International Journal of Business, Economics and Management

2014 Vol. 1, No.1, pp. 1-15

ISSN(e): 2312-0916

ISSN(p): 2312-5772

© 2014 Conscientia Beam. All Rights Reserved.

RELATIONSHIPS AMONG TEAM TRUST, TEAM COHESION, TEAM

SATISFACTION AND PROJECT TEAM EFFECTIVENESS AS PERCEIVED BY

PROJECT MANAGERS IN MALAYSIA

Han-Ping Fung¹

'Technology Consulting Hewlett-Packard Malaysia

ABSTRACT

Today, more and more project teams are formed to achieve organizational objectives as organizations

generally recognized the importance and benefits of project teams. There is a compelling reason to study

what are the team outcome factors that can predict project team effectiveness as it is unclear whether these

team outcome factors can yield the same result in project setting whereby there is resource and time

constraint compare to normal work teams which are ongoing and operational in nature. This study has

developed a research model underpinned on Cohen and Bailey (1997) Team Effectiveness Framework to

empirically analyze some team outcome factors in which result showed that team trust is directly predicting

team cohesion, team satisfaction and project team effectiveness. However, team cohesion is not directly

predicting project team effectiveness but it is directly predicting team satisfaction. In turn, team satisfaction

is directly and positively predicting project team effectiveness. In other words, team cohesion indirectly

predicting project team effectiveness via team satisfaction. Discussion, limitation and conclusion are also

included in this article.

Keywords: Team outcome factors, Project team effectiveness, Team trust, Team cohesion, Team satisfaction, Project

manager, Project

1. INTRODUCTION

Today, many organizations are using project teams to implement products or services as well

as resolve problems especially on complex tasks. The rationale is group performance through

team is more effective compared to individual performance as the team outcomes exceed the sum

of individual outputs (Belbin, 1993). However, achieving project team effectiveness does not come

at random. Reasons prompting to study project team effectiveness according to Hoevemeyer

(1993) are fourfold: (a) effective project team will improve job productivity and morale among

team members, (b) effective project team frees up project manager from micro-manage day to day

details so that he or she has more time focusing on other works, (c) effective project team will

1

enable team work within and between teams so that the entire organization can function more effectively, and (d) effective project team will improve service quality and customer satisfaction.

Team outcome factors are team outputs which consist of team cohesion, team satisfaction, attitude change and others that were derived from Gladstein (1984) model of group behavior. This model consists of "input-process-output" stages. Team input includes team composition and team structure whereas team process covers team communication, conflict resolution and others (Gladstein, 1984).

From literature, there is a need to study team trust, team cohesion, team satisfaction and team effectiveness in a project setting environment as project team is a purposive structure and usually consists of different team size, team composition and need to achieve its project goals within certain resource and time constraints (Project Management Institute, 2008). Unlike other work teams which are continuous and operational in nature, project's team trust, team cohesion, team satisfaction and team effectiveness might be more difficult to form or observe due to temporary nature of the project team.

Problem statement of this study is lack of understanding and empirical result on what are the team outcome factors that predict project team effectiveness in a multi-ethnical and multi-cultural Malaysia context. Research objective for this study is to explore what are the team outcome factors that predict project team effectiveness as perceived by project managers in Malaysia. Research questions for this study include: (a) What are the team outcome factors that predict project team effectiveness? (b) Which is the most important predictor for project team effectiveness? Knowledge contribution of this study includes: (a) provides understandings on what and how team outcome factors predict project team effectiveness in a Malaysia context, (b) enable management and project managers to focus on activities or tasks that can improve project's team trust, team cohesion and team satisfaction as these team outcome factors can impact the overall project team effectiveness

2. LITERATURE REVIEW AND RESEARCH MODEL

2.1. Project Team Effectiveness

According to Cohen and Bailey (1997) team effectiveness is a function of the following four categories of factors which include: (a) environmental factors, (b) design factors, (c) group processes, and (d) group psychosocial traits. Within team effectiveness, it is divided into three major dimensions which include: (a) performance outcomes, (b) attitudinal outcomes, and (c) behavioral outcomes. Performance outcomes include efficiency, productivity, response times and quality. Attitudinal outcomes cover employee satisfaction and trust in management, whereas behavioral outcomes include absenteeism, turnover and safety. The following Figure 1 depicts the Cohen and Bailey (1997) Team Effectiveness Framework.

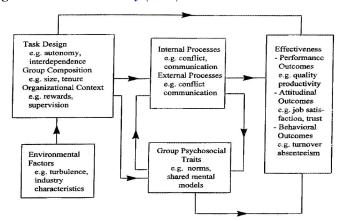


Figure-1. Cohen and Bailey (1997) Team Effectiveness Framework

Despite Cohen and Bailey (1997) and Pinto (2007) had postulated that team effectiveness consists of performance, attitudinal and behavioral outcomes, there is another school of thought proposed that performance, attitudinal and behavioral outcomes can be independent constructs on their own which are not subset of team effectiveness (Hoevemeyer, 1993; Hoegl and Gemuenden, 2001; Finnegan, 2002; McShane and Travaglione, 2003; Quick and Nelson, 2009). These constructs can relate to team effectiveness whereby it is also a separate construct on its own (Hoevemeyer, 1993; Hoegl and Gemuenden, 2001; Finnegan, 2002; McShane and Travaglione, 2003; Quick and Nelson, 2009). Based on the second school of thought, definition of team effectiveness can exclude performance, attitudinal and behavioral outcomes. Hoevemeyer (1993), criteria for team effectiveness include: (a) team mission, (b) goal achievement, (c) empowerment, (d) open and honest communication, and (e) positive roles and norms. These team effectiveness criteria excluded the performance, attitudinal and behavioral outcomes as stipulated by Cohen and Bailey (1997). However, these five criteria are in line with Cohen and Bailey (1997) factors which directly contributing to effectiveness. For example, team mission and goal achievement are corresponding to design factors. Empowerment, open and honest communication is corresponding to group processes, while positive roles and norms are corresponding to group psychosocial traits.

This study underpinned on Cohen and Bailey (1997) Team Effectiveness Framework. However, team attitudinal and behavioral outcomes are separated from team effectiveness. Despite the separation, there is still lack of study on how attitudinal and behavioral outcomes predict project team effectiveness. Hence, it is the intent of this study to do so whereby a research model is developed. The independent variables consist of attitudinal and behavioral outcomes or collectively termed as team outcome factors which include: (a) team trust, (b) team cohesion, and (c) team satisfaction. Both team trust and team satisfaction are examples of attitudinal outcomes whereas team cohesion is an instance of behavioral outcomes (Quick and Nelson, 2009). In this study, Project Team Effectiveness is defined as the project manager's perception on team members' performance in task completion, goal achievement, empowerment, information sharing

and team's ability to create and sustain a good working environment (Bourgault et al., 2008). From literature, trust together with other factors like conflict resolution, effective interpersonal communication and leadership can influence team effectiveness (Alexander, 1985; Starcevich, 1993). However, there is still lack of evidence whether team trust, team cohesion and team satisfaction can directly or indirectly predict project team effectiveness in Malaysia.

2.2. Team Trust

In this study, Team Trust is defined as a project manager's perception on the willingness of a team member (e.g. named A) to be vulnerable to the actions of other team members based on the expectation that the other team members will perform a particular action important to the trustor (i.e. A), irrespective of the ability to monitor or control of the other team members (Mayer et al., 1995). According to Ring (1996) successful trust experience can encourage project team members to collaborate, network and innovate. Also according to Cook et al. (1997), when trust increases it will promote sharing of more personal information among team members. This will increase interaction patterns, improve problem solving and productivity. Trust is even more important to project managers as they try to motivate team members to accomplish their tasks and achieve the project goals. According to Pinto (2007), trust is a common denominator for other behaviors like appreciation and cohesion. Low cohesiveness is associates with lack of trust in newly formed teams (Yukl, 2010). According to Costa (2003), trust was associated with both perceived task performance and team satisfaction. From literature, team trust did have influence on project success in a non-Malaysia context (Mumbi, 2007). Mumbi (2007) research was focusing on virtual team trust in which team members were working from dispersed locations whereas this study intends to cover both virtual and on-site teams within Malaysia. Trust in team member significantly impacts on both team performance and collective efficacy (Chuang et al., 2004). Also according to Chuang et al. (2004), leadership style has significant indirect effects on both team performance and collective efficacy via trust in team member. Webber (2008) also postulated that client trust in project manager did influence team trust, team cohesion and team performance. Nevertheless, there is still lack of research on how team trust can predict team cohesion, team satisfaction and project team effectiveness in Malaysia context. Hence, following hypotheses are proposed.

H1: Team Trust positively predict Team Cohesion

H2: Team Trust positively predict Team Satisfaction

H3: Team Trust positively predict Project Team Effectiveness.

2.3. Team Cohesion

Team Cohesion is defined as a project manager's perception on the degree of attractiveness of a team to its members and the closeness of the interpersonal bonds between team members (Cook et al., 1997). The more cohesive within a team, the more effective the team members will meet their needs. They will also demand better conformity from each others to meet the team's needs.

Team cohesion is found to give rise to many desirable traits in groups and linked to many positive outcomes e.g. problems awareness, inclination to change, enhanced motivation, increased morale, better decision making and greater creativity (Budman et al., 1993; Chidambaram, 1996). From literature, team cohesion influenced project success (Larson and Gobeli, 1989) and team effectiveness in a non-project setting (McShane and Travaglione, 2003). However, Pinto (2007) posited that team cohesion is one of the key characteristics of an effective project team. According to Cook et al. (1997), Robbins and Judge (2008), Quick and Nelson (2009), high team cohesion will have positive impact on non-project team's productivity, job satisfaction and growth. High cohesive teams also tend to have more uniform or standard output among its team members as they adhere closely to the production norms. Moreover, knowledge sharing behavior mediates the relationship between team cohesion and individual performance (Woerkom and Sanders, 2009). However, it is not clear whether team cohesion also predict team satisfaction and team effectiveness in a Malaysian project setting whereby project resource and duration are the constraints. Thus, the fourth and fifth hypotheses of the study are:

H4: Team Cohesion positively predict Team Satisfaction

H5: Team Cohesion positively predict Project Team Effectiveness

2.4. Team Satisfaction

Team satisfaction is defined as a project manager's perception on how team members feel about events within the project team which includes satisfaction with project works, satisfaction with team members and satisfaction with being part of the project team (Dailey, 1993; Nguyen et al., 2008). This definition is derived from Vroom (1964) definition of job satisfaction which refers to a worker's affective orientation towards his or her work roles. According to Parker and Case (1993), Quick and Nelson (2009), job satisfaction reflects an employee's overall predisposition towards work and the organization. Employees with positive attitudes are often productive workers. An attitude is an expression of feelings about people, objects, activities and events (Parker and Case, 1993; Quick and Nelson, 2009). Poor attitudes can cause employees to work less effectively and in extreme cases can lead to sabotage or undermine certain processes and systems. Job satisfaction level can be important barometers of morale levels and organizational success (Parker and Case, 1993). Hence, it is important for managers to monitor these barometers. Decreasing morale and job satisfaction levels may be indications of more serious problems of unethical behavior. Human behaves differently when progressing from individual to group or organization levels (Quick and Nelson, 2009). According to Judge et al. (2001), Harter et al. (2002), progressing upward from individual to organizational level shows that job satisfaction is correlated with job performance. However, it is not clear whether team satisfaction can predict team effectiveness in a Malaysian project setting whereby project resource and duration are the constraints. In this study, it is posited that team satisfaction will influence project team effectiveness. Thus, the sixth hypothesis is:

H6: Team Satisfaction positively predict Project Team Effectiveness

2.5. Research Model

The following Figure 2 illustrates the research model developed for this study.

Team Trust

H3 +

Team
Satisfaction

H6 +

Project Team
Effectiveness

Figure-2. Research Model of this Study

Both team trust and team satisfaction are examples of team attitudinal outcomes which are hypothesized to predict project team effectiveness. Team cohesion is an example of team behavioral outcome which is hypothesized to predict project team effectiveness directly and indirectly via team satisfaction

3. METHODOLOGY

3.1. Procedure and Sample

Based on the deductive research question of this study, cross sectional quantitative research with online survey method was used. Emails embedded with questionnaire's hyperlink were sent out to all the 420 target respondents (project managers) from Project Management Institute (PMI) Malaysia Chapter. PMI Malaysia Chapter is a premier representative body of project management in Malaysia and it has the national e-mailing list of experienced and certified project managers. PMI is a global not-for-profit association for project management professionals that have presence in many countries including Malaysia. PMI has over 350,000 members worldwide and it was established in 1969 with headquarter outside Philadelphia, USA (Project Management Institute, 2008). Reasons to use responses from project managers instead of project team members are: (a) there is a bias view from team members whereby team members attribute negative project outcome to external factors while attributing success to themselves (Standing et al., 2006), (b) team members do not have vested interest in team performance compare to project manager whereby project manager normally adopt a more balanced view which attributes team success to external factors and only partially to themselves, while also assume significant personal responsibility for project team failure or any negative outcome (Standing et al., 2006), (c) collecting data from previous project team members is challenging as more tedious efforts are required to track them and this may not be feasible as they may had been disbanded, not contactable or too busy being involved in other projects (Webber, 2002).

Out of the total 420 respondents, only 48% had responded with useable sample of 201.

Sample's margin of error at 95% confidence is 6.9% based on the formula 0.98√n whereby "n" is the sample size i.e. 201. Among 201 respondents, 79% (159) of them were male and 81% (162) of them aged between 30 and 49 years. Sixty two percents of the respondents had more than 10 years project management experience and 93% of them hold a Bachelor or higher degrees. Sixty one percent of respondents were in firms with more than 500 employees. Ninety six percent of the respondents were project managers, the balance 4% consisted of project sponsor, quality manager, purchasing director and support manager who were involved in project management. In the online survey, respondents were requested to fill up the questionnaire based on a project that they had completed recently, regardless whether the project outcome was positive or negative. More than half of the projects completed were in chemical / petroleum, construction, financial and information communication technology (ICT) industries and cost more than Ringgit Malaysia five million each. Eighty two percents of the projects took less than two years to complete and each project has an average of 10 team members.

3.2. Constructs' Measurement

The following Table 1 depicts the measurement of all the constructs used in this study:

No.	Construct	Item Quantity	Scale	Measuring Instruments
1.	Project Team Effectiveness	20	7 pt- Likert	Adapted from Hoevemeyer (1993)
2.	Team Trust	8	7 pt- Likert	Adapted from Pearce et al. (1992)
3.	Team Cohesion	8	7 pt- Likert	Adapted from Short et al. (2005)
4.	Team Satisfaction	7	7 pt- Likert	Adapted from Job Descriptive Index (JDI) by Smith <i>et al.</i> (1969)

Table-1. Sources of Constructs

All constructs were measured using Likert scales (ranging from 1 to 7) with anchors ranging from "Strongly Disagree" to "Strongly Agree".

4. RESULTS

4.1. Reliability and Validity

Albeit Cronbach's Alpha is widely used as an estimator for reliability tests, it has been criticized for its lower bound value which underestimates the true reliability (Peterson and Kim, 2013). Composite Reliability can be used as an alternative as its composite reliability value is slightly higher than Cronbach's Alpha whereby the difference is relatively inconsequential (Peterson and Kim, 2013). In this study, Composite Reliability and Cronbach's Alpha for all constructs were above 0.7 which indicated that there was high reliability (see Table 2). Convergent validity was assured in the study because the Average Variance Extracted (AVE) for each construct was larger than 0.5. In Table 3, correlation between pairs of constructs was below

0.9 and the square roots of AVEs (highlighted in bold) were listed in the diagonal line of the table. Correlation between pairs of constructs below 0.9 indicated there was no common method bias (Bagozzi *et al.*, 1991). Common method bias occurs when there is a variance attributable to the measurement method instead of the constructs that the measures try to represent (Podsakoff *et al.*, 2003). Any highly correlated constructs are evidence of common method bias whereby usually results in extremely high correlations i.e. more than 0.9 (Bagozzi *et al.*, 1991). Except square roots of both TT's AVE (0.78) and TC's AVE (0.81) which were lower than TC-TT's Correlation (0.84) as well as square root of TS's AVE (0.80) which was the same as TS-TC's Correlation (0.80), generally square roots of other AVEs were higher than the correlations between constructs indicated the existence of dicriminant validity.

Table-2. Reliability and Average Variance Extracted (AVE)

Construct	Composite Reliability	Cronbach's Alpha	AVE	
Project Team Effectiveness	0.91	0.89	0.60	
Team Trust	0.90	0.87	0.60	
Team Cohesion	0.93	0.91	0.66	
Team Satisfaction	0.93	0.91	0.64	

Table-3. Descriptive Statistics, Correlations and Square Roots of AVEs (Diagonal Line)

Construct	Mean	Std Dev	PTE	ТТ	тс	TS
Project Team Effectiveness (PTE)	5.67	0.66	0.78			
Team Trust (TT)	5.70	0.73	0.72***	0.78		
Team Cohesion (TC)	5.35	0.90	0.66	0.84***	0.81	
Team Satisfaction (TS)	5.54	0.76	0.66*	0.75**	0.80***	0.80

^{***} p < 0.001 (2-tailed); ** p < 0.01 (2-tailed), * p < 0.05 (2-tailed)

4.2. Normal Distribution

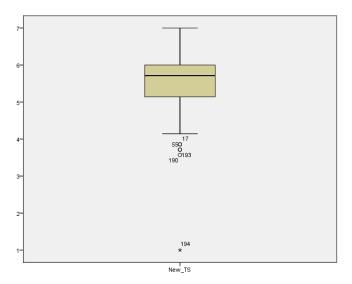
Partial Least Squares (PLS) were used as part of the statistical analysis in this study. Despite normality test is not required as PLS can handle sample data sets which are not normal (Chin, 1998; Gefen et al., 2000), it is insightful to find out whether the data sets collected are normal or not. Normality test via Statistical Package for Social Sciences (SPSS) was conducted on each construct to evaluate whether the data was forming a normal distribution curve. According to Chua (2008), data is normally distributed when each construct's skewness and kurtosis magnitude is less than 1.96. Table 4 depicts both the skewness and kurtosis information for all the constructs.

	Table-4.	Skewness	and	Kurtosis
--	----------	----------	-----	----------

Construct	Skewness	Kurtosis
Project Team Effectiveness	0.08	0.25
Team Trust	- 0.33	0.17
Team Cohesion	- 0.46	0.87
Team Satisfaction	- 1.38	6.12

Magnitude of skewness and kurtosis for all constructs were < 1.96 except Team Satisfaction whereby its kurtosis of 6.12 indicated a distribution that was peaked or leptokurtic. The following Figure 3 shows the boxplot of Team Satisfaction which had one extreme score (labeled with asterisk *) and four outliers (labeled with circle). Nevertheless, the median (represented by the box's horizontal line) was still positioned within the box indicated the distribution was still normal. Based on all the evidence mentioned above, it was concluded that all constructs were normally distributed.

Figure-3. Boxplot for Team Satisfaction



4.3. Hypotheses Testing

Smart PLS v2 was used to perform the path analysis. According to Hsu *et al.* (2007), project team size and project duration might influence project performance. In order to prevent any possible interference from demographic factors, project team size and project duration were incorporated as control variables. The analysis results were shown in Figure 4. Hypotheses H1, H2 and H3 were supported i.e. Team Trust is positively predicting Team Cohesion (b = .84, p < .001), Team Satisfaction (b = .25, p < .01) and Project Team Effectiveness (b = .45, p < .001). Hypothesis H4 was also supported i.e. Team Cohesion is positively predicting Project Team Satisfaction as the relationship is significant (b = .59, p < .001). However, Team Cohesion does

not predict Project Team Effectiveness directly (b = .04, p > .05), hence hypothesis H5 was not supported. Nevertheless, Team Satisfaction is positively predicting Project Team Effectiveness (b = .30, p < .01), hence hypothesis H6 was accepted.

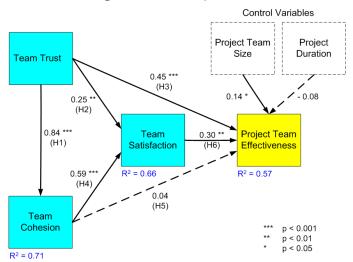


Figure-4. Path Analysis Result

5. DISCUSSION

As hypothesized, when project team trust is high, this will improve team cohesion, team satisfaction and project team effectiveness in Malaysia. At the same time, team satisfaction is also predicted by team cohesion. The intervention of team satisfaction can improve project team effectiveness. Insignificant relationship between team cohesion and project team effectiveness suggests that team cohesion alone cannot predict project team effectiveness directly but rather mediating by the team satisfaction.

There are some lessons learnt from this study. Firstly, team trust is directly predicting project team effectiveness. This finding is in line with what Chuang et al. (2004), Mumbi (2007) and Webber (2008) had discovered whereby team trust or client trust will have direct impact on project team performance. Hence, in order to build an effective team as well as getting the team members "buy-in", a project manager needs to develop trust among team members as well as trustworthiness with the project team.

Team trust is also directly predicting team satisfaction as evidenced in this study. Higher the team trust, higher will be the team interaction, collaboration and sharing of more information whereby these will increase the level of team satisfaction. According to Theory of Reciprocity (Falk and Fischbacher, 2000) which suggested that people will respond kindness or positive reactions when they received kind actions from the other party. People will punish or provide negative reactions when they received unkind actions from the other party. Hence, the more satisfied a project team is, team members will respond with more positive reactions like exerting more effort, improving productivity, engaging more in problem solving and others which can

significantly improve project team effectiveness. This observation is in line with previous studies conducted by Judge *et al.* (2001) and Harter *et al.* (2002) who had concluded that when moving up from individual to team or organizational level, job satisfaction is always correlating with job performance whereby job satisfaction is one aspect of team satisfaction in a project context. Lesson learnt for a project manager is in order to make the team feels satisfied, he or she must promote team trust first within the team.

In this study, with 0.84 regression weight team trust is predicting team cohesion more importantly than project team effectiveness and team satisfaction. This finding complements the understanding posited by Pinto (2007), Webber (2008) and Yukl (2010) that cohesion is correlates with trust. When team trust is high, project team members can interact, collaborate and share more information among themselves which in turn makes the team looks more attractive, homogeneous (similar) and capable of developing a closeness of interpersonal bonds among themselves. When this happens, team cohesion will increase. This observation is also in line with what McShane and Travaglione (2003) had mentioned that member interaction and member similarity are two of the causes for team cohesion. Even though team trust is significantly predicting team cohesion, however team cohesion is not a predictor for project team effectiveness.

There might be reasons why team cohesion is not directly predicting project team effectiveness but rather mediated by team satisfaction. According to Dailey (1993), one of the drawbacks of team cohesion is the proliferation of groupthink. When team members are too cohesive, they will voluntarily conform to established norms or behaviors within the team, regardless of whether those norms or behaviors are negatively impacting project team effectiveness. Pinto (2007) also pointed out that when some team behaviors are dysfunctional, these will render project team failure. Corrective steps need to be taken in order to address these dysfunctional behaviors which include the removal of team members from the project team. Based on this finding, a project manager needs to be cautious when a project team is cohesive. The project manager needs to utilize all the resources at his or her disposal, including performance appraisal, recognition, reward systems and others to induce the team to achieve project team goals.

This study also shows that the more cohesive a project team, the higher will be the team satisfaction. This finding supports the same findings of Cook *et al.* (1997), Robbins and Judge (2008), Quick and Nelson (2009) who had suggested that team cohesion will have positive impact on job satisfaction. When the team satisfaction is high as well as applying the Theory of Reciprocity (Falk and Fischbacher, 2000), team productivity will increase which will eventually improve project team effectiveness. Since team satisfaction is predicting project team effectiveness, it is important for a project manager to promote team satisfaction in his or her project team whereby he or she can do so by promoting more team trust and team cohesion.

The outcome of this study also enables management and project managers to focus more on activities or tasks that can improve team trust, team cohesion and team satisfaction which include

team building, conflict resolution, leadership roles and team design with reasonable team size and composition. All these might directly and indirectly predict project team effectiveness. With regard to the two control variables included in the research model, only project team size is significantly related to project team effectiveness. The exact role of project team size and its relationships with other constructs remain interesting research for the future.

Lastly, despite team attitudinal and behavioral outcomes are interrelated in predicting project team effectiveness; the result of this study indicates that team cohesion which represents team behavioral outcomes is not directly predicting project team effectiveness. Hence, other constructs within team behavioral outcomes like team conflict, absenteeism, turnover and others can be considered in future research.

In answering the research question on what is the team outcome factors that predict project team effectiveness, this study demonstrated that team cohesion did not predict project team effectiveness whereas team trust and team satisfaction were directly and positively predicting project team effectiveness. As for which is the most important predictor for project team effectiveness, it can be observed from Figure 4 above that team trust with 0.45 regression weight was the most important predictor for project team effectiveness.

6. CONCLUSION

Today, more and more project teams are formed to achieve organizational objectives as organizations generally recognized the importance and benefits of project teams. However, in order to ensure project teams perform effectively, management and project managers need to focus on team trust and team satisfaction. They need to design and deploy a series of activities or tasks that can help improve these two team outcome factors. Based on a sample of 201 respondents, this empirical study had concluded that team cohesion is important but will not directly improve project team effectiveness but rather indirectly via team satisfaction. There are limitations in this study and opportunities for future research. Firstly, qualitative interview and data analysis can be conducted with project managers to understand how and why team trust, team cohesion and team satisfaction are directly and indirectly predicting project team effectiveness as this will provide deeper insight for knowledge contribution. Secondly, this study only surveyed the views of project managers. Future study can include project team members as part of the respondents to evaluate their views as well. Thirdly, only team trust and team satisfaction were used to represent team attitudinal outcomes whereby other attitudinal outcomes like team commitment, team loyalty, team expectation and others can be included in future research. Likewise, other team behavioral outcomes like team conflict, absenteeism, turnover, safety and others can be included in future research instead of only team cohesion. Last but not least, only team outcome factors are used to evaluate their impact on project team effectiveness whereby future studies can include other factors as specified in Cohen and Bailey (1997) Team Effectiveness Framework e.g. design factors, team processes, psychosocial traits and others. In conclusion, this study had contributed a small step into deeper understanding on how team

outcome factors are predicting project team effectiveness in Malaysia. It is also interesting to know through future study how this research model and findings can generalize to other project teams in different countries.

REFERENCES

- Alexander, M., 1985. The team effectiveness critque, the 1985 annual: Developing human resources.

 University Associates. Available from http://74.125.153.132/searchq=cache:AFYkkxqZX1cJ:myeducationmanager.com/Ebooks/THE

 TEAM EFFECTIVENESS CRITIQUE.doc+Mark+Alexander+the+team+effectiveness+critique

 e&cd=1&hl=en&ct=clnk&gl=my [Accessed January 2010].
- Bagozzi, R.P., Y. Yi and L.W. Phillips, 1991. Assessing construct validity in organizational research.

 Administrative Science Quarterly, 36(3): 421-458.
- Belbin, M., 1993. Team roles at work. Butterworth/Heinemann 0750609257.
- Bourgault, M., N. Drouin and E. Hamel, 2008. Decision making within distributed project teams: An exploration of formalization and autonomy as determinants of success. PMI Project Management Journal, 39(Supplement): S97-S110.
- Budman, S.H., S. Soldz, A. Demby, M. Davies and J. Merry, 1993. What is cohesiveness? An empirical examination. Small Group Research, 24(2): 199-216.
- Chidambaram, L., 1996. Relational development in computer-supported groups. MIS Quarterly, 20(2): 143-166.
- Chin, W.W., 1998. The partial least squares approach to structural equation modeling, In G. A. Marcoulides (Ed.). Modern methods for business research. Mahway, New Jersey: Lawrance Erlbaum Associates. pp: 295-336.
- Chua, Y.P., 2008. Basic research statistics Book3 (In Malay version). McGraw-Hill Companies, Inc.
- Chuang, W.W., H.W. Chou and Y.J. Yeh, 2004. The impacts of trust, leadership and collective efficacy on cross-functional team performance. Proceedings of the Second Workshop on Knowledge Economy and Electronic Commerce, Oct 2-3, Taiwan.
- Cohen, S.G. and D.E. Bailey, 1997. What makes teams work: Group effectiveness research from the shop floor to the executive suite. Journal of Management, 23(3): 239-290.
- Cook, C.W., P.L. Hunsaker and R.E. Coffey, 1997. Management and organizational behavior. McGraw-Hill Companies, Inc.
- Costa, A.C., 2003. Work team trust and effectiveness. Personnel Review, 32(5): 605-622. DOI 10.1108/00483480310488360.
- Dailey, R.C., 1993. Organizational behavior. Pitman Publishing. pp: 15-21.
- Falk, A. and U. Fischbacher, 2000. A theory of reciprocity. Institute for empirical research in economics.

 University of Zurich, Working Paper No. 6, ISSN 1424-0459.
- Finnegan, A.M., 2002. Teamwork in Australia middle management: A study to investigate attitude of team members, team member effectiveness perception and team environment. PhD Thesis, University of Western Sydney, Australia.

- Gefen, D., D.W. Straub and M.C. Boudreau, 2000. Structural equation modeling and regression: Guidelines for research practice. Communications of AIS, 4(7).
- Gladstein, D.L., 1984. Group in context: A model of task group effectiveness. Administrative Science Quarterly, 29: 499-517.
- Harter, J.K., F.L. Schmidt and T.L. Hayes, 2002. Business-unit level relationship, between employee satisfaction, employee engagement and business outcomes: A meta-analysis. Journal of Applied Psychology: 268-279.
- Hoegl, M. and H.G. Gemuenden, 2001. Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. Organization Science, INFORMS, 12(4): 435-449.
- Hoevemeyer, V.A., 1993. How effective is your team? Training and Development, 47(9): 67-71.
- Hsu, J.S.C., J.J. Jiang, N. Parolia and G. Klein, 2007. The impact of team mental models on IS project teams' information processing and project performance. EProceedings of the 2nd International Research Workshop on Information Technology Project Management (IRWITPM), Montreal, Quebec, Canada.
- Judge, T.A., C.J. Thoresen, J.E. Bono and G.K. Patton, 2001. The job satisfaction-job performance relationship: A qualitative and quantitative review. Psychological Bulletin: 376-407.
- Larson, E.W. and D.H. Gobeli, 1989. Significance of project management structure on development success. IEEE Transactions on Engineering Management, 36(2): 119-125.
- Mayer, R.C., J.H. Davis and F.D. Schoorman, 1995. An integrated model of organizational trust. Academy of Management Review, 20: 709-739.
- McShane, S. and T. Travaglione, 2003. Organizational behavior on the pacific rim. Australia: McGraw-Hill.
- Mumbi, C.K., 2007. An investigation of the role of trust in virtual project management success. PhD Thesis, Murdoch University, Australia.
- Nguyen, N.T., A. Seers and N.S. Hartman, 2008. Putting a good face on impression management: Team citizenship and team satisfaction. Journal of Behavioral and Applied Management, 9(2): 148-168.
- Parker, C. and T. Case, 1993. Management information systems: Strategy and action. Watsonville, CA: Mitchell McGraw-Hill.
- Pearce, J.L., S.M. Sommer, A. Morris and M. Frideger, 1992. A configurational approach to interpersonal relations: Profiles of workplace social relations and task interdependence. Working paper. Graduate School of Management, University of California, Irvine, CA.
- Peterson, R.A. and Y. Kim, 2013. On the relationship between coefficient alpha and composite reliability. Journal of Applied Psychology, 98(1): 194-198. DOI 10.1037/a0030767.
- Pinto, J.K., 2007. Project management: Achieving competitive advantage. New Jersey: Pearson Education, Inc.
- Podsakoff, P.M., S.B. MacKenzie, J.Y. Lee and N.P. Podsakoff, 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88(5): 879-903.
- Project Management Institute, 2008. A guide to the project management body of knowledge (PMBOK guide) 4th Edn., Newtown Square, PA: Project Management Institute, Inc.

- Quick, J.C. and D.L. Nelson, 2009. Principles of organizational behavior realities and challenges. 6th Edn., South-Western: Cengage Learning.
- Ring, P.S., 1996. Fragile and resilient trust and their roles in economic exchange. Business and Society, 35(2): 148-175.
- Robbins, S.P. and T.A. Judge, 2008. Essentials of organizational behavior. 9th Edn., Pearson, New Jersey: Upper Saddle River.
- Short, J.C., G. Piccoli, A. Powell and B. Ives, 2005. Investigating multilevel relationships in information systems research: An application to virtual teams research using hierarchical linear modeling.

 Journal of Information Technology Theory and Application (JITTA), 7(3): 1-26.
- Smith, P.C., L.M. Kendall and C.L. Hulin, 1969. The measurement of satisfaction n work and retirement. Skokie, IL: Rand McNally.
- Standing, C., A. Guilfoyle, C. Lin and P.E.D. Love, 2006. The attribution of success and failure in IT projects. Industrial Management & Data Systems, 106(8): 1148-1165.
- Starcevich, M.M., 1993. A model of an effective team. Available from http://www.learningunlimited.com/uploads%5C270.pdf [Accessed January 2010].
- Vroom, V.H., 1964. Work and motivation, New York: John Wiley and Sons. pp. 99.
- Webber, S.S., 2002. Leadership and trust facilitating cross-functional team success. Journal of Management Development, 21(3): 201-214.
- Webber, S.S., 2008. Blending service provider client project teams to achieve client trust: Implications for project team trust, cohesion and performance. PMI Project Management Journal, 39(2): 72-81.
- Woerkom, M.V. and K. Sanders, 2009. The romance of learning from disagreement the effect of cohesiveness and disagreement on knowledge sharing behavior and individual performance within teams. Journal of Business and Psychology. Available from http://www.springerlink.com/content/701t381632k71113/fulltext.pdf [Accessed January 2010].
- Yukl, G., 2010. Leadership in organizations. 7th Edn., Upper Saddle River, NJ: Prentice-Hall.

Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Business, Economics and Management shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.