

The Sources of Job Stress among Project Managers

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Abstract

Organizational stress and workplace health have become an issue of great concern over the last decade. Although some workplace stress is normal, but among project manager is excessive. Project managers are considered as the key persons and one of the most important elements of any project, and their performance highly influences on the overall success of the project. Due to the nature of their work, they tended to face a multitude of stressors that always interfere with their productivity and impact their physical and emotional health. Current study focuses on “job stress” as one of the main factors affecting project managers’ performance. Within this research, preliminarily time pressure, workload, limited resources, limited authority and conflict were studied as the main sources of job stress among project managers. Furthermore, and after conducting a pilot study, some other factors were identified and added to the initial five factors. Eventually, the main survey focuses on twelve (12) sources of stress that was carried out among thirty (30) international project managers; and eleven (11) factors were introduced as the most important sources of stress among project managers.

Keywords: Job stress among project manager; conflict at workplace; sources of job stress

1. Introduction

While today is the era of high technology and modern achievement, a high performance is expected to be the norm. Many organizations demand for a high level of quality, service and overall business success, therefore, the pressure is felt on individuals at all levels of organization. Performance targets are becoming tougher to meet with each succeeding year and the management staff is experiencing difficulty in fulfilling the challenge. Anyone who has been ever involved in a project confirms that project environments in general are challengeable and stressful at the same time. This is mostly because of the nature of project work, which is a temporary activity, limited to a specific time and budget. Basically, four elements should be taken into account as the main features of a project. These features consist of: goal, group of people (project team), specific duration of time, and limited amount of money (Bars, 2006). Limitations of time and budget normally confront the project team, and specifically the project manager with stressful conditions. Limitation of time results in “time pressure”, limitation of budget causes “resource constraint” and both of the mentioned factors contribute to “high level of responsibilities” and “heavy workload”. In addition, if the project is conducted within a matrix-structure organization, the project manager has to deal with an extra challenge: job interference with functional managers; this challenge not only amplifies the stress caused by above-mentioned factors, but also individually puts the project manager into extra stressful situations. Furthermore, stress is sometimes caused by several kinds of conflict in the project environment. Although general management is a high stress occupation, the level of stress experienced by project managers is known to be even higher due to the conflicting demands of completing a project on time, under budget, with a high quality to satisfy the stakeholders (Haynes & Love, 2004).

2. Literature Review

Job stress is an important concept in management sciences and one of the areas of interest for so many researchers. It is frequently studied within several researches in both levels of theory and practice. Regarding the temporary nature of project-based works, the workforce is highly exposed to job stress and its aftermaths. In this part, the studies that have investigated the sources of job stress among project managers are reviewed. Among the several sources of stress introduced by researchers, five factors (that affect the performance of a project managers more than others) are selected to build the conceptual framework of current study. The literatures of the studies related to these five factors are reviewed in the following sections.

2.1 Time Pressure

The responsibilities of project managers vary across industries and may depend on the company’s size, culture, and level of maturity. However, some responsibilities are common among all project managers. Meeting the deadlines of the project is one of these responsibilities (Berrie, 2009). Tukul and Rom (1995), found that in the majority of large-size projects with more than 100 activities fail to meet their deadlines. They also conducted another survey in 1998 among 91 project managers and reported that 56% of the respondent had exceeded the deadlines of their projects. In the cases that the implementation of a project is assigned to a contractor, usually

some penalties are imposed on the contractor when deadlines are exceeded. Besides monetary penalties, companies may incur huge losses in credibility when they fail to complete their project. In the majority of cases the project manager is directly recognized as the responsible person for delays and penalties. As a result, time pressure emerges as a prominent source of stress experienced by project managers (Barczak and Wilemon, 2003). Time pressure is unique from other kinds of stress and so, needs special attention (Darrel, 2008). The stress caused by high levels of time pressure can lead to passivity and avoidance reactions (Van Eerde, 2000). The negative effects of time pressure in project workplaces can be moderated by applying social interaction processes (Nordqvist et al, 2004); for example, by developing cooperation among the components of a project, the feelings of belonging and social support can be strengthened which consequently leads to a considerable decrease in the negative effects of job stress (Hackman, 2000).

2.2 Constraints of Resources

Besides time, 'budget' is the other major limitation of any project. Limited budget automatically results in limitation in all resources including materials, machinery, technology, labor, and natural resources such as land, water and energy. Limited resources may aggravate exposure to stressful working conditions (Houtman et al, 2007). The project manager as the official who is directly responsible for the project's resource management is exposed to these stressful conditions, more than everyone else. "Resource constraint" is considered as one of the most stressful situations experienced by project leaders (Campbell et al, 2007). According to the results of a research conducted among a group of leaders, when the respondents were asked about the most important factor which contributes to a leader's stress, the majority of them introduced the constraint of resources as the main source of stress (Campbell et al, 2007). In some cases limited resources inside a company, results in a rivalry among project managers to grab a bigger portion of available resources for their own projects.

2.3 Workloads

Whenever limited resources are accompanied with time pressure, normally stakeholders are forced to multiply their efforts and accept more responsibilities. This situation which is very common in project environments faces the project team with a heavy workload. When the workload exceeds capabilities, stress is generated among the team members. Job stress is defined as the deviation between the expected workload and the actual ability of individuals in the project (Leung et al, 2007). Stress involves both quantitative (e.g. too many/few tasks) and a qualitative (e.g., repetitive/complicated tasks) workloads (Leung et al, 2007). Regarding that the amount of workload is determined by the level of responsibilities, it is predictable that project managers deal with heavy workloads. An interview-based research among a group of project managers revealed that all interviewed project managers recognize excessive workload as a stressor (Singh, 2003). The study proved that the performance of a project manager will decline considerably over a maximum amount of workload. This could be because work overload causes a feeling of being burnt-out leading to stress (Sutherland & Cooper 2000).

2.4 Conflict

Conflict is common in a wide range of human activities, from a minor disagreement and challenge between two individuals, to political struggles among countries. Conflict is defined as "the opposition of interests, values or objectives" (Sommerville & Langford, 1994). In a project environment, conflict is regarded as a very important issue because it could hinder the progress (Sedström, 2007). Project environment, usually involves people from different cultures and backgrounds. Hence, conflict is almost inevitable in such an environment. According to Verma (1998), "when project team members interact during the course of completing their tasks and responsibilities, there is always a potential for conflict". From his point of view, it is impossible to gather some people who are from a diverse background and norms and expect them to work together in a project environment without any conflict. Different researchers have mentioned several reasons for conflict in a project environment. The most common causes of conflict from the viewpoint of Sommerville and Langford (1994) could be categorized into delays in progress, changes in functions, financial and budgetary issues, and various contractual obligations. Regardless of different factors mentioned by researchers as the main causes of conflict in project environment, almost all of them agree about a strong link between conflict and the level of stress

Sommerville and Langford (1994) conducted a research among project managers of construction projects to assess the relationship between stress and conflict. The findings of their study proved that project managers' job stress is significantly related to their involvement in conflicts. Hyde et al (2006) argue that a project is a type of work in which stress and conflict not only may occur, but also are considerably interlinked and the overall performance is highly affected by these two factors.

2.5 Limited Authority

Nowadays, the majority of projects is organized in a matrix-structure systems. In spite of several advantages of such systems, they have some important disadvantages. According to Kuprenas (2003) "confusion and conflict over roles and responsibilities between functional managers leading functional teams and project managers overseeing project performance" are the most important challenges of matrix-structure organizations. Actually in matrix system, team members experience role confusion because they have to report to two managers at the

same time (Fig. 1), and after a while, the managers may find themselves in the middle of a conflict over tasks and authorities.



Figure1- Matrix structure and dual responsibility of team members

Project managers in this organizational structure may find it difficult to exert influence over the team members (Jacques, 2007). In a matrix system, tasks and authorities are distributed between project managers and functional managers without a clear border. This characteristic causes ambiguity and conflict over areas such as resource management (Larson & Gobeli, 1987), and personnel assignments (Greiner Schein, 1981). This ambiguity results in a power struggle because each party attempts to clarify and define its responsibility and accountability (Posner, 1986).

3. Conceptual framework

Based on the issues identified in the literature review as the sources of stress in a project environment, the conceptual framework of the current study is laid out according the following model (Fig.2).

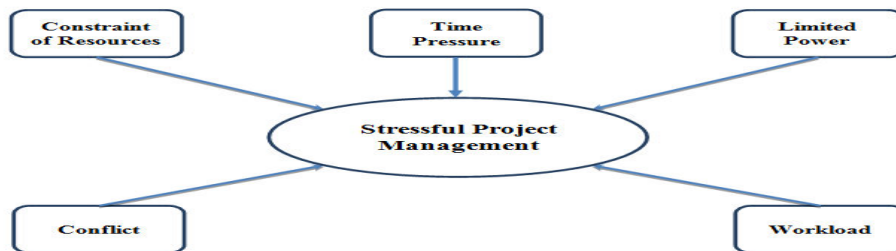


Figure 2- Preliminary Model of Study

As reflected in the model, five main stressors including time pressure, resource constraint, conflict, limited authority and workload were selected to trace job stress in a project manager. This is the preliminary framework of this study. It is evident that there are some other factors that may produce job stress among project managers. Hence, we decided to consider enough flexibility for the framework. In order to achieve this purpose, the suggested framework was applied to conduct a pilot study and the results of the study were analyzed to identify the other sources of stress and build a new framework for the main survey (section5).

4. Research methodology

The above-mentioned conceptual framework was applied to conduct a pilot study with participation of 10 project managers. The study was based on a questionnaire containing some open-ended questions. Each element of the framework was focused and addressed by one descriptive question which was designed to assess the opinions and personal experiences of respondents about that element. In addition, the respondents were requested to add any other source of stress that was important from their viewpoints. As a result, so many stressors were introduced by the participants in the pilot study. Among all suggested sources of stress, 7 sources were frequently repeated by the majority of respondents. Hence, these seven factors were added to the preliminary model to form a new framework with 12 elements (fig. 3). Based on this framework, a new questionnaire containing some open-ended plus 12 Likert-scale questions was designed as the survey instrument.

An online platform was selected to conduct the survey. The questionnaire was uploaded on the internet and its link was distributed via email, social networks, and other online media. Project managers from different fields including construction, IT, and industrial projects were targeted for this survey. In order to avoid cultural limitations, project managers from several countries in four continents were requested to answer the questionnaire. Finally, 30 responses were collected from the managers of different projects in Singapore, India, Iran, Turkey, Denmark, Portugal, South Africa, Panama, Philippines and Malaysia.

5. Data collection and analysis

As described earlier, a preliminary model was applied to conduct a pilot test in order to verify and develop the model. During the pilot study, respondents introduced seven additional factors and the basic model was transformed into the following framework (fig. 3).



Figure3 - Developed Framework after Pilot Research

The new model was applied to construct a new questionnaire and conduct the main survey. The summary of respondents' answers is presented in the following bar chart (fig. 4). According to the chart, the majority of respondents believe that all suggested factors except cultural gap can cause the stressful project management condition.



Figure 4- Summary of respondent's supports to the elements of the model

In addition to the open-ended questions, respondents of the study were asked to tick on 12 Likert-scale questions to determine the relative significance of each factor. The mean values of respondents' answers to the mentioned questions are summarized in the following figure (fig. 5). The bar chart provided in the figure shows that the cultural gap has the minimum significance level among 12 suggested independent variables.

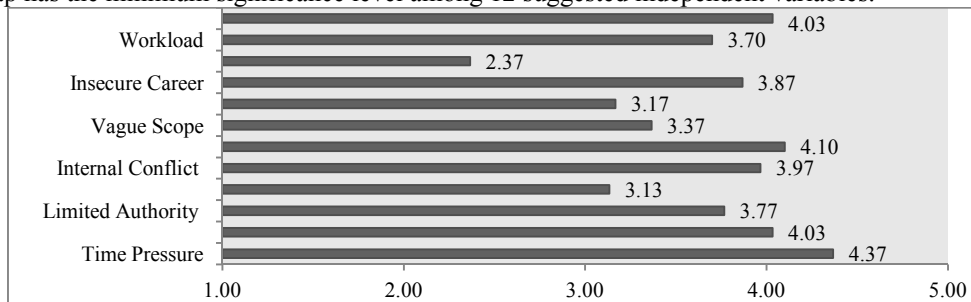


Figure 5- Relative Importance of Mean values

The above figure shows that from the viewpoint of the respondents, time pressure is the most important source of stress (M=4.37), whereas cultural gap is the least important one (M=2.37). In order to check whether the above difference between factors is statistically significant, Friedman test was applied in SPSS. Table 1 represents the results of Friedman test. According to the table, with 99.9% confidence it could be claimed that there is a significant difference between the above 12 factors (Chi-Square=56.19, Sig. =0.000)

Table 1- Friedman Test for the Difference between Mean Ranks

Sources of job stress among project managers	N	30
	Chi-Square	56.195
	Df	11
	Asymp. Sig.	.000

In other words, the difference between factors is statistically significant and the findings could be generalized with enough degree of confidence.

After verifying the relative importance of factors, it is the time to decide on the final model. Figure 4 shows that except cultural gaps, the other factors are supported by the absolute majority of respondents as the important sources of stress. Moreover, fig. 5 illustrates that the mean values of respondents' answers to Likert-scale questions in all items except cultural gaps are bigger than 3. These facts lead us toward rejecting cultural gaps and accepting the other 11 factors. Consequently, the below model (fig. 6) is suggested as the final model for the most important factors that cause job stress in a project manager.



Figure 6- The final suggested model

6. Discussion

The five sources of stress initially posited by this study were strongly supported by the respondents. In addition, some more stressors were identified within the pilot study and supported within the main survey.

Time pressure received the strongest support from respondents and 93% of them confirmed it as a main source of stress. One of the respondents from Portugal stated that “as a project manager, I am normally under pressure to complete the project on schedule to avoid delay penalty, and this issue exposes me to high degrees of job stress”. It is almost evident that high levels of time pressure can produce stress, but its negative effects can be moderated by cooperation and social interaction (Nordqvist, 2004).

Constraint of resources was also strongly supported by 90% of the respondents. A South African respondent claimed that “I define a project as “applying limited resources to implement specific tasks in limited time”, and it is evident that any limitation makes rivalry to obtain more, and rivalry normally results in stress”. Stress is often caused by “trying to do more with less”; (Campbell et al, 2007). So, it is reasonable to introduce resource constraint as one of the most important sources of stress for a project manager.

Although the family problem was not initially considered as a major stressor, but the results of the pilot study as well as the main survey showed that this item is an important source of job stress among project managers. According to a Malaysian project manager, “To me, it is the main source of stress; as a project manager I have to travel several times a month and sometimes I have to stay for a long time at the project sites, far away from my family. In such conditions, I normally get stressed because of the problems that may be faced by my family”.

The effect of family problems on individuals' stress at the workplace is proven by several studies. According to the American Psychological Association (2009), “more than half of adults report that family responsibilities are a significant source of stress and 55% of employees say that job demands have interfered with responsibilities at home in the past three months”. It is clear that the specific demands of project-based jobs (specifically project management positions) can intensify the interference between workplace and home responsibilities and increase the individual's job stress.

Limited authority was another stress factor that was supported by 83% of the respondents. An Iranian respondent said that “dealing with functional departments is so hard. It looks like that the authority of the project manager is so limited”. Actually, lack of full authority over team members (as described in section 2-5), faces project managers with stressful conditions. Having adequate authority can improve the possibilities of gaining control in stressful situations, thereby influencing the work situation through relevant decisions (Zika, 2006)

Likewise ‘limited authority’, ‘weak organizational support’ was supported by 83% of the respondents. Organizational support is defined as the extent to which an organization values its employees' contributions, and cares about them (Allen et al, 2008). Pathak (2012) claims that “organizational support lessens the individuals' level of stress and indirectly affects their job satisfaction”. It seems that this factor has a critical effect on project managers' job stress and even sometimes can eclipse the other important factors. A Turkish project manager claimed that “If the company supports me, I feel no stress even with limited time and budget”.

The survey also revealed that about 80% of the respondents agree on ‘insecure career’ as an important source of stress. An Indian project manager stated that “When I feel that my working situation is not secure, how can I concentrate on my project? It is an absolute source of stress. I never put maximum effort if I am at risk to be fired and get laid off.” Coetzee and De Villiers (2010) argue that “the perception of increased job insecurity could be a function of unemployment and temporary contracts”. They mention job stress as a side-effect of job

insecurity.

Conflict was one of the five factors proposed by the preliminary model of this study. But after conducting the pilot study, the collected data led us toward dividing this concept into two categories of internal conflict and external conflict. The internal conflict which was supported by 80% of the respondents, addresses the conflicts between the project managers and other individuals (superiors, subordinates, or peers) inside the organization. The external conflict on the other hand, addresses those conflicts that may occur between a project manager and the external parties such as the client or the subcontractors. About 66% of the respondents have mentioned this type of conflict as a major source of conflict. A Singaporean respondent stated that “in order to avoid conflict, I usually try to improve my empathy, negotiation skills, understanding the abilities and charismatic appearance to absorb everybody who is involved in the project”. In general, breakdown in communication is the most common and most obvious source of conflict in projects (Verma, 1998).

Project managers often deal with extraordinary tasks and responsibilities. Most project managers complain that they get stressed because they have to work overtime (Chiocchio, 2010). A project manager from Denmark argued that “This is one of the most difficult aspects of project management. You have to manage a cross-functional team and accomplish huge tasks and responsibilities within a short period of time. This heavy workload, specifically at the peak of the project, is a terrible nightmare to the project manager.” