be examined (Thompson & Cox, 2017). This research, therefore, studies the effect of workplace managerial coaching on employees' psychological engagement in the presence of knowledge management.

Problem Statement and Research Questions

Many factors contribute to project success. Employees' competence in areas of importance to the project is integral for success. Coaching can be helpful in meeting project management challenges (Berg & Karlsen, 2007). Less is known on project managers' perceptions of coaching and how to use it. Managerial coaching, knowledge management, and engagement are recognized to bring desired outcomes in the fields of organizational and management sciences. These are relatively new and less studied concepts in project management perspectives. Literature suggests a need for research regarding enablers and outcomes of employee engagement to clearly understand the concept for the development of the theory (Saks & Gruman, 2014). Hence, the application of coaching and knowledge management practices to improve psychological engagement at work seems worth probing to establish excellence in project management. Following research questions were posed in this study: -
1. Is managerial coaching related to psychological engagement?
2. How does the interaction of managerial coaching with knowledge management influence psychological engagement at work?

Significance of the Study

Most employees' learning takes place at workplaces. Managerial coaching is emerging as a new strategy to facilitate the employee learning process (Ellinger, Hamlin, Beattie, Wang & McVicar, 2011). The project management field accords greater emphasis on project success within the stipulated scope, cost, and time. This requires a high level of skills and employee engagement with quality outputs from those involved in the project work. The existing knowledge and training may not be useful if inadequately applied to work. A high degree of psychological engagement of well trained and experienced employees is necessary for sustained achievement. This study explored the interactive effect of managerial coaching and knowledge management on psychological conditions for an engagement at work to achieve overall project success. This eventually provides insights for improving project human resource management. Project owners, managers, and other relevant professionals can benefit from developing successful organizational practices.

Literature Review

Managerial Coaching

There exist different definitions of coaching which share the same understanding and describe the same phenomenon. It denotes a "collaborative, solution-focused, results-oriented and systematic process, in which the coach facilitates the enhancement of performance, life experience, self-directed learning and personal growth of individuals

and organizations" (Grant, 2010, p. 94). Whitmore (2009) referred to coaching as an act to unlock an individual's potential to boost his performance. He emphasized coaching to help peoples learning instead of teaching them. Rosinski (2003) stated coaching as the art to unleash persons' potential for reaching meaningful objectives. Developing and practicing coaching skills is the foundation of a coaching culture. It provides structures defining the ways of interaction between members of the organization and their working environments and how to measure and achieve the best possible results. The coaching competencies enable a culture that facilitates ongoing progress and wisdom at the workplace (Bawany, 2015).

Knowledge Management

Knowledge is a strategic organizational resource for competitive advantage, organizational performance, and project success (Alavi & Leidner, 2001). Knowledge management lacks a generally accepted definition. The systematic organizational efforts to cultivate and utilize knowledge for value creation are referred to as knowledge management (Aziz et al., 2018). It is a shared and integrated method of creation, organization, and utilization of intellectual resources (Grey, 1996). The theorists and professionals of this field define the concept in different ways. Each organization defines knowledge management in terms of its business objectives. The most, however, agree that knowledge management includes both tacit and explicit knowledge which add value to the organizational outcomes (Dalkir, 2013).

Psychological Engagement

A highly positive, motivational, and dedicated state of an individual with a strong focus on work is termed as work engagement (Schaufeli & Bakker, 2010). Both public and private organizations must have engaged the workforce to benefits from its positive outcomes at work (Bakker, 2011). Kahn (1990) described employee perceived meaningfulness, safety, and availability as necessary psychological conditions for their engagement at work; In these domains, individuals make their own choices, according to their level of awareness, to associate or disassociate with the roles they perform. The engagement at work requires employees to be psychologically present while performing their organizational or team roles. Psychological engagement signifies the state of a person wherein he feels his work as meaningful and safe and accordingly makes himself available for work (Asiwe et al., 2017).

