

ASSESSING AND MEASURING TEAM ROLES BALANCE – IMPROVING TEAM MOTIVATION AND PERFORMANCE

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Abstract:

Purpose – The purpose of this study is to design a model for assessing and measuring team roles balance and to test the model analyzing the relationship between team roles balance and team motivation.

Design/methodology/approach – Data were collected from a sample of 32 project management teams on POS DRU program, out of a population of 145 members. Team roles were identified applying BTRSPI. To assess team current level of motivation was used a tool proposed by Woodcock and Francis (2008). Team roles balance was assessed with the developed model. Motivation indices of each team were tested against the team balance scores by using Spearman's rank test.

Findings – A statistical relation between team roles balance and team motivation was found. Team roles balance provides an environment which encourages individuals to contribute and provides higher motivation. It is argued that authors do not use constructs according to Belbin's theory of team balance.

Originality/value – Team design according to this construct has not been tested up to now with regard to team motivation. The study simplifies on the ambiguity of the concept of team balance.

Paper type: Research paper

Key words: Team motivation, Team design, Team roles, Team balance, Team working.

JEL Classification: M12.

1. Introduction

Teamwork is today a primary vehicle utilized by organizations to improve performance. Teams combine the efforts of individuals and provide synergistic outcomes.

Motivation of the individual worker has been studied in detail. One of the areas of great importance in research is the relationship between individual motivation and membership in team environment. There are many types of teams in organizations (project, management, service, production; Kanfer, Chen & Pritchard, 2008), and for all, their members are highly interdependent. Regarding the nature of team working, it is challenging to understand work motivation in team environment.

Some research suggests that individuals can sometimes exert less effort when working with others on collective tasks (Latané, et al, 1979). Kohler effect suggests that motivation occurs when members differ moderately in their abilities. Katzenbach & Smith (1993) sustain that higher level of diversity lead to higher motivation, satisfaction and thereby, to higher team performance. Roosevelt Thomas (2000) proposes that diversity provides higher motivation by an environment which encourages every individual to contribute. Researchers sustain that team composition affect some dimensions of team performance: satisfaction/motivation, communication, creativity, conflict, problem-solving competency and cohesion (e.g. Higgs, 2005). Nevertheless, authors do not refer to specified studies or empirical research. Other studies, Corso (1993) and Kurtzberg (2000) indicate that high level of heterogeneity within the teams leads to less member satisfaction. This is supported as well in the similarity-attraction paradigm, which predicts that homogeneous teams are more successfully. In this study was analyzed one of team performance dimensions - team motivation when members differ in their team roles.

In considering team design it is relevant to take into account the different team roles members play and the way they interact with one another. Some researchers (Belbin, 1981; Margerison & McCann, 1990; Parker, 1990; & others) proposed the notion of team roles.

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The team roles were made popular by Meredith Belbin in 1981 and 1993. Team role is defined as a cluster of behavioural characteristics which individuals display working in teams (Belbin, 2010). Belbin distinguished nine different team roles: Plant (PL), Resource Investigator (RI), Co-ordinator (CO), Shaper (SH), Monitor Evaluator (ME), Team Worker (TW), Implementer (IMP), Completer-Finisher (CF) and Specialist (SP). Belbin's model is preoccupied with the ways in which the roles develop, change and interact with other patterns of behaviour over time. Belbin model was proposed after a nine-year study of team effectiveness and team building with management teams at the Henley Management College, England. Each of these 9 roles proposed by Belbin is characterized by a cluster of specific behaviour. Role behaviour is defined by six factors: personality, current values and motivation, mental ability, experience, role learning and field constraints. However, Belbin did not show how much of the variance in a team role is explained by each factor. Wong (2007) sustains that individual behaviour should not be ignored because they have a great influence on motivation. Individuals spend a lot of time in relationships at work and peer behaviour has a major impact on their motivation.

Belbin (2010) found that certain diversity of team roles leads a poor team performance and that other diversity of team roles leads to so-called winning teams. As a theoretical diagnostic looking at individuals Belbin theory demonstrate the importance of great diversity of human behaviour, and the legitimacy of placing certain characteristics into teams. In others words, what motivates some people will turn others off. According to this, Belbin propose the notion of team balance. For a team to be balanced has to have all nine roles represented. According to Belbin, balanced teams perform better than non-balanced teams. He sustains that the members who prefer some of team roles will be inhibited and not motivated to make contribution if team is poor balanced. Nevertheless, Belbin does not offer us many indications regarding team balance assessment.

The impact of team role balance on team performance is still not clearly understood, research has produced mixed findings. This study will examine the relationship between team design regarding team roles balance and team motivation in order to analyze the influence of team design on team motivation.

2. Methods

The purpose of this study is to design a model for assessing and measuring team roles balance and to test the model analyzing motivation in team environment.

For this propose, a model of assessing and measuring team balance was build and two types of questionnaires was applied, which met the study needs. The subjects were 32 management project teams on POS DRU program. The teams were working on development projects and had five or six members.

To identify team roles it was applied Belbin Team Role Self Perception Inventory (BTRSPI). BTRSPI consist of seven sections, each section have ten statements. Respondents had ten points for each section to distribute amongst the statements. The members were required to allocate more points for statements that they felt more accurately reflected their team role and less points or zero to those that were less reflective of their team role or totally irrelevant.

The second questionnaire used for assessing team motivation, it is proposed by Woodcock Mike & Dave Francis (2008). The questionnaire contains 12 items measured on a 6 Likert scale. Items evaluate the motivation of team members with regard to the four characteristics of team motivation: Task satisfaction; Team-Oriented Leadership; Pride in Membership; and Empowered Participation.

Team Roles - To identify members' team roles it was applied BTRSPI. For each member it was considered one or two team roles. Most of the roles were identified as Specialists (SP); a rate of 16% of the 32 project management teams' members preferred this role.

A large percentage is also held by roles: Co-ordinator (CO), Plant (PL), Team-Worker (TW) and the Finisher (CF), for which it was identified that 14%, 12%, respectively, 11 % percent of members who answered the survey preferred these roles. The smaller percentage of representation in the 32 teams analyzed had the roles Shaper (SH), Monitor Evaluator (ME) and Implementer (IMP), followed by the Resource Investigator (RI), with the lowest percentage (only 7%).

These are the roles that create the teams' design. This composition motivates or inhibits team members to work, that depends on the team roles balance of each team. Fisher (1998) and Belbin (2010) argue that team roles should not be considered in isolation but must be considered how roles, in various combinations, interact.

Team Roles Balance - Many researches, using Belbin's model, rely on a simple count of the range of roles represented as a measure of balance.

Regarding Belbin Team Roles Theory, we can agree that team balance means a diversity of roles and, in terms of team role balance, diversity is best conceptualized in terms of variety (9 team roles have to be represented in a team; it is best that team roles not be duplicated). But it is Blau's index appropriate to measure team balance? Can we say that a team who has any five of the nine roles has a 'better balance' team than another who has any four of the nine roles?

The Most of the authors, using the Belbin model, considered Blau's index as a measure of team balance. If it is considered any eight of the nine roles and it is used Combination Formula (C98) it can be build nine different teams ; or with any 7 different team roles it can be build 36 different teams, and so on. Now the questions are: Witch one of the nine teams with eight roles has a 'better balance? If we use Blau's index all nine teams have a "equal balance". The same it is happens if we are considering a team with 5 different team roles compared to another that has 4 different team roles. The team with 5 roles it will have a 'better balance' than the 4 can have (with Blau's index).

For this research it was developed a model for measuring and assessing team roles balance when teams have less than nine roles represented. In these respects, team balance receives or gives points depending of some conditions. The conditions were decided following some guidelines:

- All nine roles have to be represented for team performance (Belbin's Theory, Diversity-Variety and Team Performance Theories).
- A member can have more than one role in a team (Roles Theory, Personality Theory).
- Team roles categorization made by some authors (Benne and Sheats, 1948; Bales, 1958; Belbin, 1981; Katzenbach & Smith, 1993; Mumford 2002,) as Action (IMP SH CF), Social(Co, TW RI) and Thinking(PL ME SP).
- Belbin (2010): „Into the ark the managers went two by two. There were two types of negotiator (Resource Investigator [RI] and Team Worker [TW]), manager-worker (Implementer [IMP] and Completer Finisher [CF]), intellectual (Monitor Evaluator [ME] and Plant [PL]), and team leader (Co-ordinator [CO] and Shaper [SH]).”
- Team roles should not be duplicated (Diversity-Separation Theory; Motivation Theory and Belbin Theory): Belbin (2010) argues that typical ineffective team occurs where obstacles prevent individuals finding their preferred Team Role. This can be true for any Team Role.
- Some combination of team roles that Belbin sustain that does not work well together (e.g. A Co-ordinator along with a dominant Shaper).

