Investigation of Condition, Creativity and Performance of Teamwork in Malaysian Construction Companies

Mohd Wira Mohd Shafie[1], Milad Samari [1]

[1.] School of Housing, Building and Planning, Universiti Sains Malaysia (USM), 11800 Penang Malaysia
milad.s1366@gmail.com

Abstract. In this decade, a rising wave of continuous change has moved our community. This wave tried to change the situation of organizations around the world. This condition led to increasing need for group activities in the human society, one of which is construction industry. Teamwork plays a significant role in successes of an organization. Based on a combination of literature research and questionnaire surveys, this paper investigates the current situation of teamwork in construction firms and tries to find critical factors in order to increase creativity and performance of teamwork. To do so, 837 questionnaires survey were distributed in construction firms in Malaysia from which 347 were returned. Descriptive and factor analysis methods were used to analyze the collected date. SPSS software version 19.0 was used for quantitative analysis. This paper found that the current situation teamwork in construction firms in Malaysia is satisfied. It was discovered that creativity has a strong relation to the three categories including employee personality, work environment and company rules and regulations. In addition, efficient management is key factor in improving team performance in firms context in Malaysia.
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1. Introduction:

Recently our community has faced a rising wave of continuous change. This wave has changed the structure of organizations across the world (Argyris et al. 1978; Weggeman et al., 1995). Thus, group activities are more demanded in the human society among which the construction industry has special status. In Malaysia the estimated portion of construction industry is 5% to 6% of the gross domestic product at the end of 2012; this has provided job opportunities for almost 1.03 million people that represented 8% of total workforce (CIDB, 2006). 280 billion Ringgit was estimated for construction under 9th Malaysia Plan in the average of 56 billion Ringgit per year.

The construction industry has dynamic and complex conditions among the other industries and a challenging context for human resources (Raiden et al. 2004). This challenge originated from the many activities that have direct relation with the experience and knowledge of experts. Hence, conduction of studies was promoted to find out how to shift organizations from a static status to a dynamic form. Gradually, the significant role of teamwork in producing dynamic organization was stressed (Hootegem, 2005).

Teamwork is present in every organization (Lawler, Mohrman, & Ledford, 1995; Cohen & Bailey, 1997). In spite of a number of studies done on team work in addition to the intricacy of the topic, some researchers have managed to maintain the outlook and blend the findings of previous studies (Sundström, McIntyre, Halfhill, & Richards, 2000; Mathieu, Maynard, Rapp, & Gilson, 2008; Shea & Guzzo, 1987; Cohen & Bailey, 1997; Johnson et al., 2003). Team learning is considered as one of the salient methods to elevate the productivity of teamwork. It seems necessary for teams to know how to have effective collaboration and for organizations to handle the insistently changing situation (Zaccaro, Ely, & Shuffler, 2008; Senge, 1990a). Thus, teams are regarded as working units as well as learning units in the organizations (Kirkman, Rosen, Tesluk, & Gibson, 2004; Caldwell & Oreilley, 2003).

Simply speaking, enrolling some persons in a group does not mean that they will form a productive team. Organizing an effective team requires adhering to some rules and coming over some problems. Efficiency of teamwork could be jeopardized by a number of difficulties including disorganization, inadequate communication, and less active involvement. Nowadays, human resources are perceived to have a key role in success of a project. Teamwork is totally distinguishable from other kinds of groups since in teamwork all members concentrate on one mutual goal or destination.

There is a variety of definitions for teamwork. A number of concepts are used to present a comprehensive definition for team. Researchers in the domain of construction differ in their points of view defining team.

There are some commonly cited definitions of a team:

- "A small number of people with complementary skills who are committed to a common purpose, performance goals and approach, for which they hold themselves mutually accountable" (Katzenbach et al. 1993).
- "Helpfulness, coordinated effort, a shared approach to working, open communication, and friendliness" (Lawson, 1983; Hatcher et al. 1991).
- "Groups of employees who have at least some collective tasks and where the team members are authorized to regulate mutually the execution of these collective tasks" (Delarue, 2003).
- "Cooperative effort by the members of a group or team to achieve a common goal" (Webster, 1984).
- "A cooperative process that allows ordinary people to achieve extraordinary results" (Scarnati, 2001, P: 5).
- A mutual objective where members of team try to plan a efficient cooperation to accomplish team purpose (Harris & Harris, 1996).