Managerial Coaching and Psychological Engagement

The climate of learning benefits organizations through creation, acquisition, and transfer of knowledge resources. It enables engagement of employees at work (Eldor & Harpaz, 2016). In organizations focusing on managerial coaching, the management emphasizes more on coaching for h development. Coaching promote desired changes through intensive interaction and befitting procedures that are beneficial for all stakeholders (Clutterbuck, 2010). It is a management activity to develop, assess, counsel, or mentor employees to achieve strategic organizational objectives (Mosca, Fazzari & Buzza, 2010). Psychological engagement indicates how individuals value work (meaningfulness) manage their emotions (safety), and use their strengths (availability) to perform assigned tasks. Personal and contextual deviations define how people accord

importance to work which determines their engagement or disengagement in work roles (Kahn, 1990).

Coaching can give an extra impetus to project managers in gaining confidence and unlocking their potential. It exists when many people embrace coaching for internal integration through formal and informal interactions within the organizational setup to achieve holistic improvement in individual, team, and organization (Gormley & van Nieuwerburgh, 2014). Managers influence employee engagement and discretionary efforts through coaching interventions to manage available talent (Lockwood, 2007). Shuck, Reio Jr, and Rocco (2011) explained how psychological conditions determine employee engagement at work. Leaders should have influential behavior. They may opt for coaching to cultivate a climate of meaningfulness, safety, and availability (Edmondson, Kramer, & Cook, 2004). The coaching principles foster employee engagement at all levels (Crabb, 2011). This provides a basis for developing the following hypothesis statement.

H1: Managerial coaching is associated with psychological engagement.

The Moderating Role of Knowledge Management

Knowledge provides a competitive advantage in uncertain economies (Nonaka, 1995). Knowledge management offers a framework used to discover, capture, transmit, and reuse knowledge for gaining competitive advantage (Butler, 2000). It moderates the relationship between leadership and decision making (Riaz & Khalili, 2014). It also improves organizational effectiveness by interacting with training (Abd Rahman et al., 2013). Knowledge acquired through training is not fully applied to the organization and is, therefore, not sufficient to achieve positive organizational outcomes. Knowledge, if not applied to a firm, is of no value. In the absence of effective knowledge management practices, people fail to apply their learning to work situations. Coaching, training, and knowledge directories indicate the extent to which people can apply their knowledge in work settings. Human resource practices such as coaching and training interact with knowledge management practices to create a social process called knowledge-intensive teamwork leading to organizational competitive advantage. It allows the transformation of individual knowledge resources into capabilities that contribute to team level and organizational level effectiveness (Jackson, Chuang, Harden, & Jiang, 2006).

Knowledge management exhibits a significant relationship with human resource performance in management functions (Torabi, Kyan, & Falakinia, 2016). It helps organizations prepare for change through creativity and innovation in teamwork (Iranzadeh & Bahrami, 2013). Knowledge management initiatives may fail, in most cases, if employees are not encouraged and guided how to effectively use them. The culture of coaching is the way to motivate people for continuous learning and transfer that learning to work-roles assigned to them. Project managers, being solely responsible for project success, should harmonize knowledge management practices with organizational culture through coaching processes and incentives. This can motivate employees to depict positive workplace behaviors and full devotion to their work-roles (Ajmal, 2009). The managerial coaching interacts with knowledge management practices encouraging people to share and apply knowledge which, in turn, improves the quality of teamwork and overall organizational effectiveness. This improved culture of sharing and using knowledge enhances psychological conditions of meaningfulness, safety, availability of employees to actively engage at work that gives a boost to project success. Employee commitment relates to total quality management and that knowledge

management moderated this relationship (Al Ghamdi et al., 2016). This offers a basis to make the following hypothesis in the present study:

H2: Knowledge management moderates the relationship between managerial coaching and psychological engagement.

