**The Influence of Team Building & Participation on Team Trust, Team Cohesion and Project Performance among Project Managers in Malaysia**

**Fung Han-Ping**

*Hewlett-Packard Malaysia*

**Sheila Cheng**

*Asia e University*

**Abstract**: Forming project teams to implement various services are prevalent in many organizations today as organizations believe a project team’s performance exceeds the total sum of individual outputs. According to Project Management Institute (PMI), one of the critical interpersonal skills expecting from a project manager is team building as this skill can motivate the team to achieve the project goals. However, there is limited study to evaluate how team building & participation can influence team trust, team cohesion and project performance among project managers in Malaysia. This study has developed a research model extended from the research work conducted by Cohen and Bailey (1997). Based on the data collected and analysis conducted, this study provides empirical evidence that project managers need to initiate more team building & participation sessions as these can increase the team trust and improve the project performance. Moreover, project managers also need to promote team trust as this can improve team cohesion. However, project managers also need to be mindful about the negative consequence when their project teams are too cohesive. At the same time project managers need to manoeuvre wisely the project team size and project duration so that these two factors are not negatively impacting the team cohesion and the project performance. The outcome of this study has shed some lights in explaining the relationships among attitudinal, behavioral and performance outcomes derived from Cohen and Bailey (1997). Moreover, this study also provided some guidance to project managers how to improve team trust and project performance through team building & participation. Discussion, conclusion, limitation and future research are also incorporated in this paper.

**Keywords**: Project Manager, Team Building & Participation, Team Trust, Team Cohesion, Project Performance.

**1. Introduction**

Today, many organizations are forming project teams to implement various services across different industries around the world. Reason being organizations believe a project team’s performance is far exceeding the sum of individuals’ uncoordinated outputs (Belbin, 1993). Typically, a project team consists of numerous team members managing by a project manager. According to PMI (2013), team building is one of the critical interpersonal skills of a project manager. This is because project managers only can complete their projects through project team members and other stakeholders. In order to motivate their team to complete the project on time, within cost and according to agreed scope, project managers need to build up their team to achieve these goals (PMI, 2013).

According to Cohen and Bailey (1997), process factors can directly impact effectiveness outcomes which are categorized into attitudinal, behavioral and performance outcomes at the same time. However, there is a lack of study on how the dependencies are formed among these three categories of outcomes in relationship with the process factors. Moreover, project management literature is generally silent on how team building & participation influence team trust, team cohesion and project performance in a generally multi-ethnical and multi-cultural Malaysia setting. According to Cohen and Bailey (1997), process factors include examples like communication, conflict management, team building and others. Attitudinal outcomes include job satisfaction, job commitment, trust and others. Behavioral outcomes cover team cohesion, absenteeism, turnover and others. Lastly, performance outcomes include quality of work, productivity, project performance and others. It is challenging, if not impossible to study all attitudinal, behavioral and performance outcomes in one single study. Hence, it is more realistic to select several constructs representing process factors, attitudinal, behavioral and performance outcomes in one study. Based on this rationale, team building & participation is selected to represent Cohen and Bailey’s (1997) process factors. Team trust and team cohesion was respectively chosen to represent attitudinal and behavioral outcomes. Lastly, project performance is selected to represent the performance outcomes.

The problem statement of this study was the lack of empirical evidence on how team building and participation influenced team trust, team cohesion and project performance in a multi-ethnical and multi-cultural Malaysia. This study was crucial as many organizations in Malaysia have invested a lot of efforts and capital in order to achieve the desired project objectives. Moreover, project time is normally limited, and the team needs to build up trust and cohesion quick enough to deliver the required project performance. This situation is different from ongoing or operational teams in which they face less stringent requirement on time deadlines. In light of these concerns, the objective of this study was to identify the relationships among team building & participation, team trust, team cohesion and project performance as perceived by project managers in Malaysia.

Following were the research questions of this study:

1. Can team building & participation influence team trust, team cohesion and project performance at the same time in Malaysia?
2. Can team trust influence team cohesion?
3. Can team trust influence project performance?
4. Can team cohesion influence project performance?