Words group and team are interchangeably used among people; however, there are some differences between them in practice (Katzenbach and Smith, 1993).

Table1. Difference between group and team

Team	Group
Team's strength depends on the commonality of purpose and interconnectivity of individual members	Group's strength may come from sheer volume or willingness to carry out a single leader's commands
hardly to form and organized	Easier to form and organized
Members were selected from complementary skills	Members were selected from single commonality
Low conflict	High conflict
Success measured by performance	Success measured by final results
Establish a team (enough time)	Establish a team (short time)

It is a unique procedure to change organizational group to team. Teams function as a group consisting of a number of persons. A team will comes to success in case of being managed from both outside to inside and from inside to outside. The outside-to-inside management means that team should be structured so clearly that every person in the team knows his or her role. The inside-to-outside perspective refers to the fact that each organ in team is required to individually dedicate enough energy in order to complete components of the puzzle. That is why team members are supposed to acquire a particular skill area to contribute and share the success of organization.

Teams are regarded as the most paramount part in organizations. Team quality usually specifies the effectiveness, generativeness, and innovativeness in the company. In case of malfunctioning, a team faces different challenges in the course of success.

Effective teams are associated with groups of people who (Adams, 1996: 129):

- Share a common goal and strive to get a common job done
- enjoy working together, and enjoy helping one another
- make commitment to achieve the goals and objectives of the project by accomplishing their particular portion of the project are of very diverse individuals having all kinds of different disciplines and experiential backgrounds and who now must concentrate on a common effort
- Have great loyalty to the project manager and firm belief in what the project is trying to accomplish
- Have a team spirit and high team morale.

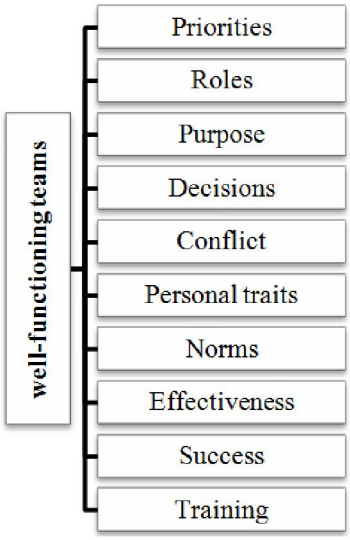

Figure1. Well-functioning teams

Source**:** Adapted from the National School Boards Foundation's Education Leadership Tool Kit (section on Professional and Leadership Development), available at http://www.nsba.org/sbot/toolkit.

In addition**,** the following are eight characteristics of effective teams (Larson et al. 1989)

- The team must have a clear goal**.**

- The team must have a results-driven structure.
- The team must have competent team members.
- The team must have unified commitment.
- The team must have a collaborative climate.
- The team must have high standards that are understood by all.
- The team must receive external support and encouragement.
- The team must have principled leadership.

2. Improving the performance of team work

As team forms the central element of an organization, different models of organization without any identical results can be identified. Therefore, since new types of work organization in different countries have developed, it is more likely to witness differences in the forms of organizations (Lorenz and Valeyre, 2003). Compared to the performance of individuals, the work of team performance is more valuable as long as work demands a wide range of information, attitude and judgment. Teamwork has an advantage of remarkable growth in productivity in the domains that call for innovative solution of disparate tasks, a high extent of adjustment and functional managing. Team also produces a chance for facile exchange of knowledge that is called information sharing.

Furthermore, the new types of work organization are able to intensify the employability of employees by means of multiple skills, achieving high capability in managing difficulties, exchange of information, and group working. Such ability can help modification of labor market. It also advocates the growth and the new forms of localized marketing and economy (Totterdill, Dhondt and Milsome, 2002). Teamwork contributes into career autonomy, better responsibility, and satisfaction of occupation. Recent studies have illustrated the positive influence of teamwork on generativeness of work and organization effectiveness (Cohen and Ledford, 1994).

Efficient teams are profitable and have a number of characteristics in common. Respecting each other within a team seems to be very influential. Promoting teammates' strengths and lessening the weaknesses leads to cohesion of team. Activities in a team as unit require some factors such as trusting, concentrating on one single aim, debating less and investigating more.

3. Productive and Creative Teamwork

At a minimum, there are four keys to a productive and creative team: personality and behaviour, team activities, change and evolution of teams and skills and process development.