Theoretical Model

Theoretical foundations derived from the literature and proposed hypothesis provide a basis for framework of this study (Figure 1). Managerial coaching is likely to induce psychological engagement of employees at work. The knowledge management is expected to interact with managerial coaching and influence the psychological conditions for employee engagement at work.
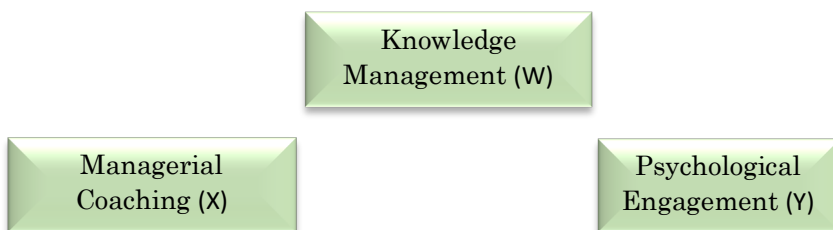
Figure 1: Theoretical Model

Methodology

This correlational study tests the proposed hypotheses using cross-sectional data. As part of master level thesis research, this field survey was conducted from September to December 2018 in a natural setting; participants were approached through emails, Whatsapp, professional networks, and in-person and requested to fill the questionnaires.

Sample and Procedure

The sample consisted of managerial employees in project organizations in Pakistan. The minimum sample size of 200 subjects is considered sufficient for any regression analysis (Green, 1991). The research also suggests that 2 to 50 subjects per variable could provide accurate predictions (Austin & Steyerberg, 2015; Harrell, 2016). Keeping in view the response received during this time-bound research project, the sample for this study comprised 436 participants from a diverse range of projects.

Measures

The questionnaire was developed using existing validated measures for each variable using 5-point Likert scales. Table 1 shows the sources of measures and their respective reliability coefficients.

Table 1. Measures and their Reliability Statistics

Constructs / Dimensions	Number of Items	Cronbach's Alpha (α)	Source
Managerial coaching	20	.967	
Open communication	5	.911	McLean et al. (2005)
Team approach	5	.934	

Value people	5	.863	
Accept ambiguity	5	.842	
Knowledge Management	23	.981	
Orientation towards knowledge	4	.902	
Continuous learning	3	.926	Palacios Marqués &
Organization as a global system	5	.952	José Garrigós Simón
Development of R&D culture	4	.928	(2006)
Individual-based approach	4	.892	
Competence development	3	.950	
Psychological Engagement	14	.961	
Meaningfulness	6	.976	May, Gilson, &
Safety	3	.897	Harter, (2004)
Availability	5	.961	

The item loadings were significant (p<.001) and above .700. AVE was found greater than .500 and the Alpha reliability coefficient exceeded .700 for all variables which indicated a good level of convergent validity (Jun, Qiuzhen, & Qingguo, 2011; Zhou, 2012; Koivisto & Hamari, 2014). The correlations of all variables were lower compared with the respective square root of AVE which indicated discriminant validity (Hair et al., 2010; Thatcher, Wright, Sun, Zagenczyk, & Klein, 2018; Velayudhan & Thomas, 2018).

Results

Sample

Most of the participants (58%) worked in small scale project organizations up to 50 employees. The project teams sized up to five members (29.8%), 6-10 members (23.2%), 11-15 members (11%), 16-20 members (4.8%), and above 20 members (31.2%). Most of the participants showed working on infrastructure projects (31.7%), the energy sector (15.4%), IT & telecommunication (13%), and education (10%). The participants indicated to work in projects located in the jurisdiction of Islamabad Capital Territory (12.8%), Punjab (32.1%), Khyber Pakhtunkhwa (15.8%), Sindh (16.3%), Balochistan (6.4%), and Gilgit Baltistan (3%).

Correlation Analysis

The proposed relationships were examined by computing Pearson's correlation coefficients (Table 2). Bootstrapping was applied to avoid sampling errors and response biases in estimating correlations. All constructs indicated significant correlations ($.635 \leq r \leq .689$, p<.01). Managerial coaching indicated significant positive relationships with psychological engagement (.689). Knowledge management also indicated a significant positive association with managerial coaching (.680) and psychological engagement (.635).

Effect of Managerial Coaching on Psychological Engagement

The simple linear regression examined the affiliation of managerial coaching (MC) with psychological engagement (PE) at work (Table 3). The outcome satisfied the assumptions of regression; independence, linearity, normality, multicollinearity, and homoscedasticity indicating the reliability of findings. Results point out 47% variance in the psychological engagement at work is explained by the managerial coaching

(ΔR^2=.474, F (1, 434) =391.277, p<.001). A one-unit change in managerial coaching also predicted an incremental change of 67% in psychological conditions (ß=.674, p<.001). This supported the *hypotheses 1.* Equation 1 represents this relationship.

