THE INFLUENCE OF GROUP POTENCY ON GROUP PERFORMANCE – AN EMPIRICAL STUDY

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ABSTRACT

Group Performance is task performance or the outcome of some behavioural or intellectual goal of many groups. Group potency is the collective belief within a group which can be effective. Group potency is a belief of mutual confidence that is shared by the members of the group and it is a general belief that the group is effective across a variety of tasks or situations. The aim of the study is to know influence of group potency and work efficiency on group performance. Data were collected from sample of 400 executives. The findings showed that multiple regression analysis have significant regression coefficient as judged from their t-values. This indicates that respondents are ready to consider the factors while group performance of the company.

Key Words: Group Potency, Task Completion and Work Efficiency.

INTRODUCTION

Group Potency

Group potency is the collective belief within a group which can be effective. There are two important aspects of group potency such as it is a belief of mutual confidence that is shared by the members of the group and it is a general belief that the group is effective across a variety of tasks or situations, rather than only in a specific context. Group potency is an important concept in fields such as group dynamics, management, and industrial or organizational psychology. Because, a large volume of research suggests that group potency and performance are positively and reciprocally

related. However, when groups are overconfident, or possess too much group potency, their performance can be suffer.

Task Completion

Everyone has their own opinion on what it means to have finished a task. Some developers will say they're finished when they have "cracked the nut" - have something working. Others will say that they are finished when their unit tests have green-barred and the code is checked-in. The differences make it hard for people to get a good idea of which tasks have been completed and which tasks are still to be done. It is a list of statements that must be true in order to be able to claim their task to be complete. Management can get an accurate picture of the current state of the project. Developers can stop coding once they have fulfilled all the requirements of the (Peter Axelsson, 2019).

Task completion often times a developer will report being done when the code is barely usable. Or, something will be polished and shined to the point of absolute perfection, when that is more than required and subsequent tasks are delayed as a result. Finally, a task completion definition gives a better way of estimating the progress of a partially-complete task than estimates such as ninety percent done. If a developer can point to nine out of ten of the completion criteria being met, then perhaps the ninety percent done claim is true. This is still highly subjective and needs to be analyzed on a case-by-case basis. Full compliance with the completion criteria is much easier to judge and the job may be either done or not.

Work Efficiency

Taylor (1911) introduced the concepts of efficiency when he introduced the scientific study of work methods in order to improve worker efficiency. Taylor pioneered a method, now known as the "time-and-motion" study, for determining the best way to reduce time and effort (improve

efficiency). Taormina and Gao (2009) indicated that efficiency refers to obtaining the most output from the least amount of input. Accordingly, managers should be concerned with employee work efficiency since high efficiency should lead to lower costs but better products, which would benefit the organization. Consequently, since the specific variable of Work Efficiency has not been sufficiently examined, and the factors contributing to it are not clear, it is necessary to further investigate work efficiency. Performance of a group includes subjective assessments and objective group performance (Banumathi and Samudhra Rajakumar 2015).

Efficiency means to be productive without waste (e.g., of time or energy). Effective operation as measured by a comparison of production with cost, as in energy, time and money (Merriam-Webster). This implies that improving employees' efficiency at work should be very important to the organization's economic performance. Taormina and Gao (2009) stated that efficiency is considered to be a means to achieve organizational goals, high efficiency is de- sired by management for their organizations to attain high effectiveness.

Since work efficiency, as a specific measure, was a newly discovered variable (Taormina and Gao, 2009), there is no existing theory about it. The closest concept is work performance, which is a very general term that could include a number of different components, while work efficiency is a more specific concept. There have been many studies on work performance, and some indicate that good work performance contributes to desired organization outcomes (Maxham, Netemeyer and Lich- tenstein, 2008). On the other hand, a few papers used a concept named work efficiency, but they examined this variable in terms of specific tasks (e.g., Paul, 1967), without examining personality factors, such as the unique attributes of creativity and resilience, that might contribute to employee work efficiency.