3.1 Personality and Behaviour

There are some lessons in observing what people are discussing and the way they react to different situations within a team. The observations of behaviours can be systemized through categorization. One way to witness the operation of team is to focus on the impact of personalities. The other way is to appraise the personality of team members which shape the whole soul of personality of team. Studies on identifying behaviours of efficient teamwork display that aims should be clarified and shared by all and that all members should pay attention to the common goals (Schein, 1969: 42). To have motivation and encouragement, team members need to admit goals that are achieved before the serious team purposes (Katzenbach and Smith, 1993: 29).

According to some theorists such as Adair (1996), Belbin (1993) and Deming (1991), trust is one of the most influential constituents of developing a team and its efficiency. Developing trust among team members is considered as one of the overall purposes of activities in building team (Boss, 1991: 38). Woodcock (1989: 12) stresses frankness and truthfulness as the central components of a productive team for these factors contribute into other attributes such as commitment, faith and trust that help people to express their personality with no fear of punishment.

3.2 Team activities

The team achievement has an intricate relation with the role members have in a team. An effective team has a clear picture of the team purpose and has a strong belief that goal of team is the only aim for which team members devote time and energy. In addition, the importance of team goals induces people to give priority to the goals, recognize what they are expected to achieve, and understand how they should collaborate to reach the goals (Robbins, 1994: 453). Knowing how to blend individual goals with those of team is considered to be an important role for successful team managers. Team members have a high motivation as they sense chances of development and growth (Kezsbom et al., 1989: 273). A united team is "one that provides satisfaction for its members or one that has a high probability of doing so" (Anantaraman, 1984: 150). Unity of team has to do with the amount of reciprocal attraction that members have so as to uphold the unity of team (Pinto and Kharbanda, 1995: 229).

3.3 Change and Evolution of Teams

It is useful for teams to know that there could be some common patterns in a group concerning relation and conflict. Tuckman (1965) identifies four steps that teams should pass to reach maturity as a well-performing group. "Performing" stage is that last stage where not every team succeeds in reaching since this stage leads to a plethora outcomes. According to Tuckman's (1965) model, four distinguishable stages are known for developing a team: forming, storming, norming and performing.

3.3.1 Forming: at this level people come together and treat each other as individual.

3.3.2 Storming: in this stage team members burst into debate and argument. Nevertheless, if these debates are not productively managed, the cohesiveness of team will be at risk. The result of such disconnection is arrival of small exclusive groups within the team that inspire fruitless conflict.

3.3.3 Norming: Following above stage, norming stage paves the way for some concordance on the rules of behaving. This stage is the starting point for a typical business.

3.3.4 Performing: the last stage is performing stage where people trust each other. As team moves toward a productive and effective group, team members gain awards. In this stage there is an agreement on the goals, creative thinking is encouraged, team ideologies are argued rather than the individual opinions, and team are communally proud of their achievements. This stage can be characterized by creative solution for problems raised in the team (Hanwit, 2005).

3.4 Skills and Process Development

Developing members' abilities and understanding with respect to each other is a typical way of building a team. Such a development can assist team members to increase the quality of their performance and attain better results. To do so, one of the facilities is to concoct such exercises that empower people to have an active participation in activities and reconsider the experience. Taking advantage of team idea in managing project has a special contribution, that is, it widens the basis of knowledge. Projects team employ people with a variety of knowledge, abilities, and skills. These people cooperating with each other have more options than those who practice alone. Such a policy of allowing every member to take part in solutions can strengthen the ability of solving problem in the team (Kerma, 1997: 157). An effective team could be defined as a group made up from people with viable techniques, and competencies to gain the predetermined goals and with gregarious disposition to present productive performance through cooperation. A well-structured team project possesses members who are technically and interpersonally competent (Robbins, 1994: 453).

Table 2.Characteristics of Well-Functioning Teams

Mind	• Group work improves environment of the working. • Group work makes relationship steadfast. • Group work eases stress. • Group work reduces errors. • Group work advocates open communication
Open Communications	• Produces and supports an environment of trust and honesty in communication. • Permits team members to discuss openly with each other. • Advocates exchanging feedback. • Provide team members to work through misunderstandings and conflicts.
Commitment to a Common Purpose and Performance Goals	• Takes the purpose into consideration in making decision and evaluating the team performance. • Assists each other to have the focus.
Shared Responsibility	• Makes team members have equal perception regarding the performance responsibility and the outcomes of the team. • Allows persons to take primary roles in completing team tasks and become flexible to perform what is necessary for team's purposes.
Use of Resources and Talents	• Takes advantage of resources and capacity of all team members. • Exploits team's creativity by means of sharing abilities and information, and advocates learning from one another.
Capacity for Self-Evaluation	• Permits teams to consider the quality of their performance and what might fetter the practice and communication.
Participative Leadership	• Paves the way for team members to take part in making decision. • Permits team members to establish goals and provide strategies for gaining the goals. • Gives a chance to individuals to assist the identification of tasks and decision regarding how to near and appraise tasks.

4. Methodology

The goals of this article are:

a) To evaluate the current condition of teamwork in the Malaysian construction companies.

b) To identify key factors that have a strong effect on the creativity and performance of construction teamwork.

This paper concentrated on the experts who are working in construction companies in Malaysia. For collecting data the interview method was not possible due to the large scope, manpower and shortage of time. Therefore, quantitative research approach is more applicable in this study. Accordingly, data collection was conducted in quantitative methods and 837 questionnaires was distributed and collected from the target group. A literature review was conducted in order to design questionnaire. Questionnaires function as measurement tools depending on the cases of investigation, the purpose and design of the study (Oppenheim, 1992). In this research, the objectives are stated with clear questions and design of the study is supposed to find answer for the questions. The questionnaires are designed to elicit perceptions from experts who are working in construction companies in a team work condition in Malaysia. The three main questions are concerned with ''conditions,'' ''creativity,'' and ''performance'' of team work that are meant to explore the weakness of current situation and find the best factors in improving creativity and performance of teamwork. Their evidences could be an important reference for construction companies in Malaysia. All items in the questionnaire were consistently phrased positive to avoid any confusion by the respondents. For all questions Likert scales were used. Participants were required to circle the options that best show the condition they face in their projects.

Table3. Likert scales

Section B	Section C & D
1= Never	1=Not Important at All
2= Rarely	2= Not Important
3= Undecided	3= Somewhat Important
4= Almost	4= Important
5= Always	5= Very Important

The survey questionnaire was divided into four sections as follows:

Table4. Questionnaire sections

Section A	Respondents' information
Section B	Condition of teamwork
Section C	Creativity
Section D	Performance

✓ the period of data collection was about three months

✓ The subjects of the questionnaire survey were chosen from people in construction projects, i.e. architect, engineer, quantity surveyor, project manager and other.

✓ A total of 837 survey questionnaires were distributed in Malaysia and 347 (41.45%) were returned.

✓ SPSS 19.0 was used to run quantitative analysis.

In order to check the questionnaire validity and reliability statistics was conducted by SPSS software version 19 ($\alpha \geq 0.5$ is accepted). The mean of α-Cronbach for this study was 0.825. It also is considered reliable.

Table5. Reliability statistics of questionnaire

Part	Cronbach's Alpha
Section B	0.884
Section C	0. 681
Section D	0. 912

5. Finding and discussion

The results show that most respondents were male engineers with 1 to 5 years working experience in the construction companies and most of them had bachelor level of education. A summary of the respondents' background is showed in Table 6.

A common test for analysing nominal data is Chi-square test (Agresti, 1996; Levin, 1999). The Chi-square test has been used in all research areas such as association and independence (Mantel, 1963; Tobin, 1958), goodness-of-fit (Li et al., 1993; Joe et al., 2010), classification (Baker et al., 1984; Gagunashvili, 2010) and homogeneity (Overall et al., 1983; Andrés et al., 2009). Pearson Chi-Square test was used in order to find out different opinions between female and male respondents. According to the table 7, Chi-square was 31.03, $P = 0.944$. This result shows that there is no statistically significant association between gender and teamwork condition. In other words, there is no significant relationship between female and male respondents regarding the condition of company.

As table 8 represents**,** no meaningful relation was found between female and male respondents regarding the creation of the company.

The results show that relation between female and male respondents is not significant with respect to the performance of company.

Torppa (2002) asserts that men and women sometimes perceive the same messages to have different meanings. It can be conclude that both males and females have similar approach toward the team work.

Table6. Respondents' background

		Percent	Valid Percent	Cumulative Percent
Gender	Male	62.5	62.5	62.5
	Female	37.5	37.5	100.0
	Total	100.0	100.0	
Respondent role	Architect	15.9	15.9	15.9
	Engineer	30.3	30.3	46.1
	Quantity Surveyor	22.5	22.5	68.6
	Project manager	21.3	21.3	89.9
	Others	10.1	10.1	100.0
	Total	100.0	100.0	
Level of education	Doctorate degree	6.9	6.9	6.9
	Master degree	25.9	25.9	32.9
	Bachelor degree	50.1	50.1	83.0
	Diploma	15.6	15.6	98.6
	Others	1.4	1.4	100.0
	Total	100.0	100.0	
Experiences in the construction industry	1-5 years	46.1	46.1	46.1
	6-10 years	24.5	24.5	70.6
	11-20 years	20.7	20.7	91.4
	Above 20 years	8.6	8.6	100.0
	Total	100.0	100.0	
Type of firm	Properties developer	25.4	25.4	25.4
	Consultant	26.2	26.2	51.6
	Contractor	42.9	42.9	94.5
	Others	5.5	5.5	100.0
	Total	100.0	100.0	

Table7. Chi-Square Tests 1

Gender * Condition	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.034[a]	45	.944
Likelihood Ratio	34.725	45	.866
Linear-by-Linear Association	.494	1	.482
N of Valid Cases	347		
a. 67 cells (72.8%) have expected count less than 5. The minimum expected count is .75.			

Table 8. Chi-Square Tests 2

Gender * Creativity	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.913[a]	31	.914
Likelihood Ratio	23.237	31	.840
Linear-by-Linear Association	.148	1	.700
N of Valid Cases	347		
a. 38 cells (59.4%) have expected count less than 5. The minimum expected count is .75.			

Table 9. Chi-Square Tests

Gender * Performance	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.685[a]	25	.596
Likelihood Ratio	24.433	25	.494
Linear-by-Linear Association	.235	1	.627
N of Valid Cases	347		
a. 24 cells (46.2%) have expected count less than 5. The minimum expected count is .75.			

5.1 Condition

The most common measurement of centre is mean. An overview is obtained by calculating the mean, variance and standard deviation in the Table 11.These measures are used to appraise the collected data (Bernard, 2000). The analysis of the collected data shows relatively close value of means, with low values of standard deviation and variance. This approves both the suitable quality and uniformity of the data and a logical low amount of dispersion which indicate the reliability of findings. Table10 shows a list of factors that should be considered in the teamwork condition.

Table 10. Condition factors in the construction companies teams

Number	Item
B1	The team is prepared to differences opinion
B2	Meetings are focused and there is no waste time
B3	The team leader draws contributions from all members
B4	The leader understands what influences team members
B5	Members are made to feel equal despite status and experience differences
B6	High standards are set
B7	Members' respective skills, knowledge and abilities are utilized appropriately and productively
B8	Risks are taken when necessary
B9	Members communicate effectively with one another
B10	Members are open enough to deal with sensitive issues
B11	Members are open and honest with one another
B12	There is a good mix of people in terms of personal characteristics
B13	Meetings have clear intentions and productive outcomes
B14	Members fell they gain personally through being involved in the team
B15	Members work well together
B16	The team leader is supportive
B17	The team evaluates the way it works and rectifies matters
B18	The team produces quality results
B19	Harmonious interpersonal relationship between members is encouraged
B20	Individual efforts are well coordinated towards the team effort
B21	Individual differences are recognized and used to effect
B22	Individual suggestions are taken and developed toward a solution
B23	Various options are considered in arriving at a team decision
B24	There is trust and confidence in the leader
B25	I look forward to salary increment at every year
B26	I prefer to have my own space at work
B27	I perform better with all the up to date gadgets and facilities

