

Factors Affecting Teamwork Effectiveness in Malaysian SMEs : Construction Industry

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Abstract

Teamwork is very important, but most construction companies are still in the haze of its veritable effectiveness. This study was aimed to focus on such a challenge among the SMEs in Malaysian construction industry registered under the Construction Industry Development Board grading G1 to G5. The survey based on an empirical model with four critical factors and a well-structured questionnaire was conducted. Supportive and positive results showed that: team goals and objectives, team roles and responsibilities, team shared values and team relationship are critically affecting teamwork effectiveness in the said context. The results further demonstrated that team relationship is the strongest factor affecting teamwork effectiveness based on the respondents' view. It is believed that this study could benefit the SMEs in the Malaysian construction industry in enhancing appropriate teamwork practice to improve project performance and leverage project success

Keywords

Teamwork effectiveness, Critical factors, Construction project, SMEs Malaysia.

Introduction

Teamwork is increasingly mentioned and regarded as a necessity to all businesses today. Although the significance of teamwork is greatly emphasised, most organisations are still in the haze of its veritable effectiveness. If teamwork is defined as the spirit of a set of at least two members or more, who work interdependently and accountably to achieve specified, shared goals; then, teamwork should be considered effective when such tasks and pre-set goals are performed to its optimal results. The nature of the construction industry is highly fragmented (Ofori, 2012), complex and its project-based (Fong & Lung, 2007) teams are usually formed for almost every new project of various professionals (Azmy, Strong, Jaselskis, Stout & Morrow, 2015) with a vast difference of knowledge and experiences. In addition, the sector is often perceived as critical or dangerous as construction projects are largely found unpredictable and underperformed in terms

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of delivery, time, cost and quality (Fong & Lung, 2007). In this regard, productivity (or performance) is one of the primary thrusts to strengthen the development of the construction sector, which is currently underachieving (CIDB, 2018).

Many studies showed that the construction industry is an important sector of the economy playing a key role in a nation's social and economic development (Hillebrandt, 2000; Gibson, Zellmer-Bruhn & Schwab, 2003; Lopes, 2011; Ofori, 2012; Azmy, et al., 2015); there is no exception for Malaysia. According to Isa, Saman & Preece (2015), international market expansion has become increasingly important for the construction industry, especially for developing country like Malaysia. They further stated that Malaysian SME owners specifically, of which contractors are the major participants, have been encouraged by government to develop international strategies to compete with well-established contractors globally i.e. Japan, Korea, China, UK, USA, Australia; for the nation's economic transformation towards developed country status (Isa et al., 2015).

SME Corporation Malaysia (2018) stated that SMEs are key players in national economies, contributing to economic growth around the globe. The Asia-Pacific Economic Cooperation (APEC) reported that 97.0% of establishments and over 50.0% of employment in the workforce comprise of SMEs in its economies. Moreover, based on the Economic Census on profile of Small and Medium Enterprises by the Department of Statistics Malaysia (DOSM, 2016), SMEs in Malaysia constituted 98.5% of the total business establishments. According to the latest statistics, SMEs contribute 32% of GDP, 59% of employment and 19% of exports. The bulk of the SMEs (87%) is in the services sector. By location, most of the SMEs operate in the Klang Valley (35.7%), followed by Johor (10.3%), Perak (8%) and Kedah (6.8%) (DOSM, 2016).

According to Ghorbanhosseini (2013), there are patterns designed for individual effectiveness; then, there are patterns designed for improving team effectiveness such as focus and attention to effectiveness and efficiency that requires teamwork spirits (Ghorbanhosseini, 2013); enabling project team members to perform team goals. Correspondingly to project teams and companies in Malaysian SME construction sector, Skripak (2016) demonstrated evidence of team-based operating companies are more successful in achieving workplace performance and business goals because of the positive effects of teamwork.