REVIEW OF LITERATURE

Stajkovic et. al., (2009) analysed the relationships among collective efficacy, group potency and group performance. The Meta-analytic results based on 6,128 groups, 31,019 individuals, 118. It is revealed that the collective efficacy was significantly related to group performance. It showed that significantly different average correlations with group performance, but the group discussion assessment was homogeneous, whereas the aggregation assessment was heterogeneous. There was no moderation for the group discussion and heterogeneity in the aggregation group which was accounted by the moderator and task interdependence. Meta-analyses indicated that group potency was related to group performance and to collective efficacy. The findings of the research are tested with a structural equation modelling analysis and it is based on meta-analytic findings, collective efficacy fully mediated the relationship between group potency and group performance, and it is a good forecast of institutional commitment and work satisfaction (Banumathi and Samudhra Rajakumar ,2016).

Metin and Uyar (2014) analysed the impact of group potency on the task performance by determining the impacts of the drivers affecting the development of group potency in audit teams. The study measures were gathered from a sample of 160 independent auditors from 39 audit firms, through a longitudinal experiment. The findings revealed that the development of the team group potency, the audit performance is positively affected. Besides, collaboration between team member, previous experiences of group members, group identification of individuals and goal clarity were determined as factors contributing to the development of group potency within the audit team.

Karakowsky, et. al., (2004), have done a research on perceptions of team performance the impact of group composition and task-

based cues. The authors showed that the influence of team gender composition and gender-orientation of the task on members perceptions of their teams performance. The samples were 216 university students from under graduate business programs. In data analysis, descriptive statistics has been used. The findings of the research exhibit that team gender composition and the gender-orientation of the task can clearly affect member perceptions of the quality of their teams performance regardless of the actual performance level achieved.

A research was conducted to study the analytical tools for facilitating task group performance (Villarrreal and Kleiner, 1997). The aim of the research work was to examine the reader with various analytical tools and aids available to task groups and others. When information is collected, it is often difficult to summarize it or explain it to others without the use of a visual aid or tool. With the consensus achieved, the group is now able to analyse the problem at hand, collect all necessary data and derive possible solutions. The findings of the research brought out brainstorming, brain writing, cultivating, nominal group technique, flow charting, work flow diagrams, pareto charts, cause and effect diagrams, time plots and scatter diagrams.

Jansiri and Mahamud (2016) developed a model for the evaluation of motivating factors influencing work efficiency of employees in building and physical plant sub-division of Ramkhamhaeng University. In Quantitative research, 155 samples have been collected from the workers engaged in building and physical plant sub-division of Ramkhamhaeng University and descriptive, t-test, one-way ANOVA and regression analysis are used. It is recommended that CEOs should focus on work environment such as office equipment used in the work should be modernized and always ready to use, and this will increase the work efficiency.

Moteki (2016) done a comparative experiment under different operation conditions that represent the actual condition of work time related to the remote operation techniques of construction machines. When people do some work, they are considered to be based on more accurate information that they obtain from their visual sense as well as through their actions including touching things. When working with a construction machine, people generally cannot obtain information such as whether something is hard or soft from their visual sense.

Ivana, et al., (2017) have done a research on determinants of work performance in workers with depression and anxiety. The authors showed that to identify the built, social, attitudinal and health system-related environmental determinants of WP in workers with anxiety or depression in total (N = 1211) and regarding the level of disability. They conducted secondary data analysis of the implementation of the MDS as a national disability survey in Chile (ENDISC II) carried out in 2015, using a large representative sample of the general population including more than 17,000 individual interviews. Participants of the survey were children and adults from 15 provinces. ENDISC II is based on the MDS, a project initiated by the WHO and the World Bank in 2011. Hierarchical binary logistic regression was performed on data obtained from implementation of the WHO Model Disability Survey (MDS) in Chile in 2015. The findings of the research is emphasize the need for a broader understanding of determinants of WP and the requirement for an integrative approach in developing both universal and specific strategies that go beyond workplace settings.

RESEARCH OBJECTIVE

- To empirically find out the influence of Group Potency and Work Efficiency of Group Performance.

RESEARCH METHODOLOGY

Sample and Data Collection

Data were collected from sample that consists of 400 executives. Executives available on the day of data collection and whoever is willing to participate were considered for data collection.

ANALYSIS AND INTERPRETATION

Table – 1. Employees Opinion about Group Potency

Group Potency	Mean	Std. Deviation
My team expects to be known as one of the top performing.	3.97	1.23
My team can get a lot done when we work hard.	4.06	1.17
My team can solve any problem.	3.94	1.14
My team has confidence in its abilities to perform at high levels.	3.75	1.18
My team believes that no job is too tough.	3.10	1.29

Source : Computed

Group potency is analyzed with eleven statements in the five point scale. Further, mean and standard deviation are calculated for each statement. The result is displayed in the Table - 1. The calculated mean values are ranging from 3.10 to 4.06. The calculated standard deviation values range between 1.14 and 1.29. My team can get a lot done when we work hard is secured the highest mean value (4.06) followed by the team expects to be known as one of the top performing (3.97), they team can solve any problem (3.94), they team has confidence in its abilities to perform at high levels (3.75)

and they team believes that no job is too tough (3.10). It is inferred that the IT sector employees are having good group potency. IT sectors employees have highly perceived that their team did a lot work through hard working. But, they also believed that the every job is too tough.

Table – 2. Employees Opinion about Group Performance

Group Performance	Statements	Mean	Std. Deviation
Task Completion	Group members work together to complete group assignments.	4.37	1.10
	Our group members complete designated tasks in a timely manner.	4.22	1.08
	Our group deserves a positive evaluation.	3.39	1.29
Work-Efficiency	Our group produces high quality work.	4.29	1.15
	Our group completes the work efficiency.	4.24	1.16

Source : Computed

Group performance is analyzed with five dimensions namely, task completion and work efficiency. Further, mean and standard deviation are reckoned for each statement. The result is displayed in the Table - 2. The calculated mean value ranges from 3.39 to 4.37. The calculated standard deviation values range between 1.08 and 1.29. In the case of task completion, group members work together to complete group assignments has secured the highest mean value (4.37) followed by our group members complete designated tasks in a timely manner (4.22) and our group deserves a positive evaluation (3.39). For work efficiency, employees have highly perceived about their group produces high quality work (4.29) and the group completes the work efficiently. From the analysis it is observed that the group members

work together to complete the group assignments and group members produces high quality of work. However, the group deserves a positive evaluation is found to be poor.

Table – 3. : Multiple Regression Analysis for Group Potency and Task Completion

R-value	R^2-value	Adjusted R^2 value	F-value	P-value
0.907	0.823	0.821	404.955	0.001*

Predictors	Unstandardized Coefficients		Standardized Coefficients	't'	p-value
	B	Std. Error	Beta		
(Constant)	2.766	0.236	-	11.720	0.001*
My team expects to be known as one of the top performing.	0.672	0.117	0.268	5.741	0.001*
My team can get a lot done when we work hard.	1.714	0.173	0.649	9.880	0.001*
My team can solve any problem.	0.407	0.151	0.151	2.692	0.001*
My team has confidence in its abilities to perform at high levels.	-1.362	0.181	-0.520	-7.534	0.001*
My team believes that no job is too tough.	0.999	0.089	0.416	11.278	0.001*

Source : Computed

H₁ :   Group potency is significantly influencing the task completion of the employees.

In multiple regression, the p-value of the F-test helps to see whether the overall model is significant or not. If the p-value is zero to three decimal places, the model is statistically significant (F= 404.955; p<0.001). The adjusted R-square is 0.821, meaning that 82.1 percentage of the variability of task completion is accounted by the variables in the model.

In this case, the adjusted R-squared indicates that about 82.1 percentage of the variability of task completion is accounted for by the model, even after taking into account 5 predictor variables in the model. The coefficients for each of the variables indicate the amount of change one could except in task completion for a one-unit change in the value of that variable, given that all other variables in the model are held constant.

To compare the strength of coefficient of predictor variables the column of beta coefficients, also known as standardized regression co-efficients is referred. The beta coefficients are used to compare the relative strength of the various predictors within the model. Because, the beta coefficients are all measured in standard deviations, instead of the units of the variables, they can be compared to one another.

In other words, the beta coefficients are the coefficients when the outcome and predictor variables were all transformed to standard scores, also called z-scores, before running the regression. In this regression, the team can get a lot done when they work hard has the largest beta coefficients (0.649) followed by the team believes that no job is too tough (0.416), the team expects to be known as one of the top performing (0.268), the team can solve any problem (0.151) and the team has confidence in its abilities to perform at high levels has the smallest beta (-0.520). For one standard deviation increase in task completion there is (0.649) standard deviation increase in lot of work done when work hard. For one standard deviation decrease in task completion there is decrease in standard deviation (-0.520) of

high confidence to perform with the other variables in the model held constant.

In interpreting this output, it should be remembered that the difference between the regular coefficients and the standard coefficients is the units of measurement. It is brought that the team can get a lot done when we work hard, the team believes that no job is too tough, the team expects to be known as one of the top performing, the team can solve any problem are significantly influencing the task completion of the employees. But, the team has confidence in its abilities to perform at high levels is negatively and significantly, not influencing the task completion of the employees.

Table – 4. : Multiple Regression Analysis for Group Potency and Work Efficiency

R-value	R^2-value	Adjusted R^2 value	F-value	P-value
0.940	0.883	0.882	654.315	0.001*

Predictors	Unstandardized Coefficients		Standardized Coefficients	't'	p-value
	B	Std. Error	Beta		
(Constant)	1.031	0.140	-	7.351	0.001*
My team expects to be known as one of the top performing.	-0.125	0.070	-0.068	-1.792	0.074[NS]
My team can get a lot done when we work hard.	1.149	0.103	0.597	11.155	0.001*
My team can solve any problem.	0.963	0.090	0.489	10.720	0.001*
My team has confidence in its abilities to perform at high levels.	0.149	0.107	0.078	1.389	0.165[NS]
My team believes that no job is too tough.	-0.334	0.053	-0.191	-6.357	0.001*

Source : Computed

H1 :   Group potency is significantly influencing the work efficiency of the employees.

In the multiple regression, it looks to the p-value of the F-test, to see, if the overall model is significant or not. If the p-value is zero to three decimal places, the model is statistically significant (F=654.315; p<0.001). The adjusted R-squared is 0.882, meaning that 88.2 percentage of the variability of task completion is accounted by the variables in the model.

In this case, the adjusted R-square indicates that about 88.2 percentage of the variability of work efficiency is accounted for by the model, even after taking into account 5 predictor variables in the model. The coefficients for each of the variables indicate the amount of change, one could except in work efficiency given a one-unit change in the value of that variable, given that all other variables in the model are held constant.

To compare the strengths of coefficient of predictor variables refer to the column of beta coefficients, also known as standardized regression co-efficients. The beta coefficients are used to compare the relative strength of the various predictors within the model. Because the beta coefficients are all measured in standard deviations, instead of the units of the variables, they can be compared to one another.

In this regression, team can done lot of work has the largest beta coefficients (0.597), team can solve any problem (0.489) and the team expects to be known as one of the top performer has the smallest beta (-0.068). For one standard deviation increase in work efficiency, there is a (0.597) standard deviation increase in the team done lot of work. In turn, for decrease of standard deviation in work efficiency of due to decreases of standard deviation at -0.191 level in the team believes the job is to high with the other variables in the model held constant.

In interpreting this output, it should be remembered that the difference between the regular coefficients and the standard coefficients is the units of measurement. It is noted that team can done lot when they work hard and team can solve any problem are significantly and positively influencing

the work efficiency of the employees. But, team believes that no job is too tough is negatively and significantly influencing the work efficiency of the employees. However, team expects to be known as one of the top performing and my team has confidence in its abilities to perform at high levels are not significantly influencing the work efficiency of the employees.

CONCLUSION

The vital part of this study lies in amplifying the importance of the relationship between the group potency on group performance. Task completion and work efficiency are considered as the group performance. Group potency is significantly influence of group performance. Group potency is a perfect line for the group performance. Group potency in a group is quite required for sustained group level performance. Subsequently, work efficiency plays a keen role in analysing the individualized skills, subjecting to fit each group member in a perfect task. Group performance measures and task completion scores met the group potency process variable with a maximum relationship. Hence, it is conducted that when the team work hard with unity, the performance of the team is excellent.

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