**2. Literature Review and Hypotheses**

**2.1 Team Building & Participation**

Team building is an important interpersonal skill for project managers (PMI, 2013). According to PMI (2013, p. 513), team building refers to *“process of helping a group of individuals, bound by a common sense of purpose, to work interdependently with each other, the leader, external stakeholders and the organization”*. Some organizational managers encourage team building activities to resolve conflicts within the team in order to maintain the team performance. According to Cook, Hunsaker and Coffey (1997), team building consists of all activities aimed to improve team members’ problem solving ability through means of resolving both task and interpersonal issues that hampered the team’s functionality.

Based on literature, there are no commonly accepted set of team building activities. Team building activities can range from 5 minutes status review to an offsite retreat to improve interpersonal relationships (PMI, 2013). Guiney (2009) asserts that team building consists of many activities, in which the most frequent activities include the following:

1. Proper staffing of the team
2. To plan the project with the team
3. To build commitment amongst team members
4. To develop strong communication channels
5. To ensure the support of senior management
6. To empower team members
7. To develop organizational interface
8. To manage conflict
9. To conduct team building sessions
10. To stimulate enthusiasm
11. To define work structure
12. To build a positive project image

According to Schermerhorn, Hunt and Osborn (2008), team building is a process that encompasses five evolving steps which include: (1) problem or opportunity identification, (2) data gathering and analysis, (3) planning for improvement, (4) actions for improvement, and (5) evaluation of results. Team building is not only important during initial stages of a project but should also be adopted as a never-ending process throughout the entire project cycle (PMI, 2013). The entire team building process should be highly collaborative that encourages and promotes active participation of each member in every step in order to achieve the expected result. However, there may be occasions where team members did not fully participate and follow through the required post-team building activities. As a result, the team members would still fail to achieve the desired objectives and benefits, despite undergoing the team building activities.

The variable team building & participation in this study was adapted from PMI (2013) and is defined as the process of helping a team of individuals bound with a shared goal to participate and work interdependently with other team members in completing a project.

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, Davis & Schoorman, 1995). Successful trust experience can encourage project team members to collaborate, network and innovate (Ring, 1996). When trust increases, it will promote sharing of more personal information among team members (Cook et al., 1997) and in return, 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 objectives.

Based on Cohen and Bailey’s (1997) study, process factors like team building & participation can directly influence attitudinal outcomes like team trust. According to PMI (2013), team building can be further improved by activities like top management support, leadership, provision of rewards and recognitions, effective conflict management as well as trust promotion. In other words, trust might be precursor of team building. However, PMI (2013) also stipulated that team building outcomes include many items in which one of them is mutual trust. Thus, team building appears to be related to trust building, though it is unclear whether team building & participation will influence team trust within project teams in Malaysia. Hence, the following hypothesis was proposed:

*Hypothesis 1: Team Building & Participation can positively influence Team Trust.*

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 a., 1997).The more cohesion within a team, the more effective the team members will meet their needs. They can also demand better conformity from each member to meet the team’s needs. Team cohesion can contribute to positive group outcomes which include problems awareness, greater creativity, enhanced motivation, increased morale, better decision making and inclination to change (Budman, Soldz, Demby, Davies & Merry, 1993; Chidambaram, 1996).

Based on literature, process factors like team building & participation can influence team cohesion which is one example of behavioral outcomes (Cohen & Bailey, 1997; Quick & Nelson, 2009). Dyer (1977) also argues that one of the primary objectives of team building is to increase cohesion, mutual cooperation and identification with the group. This suggests that team building & participation can potentially influence team cohesion. Moreover, sources of cohesiveness are similar to team building outcomes. Cook et al. (1997) argue the reason for this is that sources of cohesiveness include: (1) when the group’s goals are defined clearly and compatible with member needs, (2) when the group size is small, (3) the existence of charismatic leader, (4) when the group is “attacked” by external “enemies”, (5) when the group membership belongs to high status privilege group, and (6) when competition is not happening within the group. Based on the above arguments, the second hypothesis of this study was:

*Hypothesis 2: Team Building & Participation can positively influence Team Cohesion.*

2.4 Project Performance

In this study, project performanceunderpins the Stakeholder Requirement Theory in which it is defined as the degree of project delivery that meets stakeholders’ requirements on a negotiated time, within negotiated budget, meeting specific quality requirements and accepted by customers (Gallegos, Senft, Manson & Gonzales, 2004; Shenhar, 2004; Parsons, 2006). Project performance was adopted in this study, instead of project success, because project performance only covers the stages of planning, production and handover as indicated by Munns and Bjeirmi (1996) in their stage two to four of project lifecycle. On the contrary, project success refers to all the six stages from conception, planning, production, handover, utilization to close down. Project performance is only a subset of project success, whereby project success also incorporates time, budget, scope, satisfaction, welfare of client, technical and organizational validity and contribution to organizational effectiveness (Pinto & Slevin, 1988).

According to Cohen and Bailey (1997), process factors can directly influence performance outcomes. In other words, team building & participation which is represents process factors should have direct influence over project performance – this is an example of performance outcomes. However, based on literature governing project management in Malaysia, there is still a lack of research on how team building & participation can influence project performance. Thus, following was the third hypothesis of the study:

*Hypothesis 3: Team Building & Participation can positively influence Project Performance.*

According to Pinto (2007), trust is a common denominator for other behaviors like appreciation and cohesion. Low cohesiveness is commonly associated with a lack of trust in newly formed teams (Yukl, 2010). According to PMI (2013), when trust is compromised then the relationship will also suffer. Team members would start to disengage causing collaboration to become more difficult among team members. This clearly indicates that the cohesion within the team collapse when there is a lack of trust among the team members. This observation suggested the following fourth hypothesis of the study:

*Hypothesis 4: Team Trust can positively influence Team Cohesion.*

According to Costa (2003), trust is associated with both perceived task performance and team satisfaction. Trust in team member also significantly impacts both team performance and collective efficacy (Chuang, Chou & Yeh, 2004). Webber (2008) also postulated that client trust in project manager did influence team trust, team cohesion and team performance. It is also worth to note that high team cohesion will have positive impact on team’s productivity, job satisfaction and growth (Cook at al., 1997; Robbins and Judge, 2008; Quick and Nelson, 2009). High cohesive teams also tend to have more uniform or standard output among its team members as they adhere closely to the production norms. Yukl (2010) also posited that determinants of team performance include trust and cohesiveness whereby when these two determinants are high, team performance will increase. Thus, the fifth ans sixth hypotheses of the study were:

*Hypothesis 5: Team Trust can positively influence Project Performance.*

*Hypothesis 6: Team Cohesion can positively influence Project Performance.*

**3. Methodology**

3.1 Sample and Procedure

Since the four research questions of this study were deductive in nature, cross sectional quantitative research with online survey method was used. Emails embedded with survey questionnaire’s hyperlink were sent out to all the 420 target respondents (project managers) from the PMI Malaysia Chapter. The PMI Malaysia Chapter is an organizational body of project management in Malaysia, and it has the national e-mailing list of various project managers. The PMI is a global not-for-profit association for project management professionals that have presence in many countries including Malaysia. The PMI has over 400,000 members worldwide and it was established in 1969 with headquarter outside Philadelphia, USA (PMI, 2013). The reason for not obtaining responses from project team members was that, unlike concentrated project manager’s community which was more easily accessible, collecting data from team members were more challenging as tedious efforts were required to track them. Moreover, this was not feasible as they have been disbanded, not contactable or too busy being involved in other projects (Webber, 2002). Unlike project team members, project managers who were concentrated in a community like PMI was more easily accessible.

Out of the total 420 respondents, only 48% had responded with useable sample of 201. The 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 the 201 respondents, 79% i.e. 159 of them were male and 81% (i.e., 162) of them were in the age group between 30 and 49 years. Sixty two percent of the respondents had more than 10 years of 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 the industries of chemical / petroleum, construction, financial, information communication technology (ICT) and cost more than Ringgit Malaysia five million each. Eighty two percent 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:

*Table 1: Sources of Constructs*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Construct** | **Item Quantity** | **Scale** | **Measuring Instruments** |
| 1. | Team Building & Participation | 12 | 7 pt-Likert | Adapted from Hsu, Jiang, Parolia and Klein (2007), Carew and Carew (1990) and Law (1992) |
| 2. | Team Trust | 8 | 7 pt-Likert | Adapted from Pearce, Sommer, Morris and Frideger(1992) |
| 3. | Team Cohesion | 8 | 7 pt-Likert | Adapted from Short, Piccoli, Powell and Ives (2005) |
| 4. | Project Performance | 8 | 7 pt-Likert | Adapted from Pinto andSlevin (1986), and Mumbi (2007) |

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

**4. Results**

4.1 Reliability and Validity

Partial Least Squares (PLS) was used as part of the statistical analyses in this study. The SmartPLS v2 was used to determine Composite Reliability, Cronbach’s Alpha, Average Variance Extracted (AVE) and Latent Variable Correlations. Albeit Cronbach’s Alpha is widely adopted as an estimator for reliability tests, it has been criticized for its lower bound value which underestimates the true reliability (Peterson & Kim, 2013). Composite Reliability can be used as an alternative as its value is slightly higher than Cronbach’s Alpha whereby the difference is relatively inconsequential (Peterson & 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 AVE for each construct was higher than 0.5. In Table 3, correlation between pairs of constructs was below 0.9 and the squared 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, Yi & Phillips, 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, MacKenzie, Lee & Podsakoff, 2003). Any highly correlated constructs were evidence of common method bias because they generate extremely high correlations i.e. more than 0.9 (Bagozzi et al., 1991).

*Table 2: Reliability and Average Variance Extracted (AVE)*

| **Construct** | **Composite Reliability** | **Cronbach’sAlpha** | **AVE** |
| --- | --- | --- | --- |
| Team Building & Participation | 0.91 | 0.89 | 0.59 |
| Team Trust | 0.90 | 0.87 | 0.60 |
| Team Cohesion | 0.93 | 0.92 | 0.70 |
| Project Performance | 0.93 | 0.91 | 0.66 |

*Table 3: Mean, Standard Deviation, Correlation between Constructs and Squared Roots of AVEs (Diagonal Line)*

| **Construct** | **Mean** | **Std Dev** | **TBP** | **TT** | **TC** | **PP** |
| --- | --- | --- | --- | --- | --- | --- |
| Team Building & Participation (TBP) | 5.80 | 0.65 | **0.77** |  |  |  |
| Team Trust (TT) | 5.70 | 0.73 | 0.79 | **0.78** |  |  |
| Team Cohesion (TC) | 5.35 | 0.90 | 0.71 | 0.83 | **0.84** |  |
| Project Performance (PP) | 5.81 | 0.82 | 0.62 | 0.66 | 0.52 | **0.81** |

Based on the Table 3, except squared roots of both TBP’s AVE (0.77) and TT’s AVE (0.78) which were lower than TBP-TT’s Correlation (0.79) and TT-TC’s Correlation (0.83), squared roots of other AVEs were generally higher than the correlations between constructs indicated the existence of discriminant validity. Besides the AVE’s squared roots of a construct comparing with correlations from other constructs, there was another way to evaluate discriminant validity i.e. comparison of a construct’s item correlations with other constructs’ item cross loadings in SmartPLS as shown in the Table 4 below (Gefen & Straub, 2005).

*Table 4: Cross Loadings among Team Building & Participation, Team Cohesion and Team Trust from SmartPLS v2*

| Construct’s Questionnaire Item | Project Performance (PP) | Project Duration (How Long Complete) | Team Building & Participation (TBP) | Team Cohesion (TC) | Team Trust(TT) | Team Size (Member Quantity) |
| --- | --- | --- | --- | --- | --- | --- |
| B10 | 0.44 | 0.05 | **0.76** | 0.52 | 0.59 | 0.01 |
| B11 | 0.44 | 0.04 | **0.74** | 0.56 | 0.67 | 0.13 |
| B12 | 0.45 | 0.02 | **0.71** | 0.46 | 0.55 | 0.00 |
| B3 | 0.44 | -0.01 | **0.80** | 0.54 | 0.59 | 0.12 |
| B5 | 0.46 | 0.15 | **0.80** | 0.47 | 0.55 | 0.07 |
| B6 | 0.50 | 0.22 | **0.79** | 0.55 | 0.63 | 0.13 |
| B9 | 0.59 | -0.18 | **0.79** | 0.68 | 0.66 | -0.18 |
| CO1 | 0.57 | 0.03 | 0.74 | **0.82** | 0.85 | 0.05 |
| CO3 | 0.37 | -0.08 | 0.61 | **0.87** | 0.70 | -0.10 |
| CO4 | 0.37 | -0.13 | 0.60 | **0.83** | 0.69 | -0.08 |
| CO5 | 0.43 | -0.21 | 0.50 | **0.84** | 0.57 | -0.29 |
| CO6 | 0.40 | -0.18 | 0.52 | **0.88** | 0.68 | -0.18 |
| CO8 | 0.42 | -0.06 | 0.54 | **0.79** | 0.63 | 0.01 |
| How\_Long\_Complete | -0.20 | **1.00** | 0.05 | -0.12 | 0.00 | 0.50 |
| Member\_Qty | -0.04 | 0.50 | 0.05 | -0.11 | 0.07 | **1.00** |
| PP1 | **0.78** | -0.23 | 0.42 | 0.43 | 0.50 | -0.03 |
| PP2 | **0.72** | -0.33 | 0.43 | 0.44 | 0.50 | -0.32 |
| PP3 | **0.88** | -0.18 | 0.55 | 0.49 | 0.59 | -0.04 |
| PP4 | **0.75** | 0.05 | 0.52 | 0.34 | 0.53 | 0.16 |
| PP5 | **0.90** | -0.23 | 0.60 | 0.44 | 0.60 | -0.05 |
| PP6 | **0.87** | -0.11 | 0.53 | 0.42 | 0.57 | 0.09 |
| PP7 | **0.78** | -0.02 | 0.43 | 0.35 | 0.43 | -0.01 |
| T1 | 0.53 | 0.02 | 0.63 | 0.61 | **0.81** | 0.09 |
| T2 | 0.36 | 0.19 | 0.49 | 0.49 | **0.70** | 0.21 |
| T4 | 0.43 | -0.06 | 0.61 | 0.65 | **0.71** | 0.08 |
| T6 | 0.62 | -0.05 | 0.65 | 0.74 | **0.83** | -0.08 |
| T7 | 0.45 | 0.02 | 0.57 | 0.63 | **0.75** | 0.19 |
| T8 | 0.62 | -0.06 | 0.71 | 0.71 | **0.85** | -0.08 |

Based on results presented in Table 4, discriminant validity exists as all constructs’ item correlations were higher than the item cross loadings belong to other constructs, except for Team Cohesion’s (TC) one questionnaire item called CO1. The CO1’s correlations was 0.82 i.e. lower than the cross loading between CO1 and Team Trust (TT) i.e. 0.85. According to Farrell (2009), removal of unwanted questionnaire item can improve discriminant validity. However, there is also a need to balance between item removal to achieve discriminant validity versus number of scale items retained i.e. the face construct coverage or face validity should exist (Farrell, 2009). Since Team Cohesion only contain 6 items compared to Team Building & Participation (7 items) and Team Trust (6 items), Team Cohesion’s questionnaire item CO1 was retained.

Based on literature reviewed, team building, team trust and team cohesion were anticipated to have strong bivariate correlations which can give rise to the above discriminant validity’s limitation. This includes, for example, strong bivariate correlations between team trust and team cohesion (Dirks, 1999; Morgan & Hunt, 1994; Mach, Dolan & Tzafrir, 2010; Costa, 2003; Schippers, 2003; Ivaskovic, 2015), strong bivariate correlations between team cohesion and team building (Farrar, 2009) and strong bivariate correlations between team building and team trust (Mendoza, 2001).

4.2 Hypotheses Testing

The SmartPLS v2 was used to perform path analysis in PLS. According to Hsu et al. (2007), project team size and project duration can be potential control variables. 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 presented in Figure 1.

* Hypothesis H1 was supported i.e. Team Building & Participation has influenced Team Trust (b = .79, p < .01).
* Hypothesis H2 was not supported i.e. Team Building & Participation did not influence Team Cohesion (b = .13, p > .05).
* Hypothesis H3 was supported as Team Building & Participation has influenced Project Performance (b = .33, p < .05).
* Hypothesis H4 was supported i.e. Team Trust has influenced Team Cohesion (b = .74, p < .01).
* Hypothesis H5 was also supported i.e. Team Trust has influenced Project Performance (b = .60, p < .01).
* Hypothesis H6 was not supported as Team Cohesion did not influence Project Performance (b = -.24, p > .05).
* For the two control variables included in the study, project team size has negative influence over Team Cohesion (b = -.14, p < .05). Moreover, project duration also has negative influence over Project Performance (b = -.24, p < .05).

All the significant path coefficients “b” were greater than .1 in which they were considered acceptable (Lohmoller, 1989). Also, 63% of the variance R2on Team Trust was explained by the influence of Team Building & Participation. According to Cohen (1988), variance R2 of 63% which had exceeded 26% was considered substantial. Meanwhile 73% of the variance R2on Team Cohesion was explained by Team Trust and project team size. Lastly, 52% of the variance R2on Project Performance was explained by Team Trust, Team Building & Participation and project duration.



*Figure 1: Research Model and Path Analysis Result*

**5. Discussion**

There were some lessons to be learnt from this study. First, based on the empirical result, team building & participation only influenced team trust and project performance. However, team building & participation did not influence team cohesion. This result is in line with what Cohen and Bailey’s (1997) argument in that process factors (represented by team building & participation) can directly influence all attitudinal (team trust), behavioral (team cohesion) and performance (project performance) outcomes at the same time. This result was not in line with Dyer’s (1977) argument in that one of the objectives of team building can potentially increase cohesion. This result explains that team cohesion was derived from other factors beyond team building & participation, for example like team trust in this study. Project team members were more cohesive due to the mutual trust that they have built up during the session of team building & participation and not directly influenced by team building & participation itself. This is in line with what PMI (2013) has stated that team building produce many results in which one of them is mutual trust. Other results drawn from team building included high quality information exchange, better decision making and effective project management in which cohesion was not one of the team building outcomes. If project managers want to build up trust among team members and to achieve positive project performance, they need to roll-out team building & participation sessions, though these are normally ignored due to limited time (tight project deadlines) or limited resources.

Second, team trust can influence team cohesion. This result was in line with the comments put forward by Pinto (2007), Yukl (2010) and PMI (2013). This result explains that when team trust is developed, relationships among team members are better fostered in which they can engage and collaborate better as a cohesive project team. Hence, if project managers intend to develop a cohesive project team, they need to ensure team trust is developed first.

Third, team trust also can influence project performance. This result conforms to the assertions addressed by Costa (2003) and Chuang et al. (2004). One explanation is that when team trust is developed, communication and interactions among project team members become more open. The openness will improve their relationships so that they can work better, or willing to work the extra mile as a team, to achieve the desired project performance. The other explanation is that the prerequisites to promote team trust have made the team collaborate easier to achieve the desired project performance; for example, during the sessions of team building & participation. Also, Quick and Nelson (2009) argue that leader who serves as the “spoke in the center of the wheel” can coordinate the team better. Moreover, the use of common language can also facilitate the team members to trust each other better. Through “trustworthiness” experienced by the team members, the project team can perform better.

Fourth, this study indicated that team cohesion did not influence project performance. This result was not in line with the studies conducted by Cook et al. (1997), Robbins and Judge (2008), Quick and Nelson (2009) and Yukl (2010); albeit their dependent variable was not project performance but rather team performance. There were differences between team performance and project performance (refer to Section 2.4 for its operational definition). Team performance was the quantifiable output of team members after completing an internal self-assessment (Partington & Harris, 1999; Andrews, 2012). This suggests that team performance, which is acceptable by the team, might be construed otherwise by other stakeholders external to the team e.g. customers, suppliers, senior management or others. This is because opinion from the team pertaining to their performance excludes the external stakeholders’ opinions. Another possible explanation is that one of the consequences of excessive group cohesiveness is groupthink. Groupthink can deteriorate the mental efficiency, reality testing, moral judgment and decision making as a result from pressures within the group (Janis, 1972; Cook et al., 2009; Quick & Nelson, 2009; Yukl, 2010). When groupthink proliferates, risky course of action can be taken by the project team which might be detrimental to the project performance.

Fifth, project team size which is one of the two control variables negatively impacts team cohesion. According to Cook et al. (1997), team size is one of the sources of cohesiveness in which larger the team size, lesser the team cohesiveness. Reason being that when the team size increases especially more than 15, the interactions and communications among team members begin to break and this can decreases the cohesiveness among the team members. Hence, when the team size is small, e.g. five to seven, team members can share their opinions, make contributions and get recognized.

Finally, another control variable i.e. project duration negatively impacts project performance. Longer project duration can potentially cause longer critical paths, in which slipping of the critical paths or missing some key deadlines will impact the project performance. Moreover, longer project duration will also give rise to more change requests which can complicate the project execution, and subsequently impact the project performance. Hence, if project managers want to keep their project team cohesive and achieve their project performance, they need to keep their team size small and the project duration short.

In answering the first research question whether team building & participation can influence all the team trust, team cohesion and project performance at the same time, this study indicated that team building & participation can concurrently influence team trust and project performance. As for the second and third research questions, this study demonstrated that team trust can influence both team cohesion and project performance. The answer for the last research question is that team cohesion cannot influence project performance.

**6. Conclusion**

This study has achieved its objective by providing additional theoretical and practical understanding to supplement the research work conducted by Cohen and Bailey (1997). Based on the theoretical perspective, this study indicated that the presence of a process factor e.g. team building & participation did not concurrently impact attitudinal outcome (team trust), behavioral outcome (team cohesion) and performance outcome (project performance). In fact, there was a pattern of relationships formed among attitudinal, behavioral and performance outcomes as found in this study. Practically, project managers need to initiate more team building & participation sessions in order to increase both team trust and project performance. Moreover, project managers need to promote team trust in order to improve team cohesion. At the same time, project managers also need to be wary about the negative consequence when the project team is too cohesive. Finally, during the project tenure, project managers need to wisely plan the project team size and project duration so that these two factors will not negatively impact team cohesion and project performance.

The following recommendations would further improve the findings of this study. First, only quantitative research was performed in this study. Future research could include qualitative interview and data analysis in order to better understand why and how team building & participation did not impact team cohesion. At the same time, qualitative research can be performed to discover why and how team cohesion did not impact project performance. Second, this study only captured the opinions from project managers. Future studies should include the perceptions and opinions of the project team members as well to corroborate the findings from the project managers. Third, this study was only confined to the four constructs i.e. team building & participation, team trust, team cohesion and project performance - Future research could include other process factors, attitudinal, behavioral and performance outcomes like conflict management, team commitment, team members’ turnover, team performance or others. Finally, this study still showed incomplete discriminant validity as explained in Section 4.1 – Reliability and Validity. In order to address this limitation in future research as suggested by Farrell (2000), the researcher could attempt the following measures: (1) combine the constructs with their items overlapped into one overall measure, (2) collect more data from additional respondents, and (3) dropping more constructs from the research model. In conclusion, this study contributed a step further for improved understanding on the relationships among Cohen and Bailey’s (1997) process factors, attitudinal, behavioral and performance outcomes in Malaysia.

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