

Determinants of Team Effectiveness among Young Researchers in A Malaysian Public University

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Introduction

Lately, working as teams has gained immense attention as teams are considered almost sacrosanct (Couto, 2009). Undeniably working in teams and collaboration is important and gaining much prominence as organizations strive to improve on their level of productivity, more effective use of resources and achieving more desired results. Moreover, working as teams is assumed to be the best strategy for the organization to overcome obstacles derived from new challenges and tasks. Over the past couple of decades, Gabelica et al. (2012) mentioned that more educational settings are placing a lot of emphasis on team efforts as they strive to improve their research and development programs and products. Moreover, team efforts are pertinent in the educational field especially at the tertiary level since doing research is becoming more complex and multidisciplinary.

Unfortunately, according to American Management Association (2014) many educational departments in general still do not practice team works. It was identified that the working culture that exists in the institutions of higher learning on a day-to-day basis are still very much skewed towards individual achievements.

Recently, though, there has been increased attention in key cognitive and affective variables and their correlation to teamwork behaviors and subsequent performance (Arthur, et al., 2005). There are few studies that cover this subject in educational environments, and the ones that do typically mention to certain factors (Curşeu & Pluut, 2013). These studies have proposed several variables such as task conflict, task interdependence, and the personality traits, in several theories of team behavior and functioning. Thus, the aim of this study is to study whether these factors act as enablers of team effectiveness among young researchers in higher education institutions.

Literature Review

Task interdependence is generally known as the degree to which team members are dependent on one another and work interactively to accomplish tasks effectively (Barnett & McCormick,

2016). Van der Vegt, Emans and Van de Vliert (2001) suggest that task interdependence upsurges when task itself becomes challenging and team members need a higher level of support from each other in terms of, for example, resources, info or skill. Evidence from several studies suggests that task interdependence directly improved team effectiveness and performance compared to doing the task alone, mostly for concept mastery tasks, problem-solving, and decision-making, Barrick et al. (2007) state that task interdependence is an important moderator of team processes which contribute to team effectiveness. However, in spite of the research evidence for this well-recognized correlation between task interdependence and team effectiveness, there is still a lot that is unknown about the interface procedure among team members in professional settings like universities.

Another dimension that has an impact on team effectiveness is task conflict. In general, task conflict is defined as the ‘perceived incompatibilities or discrepant views among the parties involved’ (Jehn & Bendersky, 2003) while undertaking tasks. Over the years, numerous studies were carried out to determine the impact of task conflict on team effectiveness and mixed results were obtained in these studies. Troth (2009) mentioned that some scholars have identified the negative impact of task conflict on team effectiveness. On the other hand, Bai et al. (2016) state that task conflict is usually associated with effective decisions and positive outcomes

Personality traits had also been identified as an important dimension in effective team performance (Hogan & Holland, 2003). Generally, personality traits as depicted by Colquitt et al. (2009) is pictured in five elements, namely, extraversion, openness to experience, neuroticism, conscientiousness, and agreeableness. Undeniably, it is interesting to investigate the interactions of the different personality traits of university researchers and its impact on work behaviors and outcomes.

Methodology

This is a quantitative study using the survey as the main form to collect data. The study was carried out in a research university in Malaysia. The population comprises those who are involved directly in the research setting that includes academicians, researchers, and post-graduate students. The total population was 3,500 and the total sample size was 181 respondents. The instrument of the study was developed from previous literature and adapted to the context and setting of the study. A pilot-test was conducted among 30 respondents and

the Cronbach alpha obtained was greater than the minimum threshold point of .7 indicating the items were reliable. The data collection process took two months and the data analysis was done using the SPSS software.

Results

Table 1 depicts the demographic profile of the respondents of the study. The data shows that 64.6% of the respondents are female and the balance of 35.4% are male. Meanwhile, 60.2% of the respondents have PhD qualifications and 13.3% are having a Master's degree. The majority of them (67.4%) are married. In terms of employment, 67.4% are attached as permanent staff while the balance of 32.6% is working on a contract basis.

Table 1: Demographic Profile of the Respondents

Variables	Frequency	Percentage
Gender		
Male	64	35.4
Female	117	64.6
Ethnicity		
Malay	119	65.7
Chinese	34	18.8
Indian	11	6.1
Others	17	9.4
Level of Education		
PhD	109	60.2
Master	24	13.3
Degree	41	22.7
Others	7	3.9
Marital Status		
Single	57	31.5
Married	122	67.4
Divorced	2	1.1

Employment Status

Permanent	122	67.4
Contract	59	32.6

Table 2 demonstrates how the respondents perceive themselves to be effective team members when they are doing research as a team-based effort. Overall, the mean score obtained was 3.7991 (SD=.54503) indicating the respondents perceive themselves to be at a high level in terms of team effectiveness.

Table 2: Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Team_Effectiveness	181	1.00	5.00	3.7991	.54503
Valid N (listwise)	181				

Next, a correlation test was carried out to seek for correlation between the independent variables and the dependent variable. Table 3 depicts that there is a positive and significant correlation between team effectiveness and team interdependence and personality. However, as anticipated there was a negative and significant correlation between team effectiveness and task conflict.

Table 3: Correlations

		Team Interdependence	Task Conflict
Personality			
Team_	Pearson C	.388	-.187
Effectiveness	Sig (2-tailed)	.000	.012
	N	181	181

A multiple linear regression was carried out to determine the significant predictors of team effectiveness among young researchers. The ANOVA results as in Table 4 showed that a significant portion of the variation in team effectiveness is contributed by the independent variables.

Table 5: ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.448	3	4.149	17.903	.000 ^b
	Residual	41.023	177	.232		
	Total	53.471	180			

a. Dependent Variable: Team_Effectiveness

b. Predictors: (Constant), Personality, Task_Conflict, Team_Interdependence

Meanwhile, Table 5 shows that the significant predictors are team interdependence and task conflict. However, personality is not a significant predictor.

Table 6: Coefficients

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.234	.370		6.039	.000
	Team_Interdependence	.330	.068	.353	4.826	.000
	Task_Conflict	-.194	.054	-.238	-3.581	.000
	Personality	.225	.098	.166	2.300	.023

a. Dependent Variable: Team_Effectiveness

The Model Summary as in Table 6 shows that the factors of team interdependence and task conflict contributed around 22% of the variation in team interdependence. Thus, further research is needed to identify the other factors that will further contribute to the variation in team interdependence among young university researchers.

Table 6: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.482 ^a	.233	.220	.48143

a. Predictors: (Constant), Personality, Task_Conflict, Team_Interdependence

Discussion and Conclusion

The study had identified team interdependence and task conflict as predictor variables of team effectiveness. Team interdependence has a positive effect towards team effectiveness and vice

versa the impact of task conflict on team effectiveness. The results suggest that administrators of Malaysian universities must improve task interdependence, as it encourages team collaboration and reduces relationship conflict. Without a doubt, high task interdependence in research teams will lead to collaboration, information sharing and other cooperative actions among team members to finish given tasks. Besides, more attention should also be placed on overcoming relationship conflicts among researchers as it is detrimental to team effectiveness in university settings. The study also highlighted the need to do further research to improve on team effectiveness among university researchers as the model of this study was only able to contribute about 22% of the variation in team interdependence.

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