Construction project management and the effects of project team cohesion

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Abstract

This paper aims at answering the strategic question, "In which way do the team cohesion affect the project management in the construction industry"? The construction projects are operating within a continuously changing environment and are characterised as complex due to the factors that influence the construction process.

The current research was based on the process of the questionnaires and semi–structured interviews and was applied in construction companies. The findings and the data analysis are presented here-below. Having discussed the findings of this research, suggestion for improvement was given. The limitations of the research were also acknowledged as well as recommendations for further research.

Keywords: project management, teams, team cohesion.

1. Introduction

The objective of this paper is to present a topic of Effects of Team Cohesion on project management in the construction Industry. The research objective is to attempt to identify the team cohesion as a success factors affecting the effective development of construction projects, in construction projects. Brown and Kaka (2003) states that the construction industry is under achieving and has a poor rate of performance while investing little in research and development. The present is important initially for the company understudy, itself, as well as other companies operating in the same industry, in order to increase peoples' effectiveness and improve performance. Secondly, the research is important for the academic community and for practitioners who may use the results of this research.

The most important research questions that will be determined during the current study are:

What are the factors that turn a team into a cohesive team?

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How a cohesive team can contribute to achieve the effective delivery of projects?

The first chapter contains the introductory stage to the research. The second chapter includes the literature review. The purpose is to define the problem and the background of the study. This will include a bibliographical research, through books and up to date journals. In this chapter definitions related to organisational culture and project management will be included as well as the relevant theorist. The third chapter includes the research design and methodology which will describe the steps that will be undertaken in order to address the research questions, the research approach, and the research techniques. The fourth chapter includes data analysis and findings resulting from the research expressed through tables, diagrams and descriptions. The last chapter includes the conclusions and recommendations and it will provide suggestion for further study in the future.

2. Literature review

Foucault (1992, p.235) states, "planning could be associated with the dominator power of systematic reason pursued through bureaucracies".

Project management

According to Kougoulos (2010), the factors affecting construction productivity, categorized into two main groups: technological and administrative factors. Moreover, stated that the construction productivity affected by labor characteristics factors, project work condition factors and non-productive activities. In addition, factors affecting construction productivity cannot be constant and vary from country to country and from project to project. In conclusion, factors' categorization in external and internal factors is affecting construction productivity (Enshassi, 2007).

Emotional State

It is proposed that individual emotions result from interactions with members of specific social network. According to Ashforth & Humphrey (1995) emotional state is defined as a feeling state, inclusive of basic emotions (joy, love, anger etc) and complex social emotions (shame, guilt, jealousy etc), is also inclusive of a wide range of feeling intensities and durations as well as traditionally distinguished constructs such as affects, sentiments, and moods.

Elfenbein (2007) implies that emotions share a significant relationship to events and stimuli in the workplace. Mignonac & Herrbach (2004) agree that stressful events (assignment of unwanted work, bad relation with colleague, etc) generally result to a negative emotional reaction, while positive events (good work outcome etc) result into positive emotional reactions. George (1990) argues that positive emotional states result in the sense of well-being, and their counterparts result into anxiety and nerves.

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Social Support and Team Cohesion

Shumaker & Brownell (1984) argues that social supports which ease stress have been shown to come from anyone from an individual's social network. Furthermore, Michel, Mitchelson, Pichler & Cullen (2010) say that the purpose in the work environment is to increase the well-being of the individual receiving the support.

A definition of team cohesiveness given by Carron (1982) is a group's tendency to stay united under a common goal. A number of outcomes can be attributed to a team's cohesiveness or lack thereof; several studies have suggested a positive relationship between cohesion and team performance (Hambrick, 1995). It is proposed in this study that cohesiveness will have a moderating effect on the effectiveness of project development (Wiley, 1987).

Cognitive Appraisal Theory

Smith & Ellsworth (1985) posit that emotions inevitably involve differences in the way an organism appraises its environment. Individuals will determine their reaction to a situation based on their appraisal of the situation, which Roseman, Spindel, & Jose (1990) argue that it is based on contextual factors as well as the appraising individual's motivational and psychological state.

Network Demography Theory

According to McPherson, Smith-Lovin, & Cook (2001) there are those who share similar demographic characteristics and will have stronger affective and interpersonal ties through which information will more readily flow. Although important demographic characteristics such as age, race, gender, organizational permanent status, produce stronger affective and network ties, interpersonal ties can be strengthened by similar educational background (Marsden, 1987), or contact with an individual (Wellman, 1996).

Role Theory

According to Thoits (1991) the roles that individuals fill in the work environment are incorporated into their role-identities as a conception of positioning in a social order. Furthermore, Thoits (1991) argue that the stressors associated with social roles, originate from the failure to meet either personally held expectations or the perceived expectations of others within an individual's social network. Role in an organizational context is defined by Wickham & Parker (2006) as the behavior employees are expected to assume in order to perform their duties effectively. According to Katz & Kahn (1966) a role represents the expected behavior from position holders within an organization.

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Effect of team cohesiveness

According to Mathieu et al. (2008), team is members sharing common goals. Carron (1982) defines cohesion as a group's tendency to stay united under common goals that unite the team members. In highly cohesive teams (a) when one member reaches goals associated with his/her role, the other members will fulfill their goals as well and (b) if one member fails, all team members fail. So, according to Katz & Kahn (1966) if social support becomes a form of self-validation and if a highly cohesive team member feels unsuccessful to the social role within the team, the failure of the team to perform is highlighted. Ashforth & Mael (1989) argue that members see their fate linked with the one of the group and each experiences the successes and the failures of the group.

McPherson et al.(2001) states that members with common goal and close contact have greater emotional and interpersonal ties. Kessler et al. (1985) adds the existence of member's emotional state, social support gives members emotional support, encouragement, agreement, and advice

Methodology

This study is an exploratory, qualitative research project. An interpretative approach will be assumed "combining the facts creatively in order to stimulate explanatory suggestions to the issue" (Remednyi, Williams, Money and Swartz, 1998). This approach seems particularly appropriate to the topic of the research since according to Fisher (2000) an interpretative approach can be used in order to determine the link between understanding and action, which is seen as indirect, mediated through people's thinking, values and relationships with each other".

Semi-structured interviews, is the technique used for the present research. A small number of actors are chosen because the "bases of organisational processes can often be understood in terms of small group dynamics" (Sayles, 1980 as cited in Kamsaris, 2007) which are analogous to interactions among larger components such as departments (Smith, 1973) as cited in Kamsaris (2007).

The focus is on these subgroups because the internal differentiation of organisations is characterised in terms of subgroups (Simon, 1965). Organisations may consist of integrated subgroups linked together (Simon, 1965 as cited in Kamsaris, 2007), because subgroups are imposed on organisations for managerial efficiency (Granovetter, 1973 as cited in Kamsaris, 2007), or because subgroups emerge as organisations grow and interactions among actors cannot be sustained at levels high enough to integrate each actor directly into the common organisation (Robinson, 1981 as cited in Kamsaris, 2007). Most relevant for us, subgroups may be areas of strong subcultures (Sackmann, 1992 as cited in Kamsaris, 2007) within organisational culture.

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The data collection technique about construction companies was to send a questionnaire to engineers of the biggest housing company and other companies that undertake similar projects as a first approach. As a preparation stage of this a semi-structure interview can be conducted in some of these companies in order to study the area in depth before conducting the quantitative survey.

The group of factors which is orientated to the project management includes skills and techniques which are applied during the whole project life cycle: from the initiation phase to the project hand over. It is more than evident that this group requires and attracts the highest attention from the project managers.

4. Discussion of Findings and Data Analysis

Even though the precision and reliability of such sample might be statistically questioned, affecting the whole study as well, we consider the collected data significantly enough for further analysis by taking into consideration the quality of the sample. The characteristics of the population of the sample prove that the data obtained from the respondents will be extremely helpful when the research questions will be answered.

The majority (70%) of the productive personnel have undertaken relevant studies that finally assist them to enter the organisation, while the studies undertaken by the supportive employees are irrelevant with their present occupation and did not assist them enter the organisation. One possible interpretation is that the productive departments are employing people with relevant studies, while the supportive employees do not seem to have any similar practice.

Most employees (79%) see that they are working for their department not, the company. This may indicate a separation in operations. One possible interpretation of this difference is that, as Hall and Taylor (1996, p. 945) imply that “the actors have preferences and behave so as to maximise the attainment of these preferences, they see politics as a series of collective action dilemma, the actors have strategically calculated behaviours and expectations”.

Furthermore, all employees believe that their company provides the necessary team building mentality, so, to become interactive. So, they know that the team building is very essential for the operations of the organisation. There are differences, concerning the forms of communication between the employees, which is in accordance to the Festinger’s (1950) view, that one of the basic feature of most organisations is that actors influence one another through interaction, for example through face-to-face contact, as informal communication.

There are non-significant differences, concerning the way team cohesion affects the effectiveness of their projects. Confusion and misunderstanding results during the cooperation among different sub-teams of the same project, as each has a different

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approach built as a part of their cohesion (Bovee and Thill, 1992). The development of sub-teams, allows diluting effects to appear in the project team, which may cause the effective delivery of the project. The difference prioritization issue is important (Macdonald, 1995) so, developing one project team is important.

There are non-significant differences (35% versus 37%) concerning the cases that team cohesion results to conflict resolution whereas, low cohesion results to conflict. Foucault (1992) states, "planning could be associated with the dominator power of systematic reason pursued through bureaucracies". In bureaucratic organizations learning is based on institutionalized experience and the organization expects to continue more efficiently the same behavior that worked in the past. One possible interpretation is that the organization has located that the existing conflicts, could be resolved through team building activities, resulting to team cohesion.

There are some significant differences within the project concerning the view that the different level employees have about the organisational cohesion. All employees agree that in the cases where there is lack of team cohesion the result is lack of cooperation affecting the effective completion and delivery of the project. This happens because there are close function situations within the project, which are obvious to the employees. The awareness of that situation makes them agree that in the cases of limited team cohesion the cooperation is low as well.

Analyzing the data from this perspective we can see that the respondents have vast experience in residential construction projects. Around 80% of the people that filled in the questionnaire have more than 2 years of experience in managerial positions, while 61% have experience 5 years or more. Therefore responses and other data obtained from a sample like this can be characterized as “informed” and will be used for further analysis. The high quality of the sample precision when answering the research questions can also be supported by the fact that the vast majority of the respondents were involved in the residential building industry in their last project.

The questions to the respondents were related to a company’s know – how and its importance to project success, to the terms in which a project can be considered as a success and to the factors that can lead to project failure. From the responses that we have accumulated we conclude that a project must be considered successful if it is delivered on time and without exceeding the budgeted cost. This view is shared among over than 80% of the participants.

It becomes obvious that there are three groups of success factors recognized as a majority. Therefore, factors related to project management (38%), project characteristics (21%) and human aspect (20%) dominate in projects. It is mentioned that in this question each one of the groups has a weight and the total sum is added up to 100%.

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The group of factors which is orientated to the project management includes skills and techniques which are applied during the whole project life cycle: from the initiation phase to the project hand over. It is more than evident that this group requires and attracts the highest attention from the project managers.

Project management actions are related with the decision making for planning, controlling, setting goals, developing comprehensive strategic, operational plans and establishing control process. Apart from the data presentation and the classification of the success factors on categories, the necessity to discuss further the information that derived from the questionnaires is evident. This part aims to develop an analysis of significance of each project success factor in the construction industry regardless groups in which they were accumulated at the previous step of research.

The majority of factors leading project to a successful outcome are characterized as “important”. Some of them receive equal or similar ranks and therefore it seems complex to define differences between such factors and explain them. Therefore minimum and maximum values on a rank scale offer more interest for discussion. There are some factors which are located in the “neutral” zone and there are the least important ones for the success of residential construction projects.

There is always the risk of allocating factors to a certain group, while it is possible due to human perception of classification, that they should be placed elsewhere. For example, clear objectives might be referred to the project characteristics group of factors because it involves the process of transferring aims to plans and specifications. However, it could be also linked to the human factor group as project goals and their clarity are originated by the client. The fact of the incorrect perception of several factors was identified during the interview process.

The three most influential categories in terms of project success were selected and defined as ‘primary success areas’. It was done as a step to list of project success factors formulation. After the most powerful groups were identified the main focus of present research will be on a studying of success factors which belong to those groups.

Planning leads this group of factors followed by decision making. Both of these factors are recognized by many sources as of significance importance on the way to success. Monitoring and risk management are parts of the group which provide to the manager total control on the execution of the project. Communication remains the least important factor in this group. It contradicts in many aspects which emphasize the importance of this factor for overall project success. Nevertheless, as an excuse for the low value of this factor might be the comparison to others or the fact that respondents stated that the exact meaning of this factor was unclear to them.

It is obvious that the group of factors related to human characteristics was highly ranked mostly due to a large number of factors involving in it. Around 70% of factors are

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evaluated as “highly-important”, “important” or “neutral”. Therefore, it might be stated that this group is a general group and combines many factors which make it significant. However, in order to reduce the effect of quantity and increase the one of quality, further investigation is required. As a suggestion for future researches, would be forming equal or proportional groups so as to avoid similar phenomena.

Project managers’ knowledge and experience is the most valuable variable. However, one of the possible reasons that this happens might be the fact that most of the respondents occupy managerial positions in their companies and grading factors connected to project management are considered as a self-assessment and therefore the responses might have been overrated. Adding to this, the qualification and the teamwork of the project team, personnel’s competence, authority and leadership are also highly ranked, probably for the same reasons. Apart from these conclusions the actual importance of managerial experience could not be disregarded. Moreover, it is interesting that factors related to clients’ attributes and relations remain to the bottom of the list of factors’ significance towards success. The distance between project managers’ attributes and sponsors relations, show that human factors addressed to project managers and their teams rather are more important than the ones of suppliers, clients and users.

5. Discussion

Moreover the significance of classification of success factors into groups, was extensively investigated but from the perspective of project success. Data analysis indicated the classification of the success factors into two main groups as following:

Primary project success area (higher significance for project success)
- project management,
- human factors
- project characteristics

Supporting project success area (lower significance for project success)
- procurement
- environment
- project organization

The majority of factors leading project to a successful outcome are characterized as “important”. Project managers’ knowledge and experience is the most valuable variable. Factors related to human characteristics were highly ranked mostly due to a large number of factors involving in it. Furthermore of major importance is also the project clarified scope, followed by the project’s type and size. It must be remarkable that no one of the factors included in the environmental group are characterized as “non-important”.

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The contribution of individual success factors that divided into groups helps the overall project success to be identified. Finally, the findings regarding the groups of success factors combined with single factor analysis provide the pathway achieving project success in projects.

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