Table 2. Correlational outcomes (n=436)

Variables	Items	Mean	Std. Deviation	1	2	3
1. Managerial coaching	20	3.459	.846	1		
2. Psychological engagement	14	3.619	.828	.689**	1	
3. Knowledge management	23	3.347	.946	.680**	.635**	1

[a] ** 2 tailed significance at .01 level.

Table 30. Effect of Managerial Coaching on Psychological Engagement

DV	Predictors	Mean ± SD	ΔR^2	B	Std. Error	β	t.
PE	(Constant)	3.619±.828		1.288**	.121		10.618**
	CC	3.459±.846	.474**	.674**	.034	.689**	19.781**
	Durbin Watson=1.991, VIF=1.000, Tolerance=1.000, 1.000≤Condition Index≤8.306						

Note: DV = Dependent variable, PE = Psychological Engagement, MC = Managerial coaching

Equation 1: PE = 1.288 + .674(MC) + e

Moderating Effect of Knowledge Management

Hayes's (2017) PROCESS Model 1 for SPSS was used to analyze the moderation process. The psychological engagement (PE) was entered as dependent variable (Y), managerial coaching (MC) as the independent variable (X), and knowledge management (KM) as moderating variable (M) in the model. The option to mean center for products was selected to create an interaction term (CC×KM) in the model. The results (Table 4) explained about 53% variance (R2=.532, F(3, 432)=169.179, p<.000) in psychological engagement through a significant contribution of CC (b=.428, p<.001), KM (b=.289 , p<.001), and a suppression effect of interaction (CC×KM) term (b=-.078, p<.032).

Table 4. Moderating Effect of KM on CC→PE

Moderation Model		Effect	Std. Error	t	95% CI		p
DV[a]	Predictors				LL	UL	
PE	(Constant)	3.661**	.036	101.810**	3.590**	3.732**	.000
	KM	.289**	.048	5.954**	.193**	.384**	.000
	CC	.428**	.060	7.109**	.310**	.547**	.000
	Interaction (CC×KM) [b]	-.078*	.036	-2.158*	-.149*	-.007*	.032
Conditional effect(s) of X on Y at values of the moderator:							
	KM	Effect	Std. Error	t			
	-.946	.502	.059	8.478	.386	.618	.000
	.000	.428	.060	7.109	.310	.547	.000
	.946	.355	.078	4.547	.201	.508	.000

N=436, Significant at *p<.05 and **p<.01 (1-tailed), CI=Confidence Interval based on 1000 bootstrap samples.

a. Dependent variable (DV)
b. Moderating variable: Knowledge Management (KM), where;
X=Managerial coaching (MC), Y=Psychological engagement (PE)
Model Summary:
R=.730, R²=.532, Mean S.E.=.323, F (3, 432) =169.179, p<.000
R² due to interaction of CC and KM=.006, F (1, 432) =4.656, p<.032
Equation 1: Effect of managerial coaching on PE at values of KM
PE = 3.661 + .298(KM) + .428(MC) - .078(MCxKM) + e

The conditional effects of managerial coaching on psychological engagement at low (.502), medium (.428), and high (.355) values of the moderator (± 1 SD) were found to be significant. The interaction plot (Figure 2) was generated using data produced by the moderation process which showed that psychological engagement increased at a diminishing rate when managerial coaching and knowledge management were increased simultaneously. This supported the *hypothesis 2*. The statistical relationship is represented by Equation 2 and Figure 2.