Table11. Descriptive Statistics

Item	N	Minimum	Maximum	Mean	Variance	Std. Deviation
B1	347	1	5	3.86	.771	.878
B2	347	2	5	3.99	.711	.843
B3	347	2	5	3.98	.526	.725
B4	347	2	5	3.79	.669	.818
B5	347	2	5	3.93	.581	.763
B6	347	2	5	3.94	.620	.788
B7	347	2	5	4.05	.552	.743
B8	347	1	5	3.85	.729	.854
B9	347	1	5	3.90	.472	.687
B10	347	1	5	3.79	.633	.796
B11	347	1	5	3.70	.881	.939
B12	347	2	5	3.96	.544	.738
B13	347	1	5	3.97	.658	.811
B14	347	2	5	3.90	.522	.723
B15	347	2	5	3.96	.536	.732
B16	347	2	5	3.98	.601	.775
B17	347	2	5	4.03	.528	.727
B18	347	2	5	4.04	.504	.710
B19	347	2	5	4.07	.538	.733
B20	347	1	5	4.00	.564	.751
B21	347	1	5	3.86	.667	.817
B22	347	1	5	3.92	.574	.758
B23	347	2	5	4.16	.492	.702
B24	347	2	5	4.03	.548	.740
B25	347	1	5	3.85	.958	.979
B26	347	2	5	3.95	.604	.777
B27	347	3	5	4.02	.520	.721

The results of table 11 illustrate a good consensus on the current condition of teamwork from the viewpoint of respondents (Average mean is 3.94). ‘‘Various options are considered in arriving at a team decision,’’ ‘‘harmonious interpersonal relationship between members is encouraged,’’ and ‘‘members’ respective skills, knowledge and abilities are utilized appropriately and productively’’ had the highest rank and are commonly acknowledged by respondents. On the other side, ‘‘members are open and honest with one another,’’ “members are open enough to deal with sensitive issues,” and “the leader understands what influences team members” had the lowest rank. It can be concluded that current situation of teamwork in Malaysian construction industry is satisfied (Average mean is 3.94).

5.2 Creativity

Based on the literature review, there are many factors that have positive effluences on personnels’ creativity (table 12). This paper tries to find the important factors (categories, sub-categories) in Malaysian construction context in order to increase creativity in the construction of teamwork. Therefore, factor analysis is the best way in order to find the key factors. It is statistical approach that can be used to analyse interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions.

KMO test is used to measure the sampling adequacy (Hutcheson & Sofroniou, 1999). The Bartlett's Test of Sphericity tests the adequacy of the correlation matrix and yielded a value of 2607.31 and an associated level of significance smaller than 0.05. According to the table13, amount of sampled size employed in this research is acceptable to find key factors. In terms of creativity table14 shows that seven factors account for 20.08%, 13.05%, 11.69%, 8.35%, 6.92% and 6.42% of the total variance respectively. That is, almost 72.4 % of the total variance is attributable to these seven factors. The 10 remaining factors together account for only approximately 27.5 % of the total variance. But most of the factors of each category load on the other category (overlap in meaning with other factors). Therefore, as for the aim of the factor analysis (reducing the number of extracted factors to fewer factors, more manageable factors and ultimately more meaningful set of factors), the researcher decided to rerun factor analysis on the three factors. After rerunning of factor analysis, factors C12, C10, C17 were removed.

Table 12. Creativity factors

B1	I like to play with ideas
C2	I am uncomfortable with innovative team members
C3	I am bound by the organization’s traditions
C4	I often feel the need for change
C5	I like an ordered environment
C6	I allow other team members to express themselves freely
C7	I encourage people to take risks
C8	I value creativity
C9	I am willing to take risks
C10	I feel embarrassed when I make mistakes
C11	I persist with tasks
C12	I have trouble generating ideas
C13	I encourage novel solutions to problems
C14	I try to learn from my mistakes
C15	I dislike uncertainty
C16	I likes to dream up new ways of doing things
C17	I likes to search painstakingly for all relevant information

Table 13. KMO and Bartlett's Test1

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.624
Bartlett's Test of Sphericity	Approx. Chi-Square	2607.381
	df	136
	Sig.	.000

Table14. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.415	20.089	20.089	3.415	20.089	20.089	2.850	16.767	16.767
2	2.220	13.058	33.147	2.220	13.058	33.147	2.026	11.919	28.686
3	1.988	11.695	44.842	1.988	11.695	44.842	1.627	9.571	38.257
4	1.420	8.353	53.194	1.420	8.353	53.194	1.585	9.323	47.579
5	1.177	6.923	60.117	1.177	6.923	60.117	1.518	8.930	56.510
6	1.091	6.420	66.537	1.091	6.420	66.537	1.387	8.160	64.669
7	1.007	5.924	72.461	1.007	5.924	72.461	1.325	7.792	72.461
8	.857	5.039	77.500						
9	.724	4.258	81.758						
10	.664	3.905	85.663						
11	.520	3.061	88.724						
12	.494	2.903	91.627						
13	.412	2.422	94.049						
14	.379	2.230	96.279						
15	.364	2.140	98.419						
16	.258	1.518	99.937						
17	.011	.063	100.000						

Extraction Method: Principal Component Analysis.

Table15. Component Matrix[a]

	Component		
	1	2	3
C12	.768	-.373	
C10	.711		
C13	.648		
C3	.635		
C11	.627		
C2	.597		
C5	.586		
C16	.460		
C17	.364		
C7		.618	
C6		.617	
C14		.543	
C1		.519	
C9		.359	
C15		.401	.884
C4		.419	.884
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Table16. Rotated Component Matrix[a]

	Component		
	1	2	3
C12	.753	-.420	
C10	.702	-.342	
C13	.645		
C3	.636		
C2	.632		
C11	.627		
C5	.586		
C16	.469		
C17	.375	.350	
C7		.678	
C6		.645	
C1		.576	
C14		.565	
C9		.398	
C4			.987
C15			.985
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 4 iterations.			

Based on results, creativity in the Malaysian construction company is related to the three categories including employee's personality, work environment and company's rules and regulations. It was discovered that these factors show a strong correlation with creativity.

The employees in the team have different personality types that might lead to different opinions. Employing different people with different ideas in the team causes conflict in the progress. Therefore, managing a team can be a challenge. This challenge has a negative effect on the creativity. The following ways are suggested in order to remove this challenge and customize team member:

- Finding correct people with high ability
- Promoting appreciation
- Evaluating the different strengths
- Enhancing communication skills among team members

Mustapha et al. (1997) believe that work conditions factors have direct effect on the performance and creativity. Thus, preparing the best condition for employee can improve creativity. At last, flexible rules and regulations are the other factor that has positive effect on the team creativity.

5.3 performances

Regarding literature review, there are many factors having positive effect on the performance (Table 17). Respondents were asked to rate their importance in different levels for each item to explore which factors are more influential in improving teamwork performance compared to other ones in construction industry in Malaysia.

Table17. Performance

D1	Contributes to effective development in team
D2	Reduces wastages and rework
D3	Increases flexibility
D4	Efficient management
D5	Less conflicts
D6	Optimal project costs and time
D7	Built a cohesive team with unified goal
D8	Enhances mutuality, trust and responsibility
D9	Increased opportunity for innovation
D10	Continuous improvement on quality products

Table 18. KMO and Bartlett's Test2

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.878
Bartlett's Test of Sphericity	Approx. Chi-Square	1918.240
	df	45
	Sig.	.000

According to the KMO and Bartlett's test the adequacy of the correlation matrix yielded a value of 1918.24 and an associated level of significance smaller than 0.05(values between 0.8 and 0.9 are great). This research suggests that increasing performance processes within the context of team requires developing following factors:

- Efficient management
- Less conflicts
- Reducing wastages and rework

Efficient management is a key factor in improving team performance. This factor has direct effect on the rework and conflict in the team. It means that improving efficient management will lead to reducing rework and conflict in the team. By efficiency, it means that how effectively a manger

employs the available resources to gain goals. Management of projects emphasizes on how to build an appropriate project team to do a project task successfully within some predetermined constraints. Project management is defined as "application of knowledge, skills, tools and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project" (PMBOK, 2004). According to project management definition and Gina's (2009) point of view, project management is a strategic tool that helps the organization to move forward. Project management is known as a key factor in construction companies. It is used to develop methodologies in order to increase their competitiveness and efficiency (Anthony, 2007). It can be concluded that effective project manager can manage team in order to finish project punctually based on the predefined budget and with high quality.

Table 19. Component Matrix[a]

	Component
	1
D4	.806
D5	.800
D2	.793
D1	.765
D10	.760
D8	.744
D7	.703
D9	.701
D6	.681
D3	.667

Extraction Method: Principal Component Analysis.
A.1 components extracted.

6. Conclusion

The goal of this study was examining the current situation of teamwork in the construction company in Malaysia the results clear that the current situation teamwork in construction firms in Malaysia is satisfied. This result shows that there is no statistically significant association between gender and teamwork condition, creativity, performance. It was discovered that creativity in teamwork has a strong relation to the three categories. In addition, efficient management is a key factor in improving team performance in firms context in Malaysia. The findings have also been used to develop an agenda for further study.

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