Given the model, it was calculated team balance for each of the 32 teams that were analyzed. Maximum balance that a team can have, given the proposed model, is 25 points. The scores obtained for teams roles balance are between 13.5 and 22.5 points. No team had a roles balance score close to 25 points, considered to be the most motivating. Given the distribution of team roles discussed in the previous section and the measurement of role balance, these results appear to be justified.

Team Motivation - The questionnaire chosen to measure the motivation of the 32 teams analyzed is consistent with the motivation team theory and the objectives of this paper and appropriate to test the hypothesis of this research.

After having identified the level of motivation for each member of the 32 teams, it was calculated the average motivation per team. The average motivation per team had values between 3.7 and 5.8 points (no extreme scores). More than half of the teams analyzed had the motivation score equal to 4.6, representing a high level of motivation.

3. Results and discussions

One of the reasons why was chosen to analyze the correlation between team roles balance and team motivation are some literature statements on the relationship between members' diversity and team motivation. However, the authors do not refer to specific studies or empirical research. This paper aims to contribute in this way, researching the link between team role balance and team motivation for 32 teams. Team design according to this construct has not been tested up to now with regard to team motivation.

A statistical relationship between team roles balance and team motivation was studied using correlation analysis. According to this analysis (Table 1), Pearson correlation coefficient was estimated based on data from the sample of 32 teams. To check the significance of the relationship between two variables a statistical testing procedure was applied and T Student test was used to test the correlation coefficient.

Pearson correlation coefficient estimated for the relationship between team roles balance and team motivation is equal to 0.579 and shows a direct link (balance changes determines the variation in the same sense of motivation) and relatively close between the two statistical variables. After verifying the significance of Pearson correlation coefficient (Fig. 1), was obtain a T Student test significance equal to the risk [Sig. = 0.01]. This shows that there are 1% risks to be wrong if it say that between the two variables is a significant correlation.

Table 1. Pearson Correlation between team roles balance and team motivation

Balance	Motivation
1	,578**
	,001
32	32
,578**	1
,001	
32	32

Therefore it was decided to reject the null hypothesis: H0: There is no link between team roles balance and team motivation, and support hypothesis H1: There is a link between team roles balance and team motivation. The relationship between the two variables analyzed is statistically significant, i.e. the greater the level of team balance the greater the team motivation level is.

To analyze the dimensions of motivation that were most influenced by the team balance, there was studied the statistical link between team role balance and the 12 items of the questionnaire proposed by Woodcock & Francis (2008). It was studied the relationship between roles balance and the 12 items using correlation analysis (Table 2).

Table 2. Pearson Correlation between team role balance and the twelve items of motivation

		TB	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12
TB	Pearson Correlation	1	,671	,623	,667	,688	,762	,729	,714	,698	,716	,661	,526	,722
	Sig. (2-tailed)		,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,002	,000
	N	32	32	32	32	32	32	32	32	32	32	32	32	32

**. Correlation is significant at the 0.01 level (2-tailed)

Pearson correlation coefficient estimated for the relationship between team roles balance and each item shows a direct and strong link between the variables. After verifying the significance of Pearson correlation coefficient, was obtain a significance of T Student test lower than the assumed risk [(Sig. = 0.000) < (= 0.01)]. Therefore, we can say that there are less than 1% chances of error to say that between roles balance and each of the twelve items there is a significant correlation. Given the results of correlation analysis we can say that team roles balance have a significant influence on team motivation.

4. Conclusion

It was found a statistical correlation between team roles balance and team motivation. It was found a link between all 12 items of motivation and team roles balance. It can be argue that team design regarding Belbin's team roles, have an influence on team motivation. If teams have a better roles balance than team members are more motivated to work. Regarding motivation theories that contradict the influence of team diversity on team motivation, it can be argue that the ways in which team diversity is defined, assessed and measured are not always appropriate chosen to the type of diversity we analyze. The model purposed in this paper for assessing and measuring team roles balance is a construct suitable to design teams in order to increase team motivation. It is argued that authors do not use constructs according to Belbin's theory of team balance. This study simplifies on the ambiguity of the concept of team roles balance. This research makes a contribution to practitioners responsible for designing and motivating management teams. Implications are suggested for more qualitative measures to designing balanced teams.

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