Discussion

Managerial Coaching as a tool to induce Psychological Engagement

Psychological problems of employees, if infiltrated into work, can cause negatives organizational outcomes. Managerial or supervisory coaching facilitates employee engagement (Hakanen & Roodt, 2010). This study suggests that managerial coaching explains about 47% variance in psychological engagement. A per unit change in managerial coaching has the potential to bring about 47% incremental changes in psychological engagement. Research indicates that teams led by optimistic managers are more engaged and productive. Leadership promotes engagement, optimism, and performance (Arakawa & Greenberg, 2007). The psychological safety climate is known to be a fundamental condition creating an enabling atmosphere, resolving psychological concerns, and improving engagement at work. It refers to the measures protecting safety of the workforce (Edmondson, 1999; Dollard & Bakker, 2010). Coaching enhances conditions for employee availability by reducing workplace stress (Gyllensten & Palmer, 2005).

Change has become an inevitable aspect of organizational life because of the changing nature of global economic and technological fronts. In this regard, coaching has emerged as a strategy that positively changes manager-employee relationships. Looking for new problem-solving approaches, organizations now like self-managed teams to improve performance and engage in continuous learning. This new paradigm requires managers to act as a coach to help and guide their workers in achieving sustainable high performance. There is a need to develop a workplace coaching culture to effectively lead human resources (McLean et al., 2005). Instead of focusing on command and control like management, coaching emphasizes actions that enable employees to fully and productively contribute to their work roles (Evered & Selman, 1989).

The workplaces are a blend of human interactions and experience in a specific environment aiming to achieve certain goals. This human interaction brings certain psychodynamics at the workplace in the form of the rationale and unconscious elements that create psychological conditions that influence employees and their work. They determine how much meaningful employees feel their work, how much they are mentally and physically available, and the level to which they feel physically and psychologically

safe at work. The better psychological conditions would create a workplace worth working and produce quality and quantity of work needed to reach the desired project success. The organizations should, therefore, focus on developing a culture of coaching with special emphasis on the teamwork approach to enhance psychological conditions at work to fully engage employees in productive and quality-oriented work outcomes.

Moderating Effect of Knowledge Management

Knowledge management is central to organizational learning and performance literature (Birasnav, 2014; Omotayo, 2015; North & Kumta, 2018). This study revealed that knowledge management and managerial coaching explained about 53% variance in psychological engagement. A per unit change in knowledge management has the potential to bring about 29% incremental changes in psychological engagement. Managerial coaching also indicated a contribution of 43% towards psychological engagement when controlled for knowledge management. The interaction term of both managerial coaching and knowledge management indicated a significant suppression effect of -7.8%. This discovered the incremental influence of managerial coaching on psychological engagement decreasing at a rate of 7.8% in the presence of moderator (knowledge management).

Research suggests that human resource practices are positively associated with project success (Khan & Rasheed, 2015). Our results agree with the previous research which suggests that investment in interventions that promote employee development and engagement at work can return savings through enhancing employee performance (Hoegl & Gemuenden, 2001). Knowledge management for developing project teams and their performance has been widely researched (Oluikpe et al., 2011; Torabi, Kyani, & Falakinia, 2016). Organizational value is created through interaction of static knowledge resources and dynamic practices for knowledge management (Kianto, Ritala, Spender, & Vanhala, 2014). It is because knowledge management manifests many significant organizational benefits (Litvaj, & Stancekova, 2015) which include problem-solving and decision making (Van Aken, & Berends, 2018).

Coaching is a form of knowledge and experience sharing by those in managerial positions having subordinate employees. When efficient and effective knowledge management practices are in place, coaching can bring a significant improvement in psychological conditions for employee engagement at work which in turn improves teamwork quality for the overall project success. The suppression effect of the interaction term indicates that with increasing knowledge management at organizations or projects, the effect of coaching increases at a diminishing rate. This is because knowledgeable employees feel coaching as an element of evaluation and underestimation pointed at their knowledge and experience. Hence, a coaching approach works as a tool for learning and development for those who lack knowledge and experience. Once, employees achieve a certain higher level of knowledge and experience, they prefer to coach instead of being coached and subsequently transfer their experience to new inductees. The task specific know-how of team members improves teamwork quality with small to large effects on individual and group performance and success (Lindsjørn, Sjøberg, Dingsøyr, Bergersen, & Dybå, 2016).

Conclusion

Managerial coaching can induce psychological engagement of employees at work. Knowledge management further boosts up the psychological engagement, although it

may interact with managerial coaching to indicate a diminishing effect on this relationship. Managerial coaching, despite its known effectiveness in organizations, is not practiced often; therefore, managers need to perform coaching as a routine obligatory part of their work roles (Ladyshewsky & Taplin, 2017). A culture of managerial coaching can cultivate knowledge sharing and learning orientation in organizations that would invariably improve team ability, cooperation, and quality of work (Curtis & Taylor, 2018). Knowledge-focused managers' act as a role model to develop a pro-learning culture that fosters work engagement, through effective management, dissemination, and application of knowledge (Williams & Sullivan, 2011). A systemic approach like; managerial coaching, is more likely to benefit organizations than traditional approaches focusing on individual behaviors (Lawrence, 2017).

Limitations and Future Research

This research involved only managers working in project organizations and collected self-report data from a diverse range of randomly selected participants most of whom were engineers working on managerial positions in various projects. Future studies may use more objective measures to examine managerial coaching, psychological engagement, knowledge management, and project success and collect data involve non-managerial employees and non-project organizations.

References

Abd Rahman, A., Imm Ng, S., Sambasivan, M., & Wong, F. (2013). Training and organizational effectiveness: moderating role of knowledge management process. *European Journal of Training and Development, 37*(5), 472-488.

Ajmal, M. I. A. N. (2009). Critical factors for successful KM initiatives in project background. *Communications of the IBIMA, 8*, 358-375.

Al Ghamdi, A. A., Aziz, F. S. B. A., Yusoff, R. Z., & bin Mustafa, M. (2016). The Moderating Role of knowledge management on the relationship between employees' commitment and total quality management: A Study on the public healthcare sector in Saudi Arabia. *International Review of Management and Marketing, 6*(4), 790-797.

Alavi, M., & Leidner, D. E. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly, 25*(1), 107-136.

Anthony-McMann P. E, Ellinger A. D., Astakhova M., Halbesleben J. R. B. (2017). Exploring different operationalizations of employee engagement and their relationships with workplace stress and burnout. *Human Resource Development Quarterly, 28*(2), 163-195.

Arakawa, D., & Greenberg, M. (2007). Optimistic managers and their influence on productivity and employee engagement in a technology organisation: Implications for coaching psychologists. *International Coaching Psychology Review, 2*(1), 78-89.

Asiwe, D., Rothmann, S., Jorgensen, L., & Hill, C. (2017). Engagement of employees in a research organisation: A relational perspective. *South African Journal of Economic and Management Sciences, 20*(1), 1-9.

Austin, P. C., & Steyerberg, E. W. (2015). The number of subjects per variable required in linear regression analyses. *Journal of Clinical Epidemiology, 68*(6), 627-636.

Aziz, D. T., Bouazza, P. A., Jabur, P. N. H., Hassan, D. A. S., & Al Aufi, D. A. (2018). Development and Validation of a Knowledge Management Questionnaire. *Journal of Information Studies and Technology, 2018*(1), 2.

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science, 20*(4), 265-269.

Bawany, S. (2015). Creating a coaching culture. *Leadership Excellence Essentials, 32*(2), 43.

Berg, M. E., & Karlsen, J. T. (2007). Mental models in project management coaching. *Engineering Management Journal, 19*(3), 3-13.

Birasnav, M. (2014). Knowledge management and organizational performance in the service industry: The role of transformational leadership beyond the effects of transactional leadership. *Journal of business research, 67*(8), 1622-1629.

Butler, Y. (2000). Knowledge management—if only you knew what you knew. *The Australian Library Journal, 49*(1), 31-43.

Clutterbuck, D. (2010). Team coaching. The complete handbook of coaching, 271-283.

Crabb, S. (2011). The use of coaching principles to foster employee engagement. *The Coaching Psychologist, 7*(1), 27-34.

Curtis, M. B., & Taylor, E. Z. (2018). Developmental mentoring, affective organizational commitment, and knowledge sharing in public accounting firms. *Journal of Knowledge Management, 22*(1), 142-161.

Dalkir, K. (2013). *Knowledge management in theory and practice.* Routledge.

Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, *83*(3), 579-599.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative science quarterly*, *44*(2), 350-383.

Edmondson, A. C., Kramer, R. M., & Cook, K. S. (2004). Psychological safety, trust, and learning in organizations: A group-level lens. *Trust and distrust in organizations: Dilemmas and approaches*, *12*, 239-272.

Eldor, L., & Harpaz, I. (2016). A process model of employee engagement: The learning climate and its relationship with extra-role performance behaviors. *Journal of Organizational Behavior*, *37*(2), 213-235.

Ellinger, A. D., & Kim, S. (2014). Coaching and human resource development: Examining relevant theories, coaching genres, and scales to advance research and practice. *Advances in Developing Human Resources*, *16*(2), 127-138.

Ellinger, A. D., Hamlin, R. G., Beattie, R. S., Wang, Y. L., & McVicar, O. (2011). Managerial coaching as a workplace learning strategy. In *Supporting workplace learning* (pp. 71-87). Springer, Dordrecht.

Evered, R. D., & Selman, J. C. (1989). Coaching and the art of management. *Organizational Dynamics, 18*(2), 16-32.

Gormley, H., & van Nieuwerburgh, C. (2014). Developing coaching cultures: a review of the literature. Coaching: *An International Journal of Theory, Research and Practice*, *7*(2), 90-101.

Green, S. B. (1991). How many subjects does it take to do a regression analysis. *Multivariate Behavioral Research*, *26*(3), 499-510.

Grey, C. (Ed.). (1996). *Rethinking management education*. Sage.

Gyllensten, K., & Palmer, S. (2005). Can coaching reduce workplace stress. *The Coaching Psychologist*, *1*(1), 15-17.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). Multivariate Data Analysis (7th ed.). New Jersey: Pearson Education Inc.

Hakanen, J.J., & Roodt, G. (2010). Using the job demands-resources model to predict engagement: Analysing a conceptual model. In A.B. Bakker & M.P. Leiter (Eds.), Work Engagement: A Handbook of Essential Theory and Research. New York: Psychology Press.

Harrell Jr, F. E. (2016). RMS: Regression modeling strategies. 2016. R package version, 4-3.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.

Hoegl, M., & Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organization Science*, *12*(4), 435-449.

Iranzadeh, S., & Bahrami, K. (2013). Survey of knowledge management dimensions and creativity (a case study). *Human Resource Management Research*, *3*(2), 55-59.

Jackson, S. E., Chuang, C. H., Harden, E. E., & Jiang, Y. (2006). Toward developing human resource management systems for knowledge-intensive teamwork. In *Research in personnel and human resources management* (pp. 27-70). Emerald Group Publishing Limited.

Jun, L., Qiuzhen, W., & Qingguo, M. (2011). The effects of project uncertainty and risk management on IS development project performance: A vendor perspective. *International Journal of Project Management*, *29*(7), 923-933.

Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *Academy of Management Journal, 33*(4), 692-724.

Khan, A. S., & Rasheed, F. (2015). Human resource management practices and project success, a moderating role of Islamic Work Ethics in Pakistani project-based organizations. *International Journal of Project Management*, *33*(2), 435-445.

Kianto, A., Ritala, P., Spender, J. C., & Vanhala, M. (2014). The interaction of intellectual capital assets and knowledge management practices in organizational value creation. *Journal of Intellectual capital*, *15*(3), 362-375.

Koivisto, J., & Hamari, J. (2014). Demographic differences in perceived benefits from gamification. *Computers in Human Behavior*, *35*, 179-188.

Ladyshewsky, R., & Taplin, R. (2017). Employee perceptions of managerial coaching and work engagement using the Measurement Model of Coaching Skills and the Utrecht Work Engagement Scale. *International Journal of Evidence Based Coaching and Mentoring*, *15*(2), 25.

Lawrence, P. (2017). Managerial coaching-a literature review. *International Journal of Evidence Based Coaching and Mentoring*, *15*(2), 43.

Lindsjørn, Y., Sjøberg, D. I., Dingsøyr, T., Bergersen, G. R., & Dybå, T. (2016). Teamwork quality and project success in software development: A survey of agile development teams. *Journal of Systems and Software*, *122*, 274-286.

Litvaj, I., & Stancekova, D. (2015). Decision-making, and their relation to the knowledge management, use of knowledge management in decision-making. *Procedia economics and finance*, *23*, 467-472.

Lockwood, N. R. (2007). Leveraging employee engagement for a competitive advantage, *SHRM Research Quarterly*. Alexandria, VA: SHRM Foundation.

May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, *77*(1), 11-37.

McLean, G. N., Yang, B., Kuo, M. H. C., Tolbert, A. S., & Larkin, C. (2005). Development and initial validation of an instrument measuring managerial coaching skill. *Human Resource Development Quarterly*, *16*(2), 157-178.

Mosca, J. B., Fazzari, A., & Buzza, J. (2010). Coaching to win: A systematic approach to achieving productivity through coaching. *Journal of Business & Economics Research (JBER)*, *8*(5).

Nonaka, I. (1995) *The knowledge-creating company: How Japanese companies create the dynamics of innovation,* Oxford: Oxford University Press.

North, K., & Kumta, G. (2018). *Knowledge management: Value creation through organizational learning*. Springer.

Oluikpe, P. ... et al. (2011). The role of knowledge management in development projects. *Journal of Information & Knowledge Management*, *10*(4), 315 - 326.

Omotayo, F.O. (2015). Knowledge management as an important tool in organizational management: a review of literature, Library Philosophy and Practice, 1238.

Palacios Marqués, D., & José Garrigós Simón, F. (2006). The effect of knowledge management practices on firm performance. *Journal of knowledge management*, *10*(3), 143-156.

Riaz, M. N., & Khalili, M. T. (2014). Transformational, transactional leadership and rational decision making in services providing organizations: Moderating role of knowledge management processes. *Pakistan Journal of Commerce and Social Sciences*, *8*(2), 355.

Rosinski, P (2003) *Coaching across Cultures*, Nicholas Brealey, London

Saks, A. M., & Gruman, J. A. (2014). What do we really know about employee engagement?. *Human Resource Development Quarterly*, *25*(2), 155-182.

Schaufeli, W.B. and Bakker, A.B. (2010), "Defining and measuring work engagement: bringing clarity to the concept", in Bakker, A.B. and Leiter, M.P. (Eds), Work Engagement: A Handbook of Essential Theory and Research, Psychology Press, New York, NY, pp. 10-24.

Shuck, B., Reio Jr, T. G., & Rocco, T. S. (2011). Employee engagement: An examination of antecedent and outcome variables. *Human Resource Development International*, *14*(4), 427-445.

Thatcher, J. B., Wright, R. T., Sun, H., Zagenczyk, T. J., & Klein, R. (2018). Mindfulness in Information Technology Use: Definitions, Distinctions, and a New Measure. *MIS Quarterly*, *42*(3), 831-847.

Thompson, S. & Cox, E. (2017). How Coaching Is Used and Understood by Project Managers in Organizations. *Project Management Journal, 48*(5), 64–77.

Torabi, M. H. R., Kyani, A., & Falakinia, H. (2016). An investigation of the impact of knowledge management on human resource performance in management of Keshavarzi bank branches in Tehran. *Procedia-Social and Behavioral Sciences*, *230*, 471-481.

Van Aken, J. E., & Berends, H. (2018). *Problem solving in organizations*. Cambridge University Press.

Velayudhan, D. P., & Thomas, S. (2018). Role of technological uncertainty, technical complexity, intuition and reflexivity in project planning–a study on software development projects. *International Journal of Project Organisation and Management*, *10*(1), 82-92.

Whitmore, J (2009) *Coaching for Performance: Growing people, performance and purpose*, 4th edn, Nicholas Brealey, London

Williams, P., & Sullivan, H. (2011). Lessons in leadership for learning and knowledge management in multi-organisational settings. The International Journal of Leadership in Public Services, *7*(1), 6–20.

Zhou, T. (2012). Examining location-based services usage from the perspectives of unified theory of acceptance and use of technology and privacy risk. *Journal of Electronic Commerce Research*, *13*(2), 135.