Objectives of the Study

- RO1: To examine team goals and objectives is critically affecting teamwork effectiveness
- RO2: To examine team roles and responsibilities is critically affecting teamwork effectiveness
- RO3: To examine team shared values is critically affecting teamwork effectiveness
- RO4: To examine team relationship is critically affecting teamwork effectiveness

Methodology

This research aimed to examine, establish, and affirm a causal relationship between variables (Peters et al., 2017), in this case, the critical factors that were correlated and the teamwork effectiveness. At the research design stage, a logical decision of the quantitative method has taken precedence for this study as the purpose was to examine knowledge on correlational and causal effects of the critical factors affecting teamwork effectiveness in Malaysian SMEs – construction industry. The method's adoption was clearly quantitative that involved identifying variables, causal relationships, hypothesis test and measuring approach, numerical data and structured data collection, statistical data analysis, and larger sampling size as advised by Choo (2016). Since the researcher's involvement was decided minimally, a factually sound, unbiased, and valid data collection (Krosnick & Presser, 2009) is highly favourable. Any involvement, either in terms of varying the perception of "teamwork" and "effectiveness" or manipulating the respondent's answers, could have affected the findings' authenticity and validity. As such, non-experimental research using a questionnaire was found suitable. This research covers selected individuals among Malaysian SMEs' construction sector within the Klang Valley that were listed under CIDB registration of G1 to G5 as a whole. Besides, the self-administered survey (Zikmund et al., 2013) will be utilised for data collection. This study's survey questionnaire was designed and constructed based on Azmy et al. (2015) and Chow et al.'s (2005) research with five adapted sections, i.e., team goals and objectives, Team roles and responsibilities, Team share values, Team relationship, and Teamwork effectiveness. Likert scale was adopted in this study, on a five-point scale, i.e., "1 = Strongly Disagree, 2 = Agree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree"; and they can be averaged across the central tendency as well as measured by the arithmetic mean (Cavana et al., 2001).

This study's targeted population was the owner/manager/executive of Malaysian small and medium construction companies located within the Klang Valley and listed in the CIDB directory under G1 to G5. An Equal percentage or number of samples were picked by the author conveniently and randomly from CIDB (2019) 's online directory, listed under G1 to G5 categories within Klang Valley's location, regardless of the total numbers of companies registered in each group. SPSS was chosen mainly because of its popularity within academic and business circles, making it the most widely used package of its type (Arkkelin, 2014).

Results and Discussion

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) revealed values between 0.75 to 0.86, exceeding the recommended value of 0.6 (Pallant, 2005), as shown in Table 1 below. The Bartlett's Test of Sphericity (BTS) also reached statistical significance, $p=0.00$, supporting the factorability of the correlation matrix, $p<0.05$ (Pallant, 2005). Therefore, the factor analysis result reflected that the survey items and data are appropriate.

Table 1: Results of KMO and Bartlett's Test

N of items = 111	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	Bartlett's Test of Sphericity Significance (p)
TGO – Team Goals and Objectives	0.819	0.000
TRR – Team Roles and Responsibilities	0.756	0.000
TSV – Team Shared Values	0.868	0.000
TRS – Team Relationships	0.836	0.000
TEF – Teamwork Effectiveness	0.864	0.000

All five factors had achieved Cronbach's alpha coefficients between 0.75 to 0.9, indicating a strong and satisfactory reliability level (see Table 2). Generally, the closer the value of Cronbach's alpha coefficient is to 1.0, the more reliable the instrument is (Azmy et al., 2015). Nunnally & Bernstein (1994) also confirmed that a Cronbach's alpha value greater than 0.70 is considered satisfactory.

Table 2: Reliability Test Results

Critical factors affecting teamwork effectiveness	Reliability (Cronbach's alpha coefficient)
TGO – Team Goals and Objectives	0.859
TRR – Team Roles and Responsibilities	0.788
TSV – Team Shared Values	0.874
TRS – Team Relationship	0.878
TEF – Teamwork Effectiveness	0.880

The relationships between the independent variables (TGO, TRR, TSV, TRS) and the dependent variable (TEF) were tested using SPSS Pearson correlation analysis. The results are tabulated in Table 3 below.

Table 3: Pearson Correlations

IV	Findings	DV – Teamwork Effectiveness
TGO – Team Goals and Objectives	Pearson Correlation, r	0.461*
	Variance, r ²	0.213 (21.3%)
	Sig. (2-tailed)	0.000
TRR – Team Roles and Responsibilities	Pearson Correlation, r	0.561*
	Variance, r ²	0.310 (31%)
	Sig. (2-tailed)	0.000
TSV – Team Shared Values	Pearson Correlation, r	0.592*
	Variance, r ²	0.350 (35%)
	Sig. (2-tailed)	.000
TRS – Team Relationships	Pearson Correlation, r	0.708*

	Variance, r ²	0.510 (50.1%)
	Sig. (2-tailed)	0.000

The standard multiple regression of SPSS version 23 was used to address the research objectives, involving all of the independent variables being entered into the equation at once. The results were summarised in Table 4 below.

- RO1: To examine team goals and objectives is critically affecting teamwork effectiveness;
- RO2: To examine team roles and responsibilities is critically affecting teamwork effectiveness;
- RO3: To examine team shared values is critically affecting teamwork effectiveness;
- RO4: To examine team relationship is critically affecting teamwork effectiveness.

Table 4.: Results of Multiple Regression Analysis

	Descriptive		Correlations	Collinearity Statistics		R Square	Sig.
	Mean	SD		Tolerance	VIF		
TEFDV	29.68	3.885					
TGO	32.32	4.126	0.461	0.510	1.959	0.534	0.000
TRR	31.38	3.866	0.561	0.408	2.452		
TSV	27.96	3.792	0.592	0.281	3.553		
TRS	30.41	4.556	0.708	0.340	2.940		

All four correlation coefficients of the four independent variables, $r = 0.461, 0.561, 0.592, 0.708$, are found greater than 0.3, which suggested that they correlate substantially with the dependent variable. According to Pallant (2005), to determine the presence of multicollinearity or not, the tolerance value should not less than 0.10, or a VIF value should not be above 10. So, the tolerance values for each independent variable obtained are 0.510, 0.408, 0.281, and 0.340, respectively, which are greater than 0.10; and each VIF is 1.959, 2.452, 3.553, 2.940, in this case, smaller than 10. Hence, the multicollinearity assumption is not violated. A normal probability plot of the standardised residuals indicates whether or not the assumption of normality of the random errors is appropriate (Azmy et al., 2015). The P-P plot output showed minor departures, and the standardised residuals are not too far from the diagonal linear line; so, the normality assumption is also satisfied.

Conclusion

This study's central objective to examine four factors identified to be critically affecting the teamwork effectiveness in Malaysian SMEs – construction industry, based on Azmy et al. (2015)'s research of similar trade, has been met to a large extent. The survey's significant outcomes and the series of data analyses made it possible to confirm each research objective can be answered positively. The significant relative correlation of each factor is evident. Based on the findings, team goals and objectives is found to be a significant factor of medium influence to teamwork effectiveness. The findings showed that both team shared values and team relationships are strong predictors of teamwork effectiveness; thus, team relationships emerged as the most critical factor in affecting teamwork and effectiveness.

The key implication is that SMEs' management or any project-based company in the Malaysian construction industry should capitalise on balancing and emphasising both task-based. Besides affect-based training and intervention activities (Hu & Liden, 2015) it is necessary to induce optimal teamwork effectiveness for ultimate project performance. This study indicated all four factors: team goals and objectives, team roles and responsibilities, the team shared values, team relationships, are critical determinants of teamwork effectiveness towards elevating project commitment and performance in the Malaysian SMEs construction industry. This study's outcome had also shed light on the critical factors that are significantly affecting teamwork effectiveness so that the right understandings and the right synergy of teamwork can be applied correctly and consistently in the Malaysian SMEs construction industry. This study's findings also contributed to widening the body of knowledge in enhancing teamwork effectiveness and boost the driving force of teamwork quality in this sector. Consequently, it can elevate the construction industry's growth potential to achieve CITP 2016-2020 (CIDB, 2018) and Vision 2020 (National SME Development Council of Malaysia, 2018).

References

- Arkkelin, D. (2014). Using SPSS to Understand Research and Data Analysis. Psychology Curricular Materials. Valparaiso University, USA. Book 1. http://scholar.valpo.edu/psych_oer/1
- Azmy, N., Strong, K., Jaselskis, E. J., Stout, T. B. & Morrow, P. C. (2015). The role of team effectiveness in construction project teams and project performance, ResearchGate.
- Belbin, R. M. (2012). Team Roles at Work. Routledge.
- Cavana R. Y., Delahaye, B. L. & Sekaran, U. (2001). Applied Business Research: Qualitative and Quantitative Methods. John Wiley & Sons Australia.
- Choo (2016). Business Research Method. Open University Malaysia (OUM).
- Chow, L. J., Then, D. & Skitmore, M. (2005). Characteristics of teamwork in Singapore construction projects. *Journal of Construction Research*, 6(1), 15-46.
- CIDB (2018). Construction Industry Review and prospect 2018-2019. Construction Industry Development Board Malaysia and MayBan IB.
- DOSM (2019). Department of Statistics Malaysia Report 2019. <https://www.dosm.gov.my/v1/>
- Fong, P and Lung, B., (2007). Interorganizational Teamwork in the Construction Industry, *Journal of Construction Engineering and Management-asce*, 133(2).
- Gibson, C., Zellmer-Bruhn, M. & Schwab, D. (2003). Team effectiveness in multinational organizations: Evaluation across contexts. *Group & Organization Management*, 28(4), 444.
- Ghorbanhosseini, M. (2013). The effect of organizational culture, teamwork and organizational development on organizational commitment: the mediating role of human capital. *Croatia Journal of Education*. UDC/UDK 658.310.42:331.101.3
- Hillebrandt, P. M. (2000). *Economic Theory and the Construction Industry*. Basingstoke, UK: Macmillan.
- Hsiung, V. (2012). Importance of values and attitudes in the workplace. *National Academy of Civil Service - T&D*. 152.
- Hu, J. & Liden, R. C. (2015). Making a difference in the teamwork: Linking team prosocial motivation to team processes and effectiveness. *Academy of management Journal*, 58(4), 1102-1127.

- Isa, C. M. M., Saman, H. M. & Preece, C. N. (2015). Determining significant factors influencing Malaysian construction business performance in international markets. *Journal of Construction in Developing Countries*, 20(2), 1–23.
- Kozlowski, S. W. J. & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen & R. J. Klimoski (Eds.), *Handbook of Psychology: Industrial and Organizational Psychology*: 333–375. London: Wiley.
- Krosnick, J. A. & Presser, J. (2009). Question and Questionnaire Design. *Handbook of Survey Research*. 2nd ed. J. D. Wright & P. V. Marsden. San Diego, CA: Elsevier.
- LaFasto, F. & Larson, C. (2001). *When Teams Work Best: 6000 Team Members and Leaders Tell What It Takes to Succeed*. Thousand Oaks, CA: Sage.
- Lopes, J. (2011). Construction in the economy and its role in socio-economic development. In G. Ofori (ed.). *New Perspectives on Construction in Developing Countries*. Abingdon, UK: Spon Press, 40–71.
- National SME Development Council (2018). Summary - SME Masterplan 2012-2020, Catalysing Growth & Income. SME Corporation Malaysia.
<http://www.smecorp.gov.my/index.php/en/resources/2015-12-21-11-07-06/sme-masterplan/book/11/1?page=1>
- Ofori, G. (2012). *Contemporary Issues in Construction in Developing Countries*. Abingdon, UK: Spon Press.
- Pallant, J. (2005). *SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS for Windows*. Allen & Unwin, NSW, Australia.
- Peters, J., Basit, A. & Hassan, Z. (2017). Influence of team related factors on employee performance –a case study on Malaysian context. *International Journal of Accounting & Business Management*, 5(1), 56-73.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B. & Bachrach, D. G. (2000). Organizational citizenship behavior: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513–563
- Robbins, S. P. & Judge, T. A. (2017). *Organizational Behavior*. 17th ed. Pearson Education Limited, England.
- Skripak, S. J. (2016). *Teamwork in Business. Fundamentals of Business*. Preface. The Saylor Foundation. Pamplin College of Business and Virginia Tech Libraries, USA.
- Simon, L. C. (2001). Study of the performance of student teams in engineering education. [unpublished master's thesis] University of Nebraska, Lincoln, NB.
- Tharp, B. M. (2009). *Defining culture and organizational culture: from anthropology to the office*. HAWORTH.
- Ulloa, B. C. R. & Adams, S. G. (2004). Attitude toward teamwork and effective teaming. *Team Performance Management*, 10(7/8), 145-151.
- Woodcock, M. (2016). *Team Development Manual*. 2nd ed. Routledge, London; New York, New York.
- Zikmund, W. G., Babin, B. J., Carr, J. C. & Griffin, M. (2013). *Business Research Methods* (9th ed.). Singapore: South-Western, Cengage Learning.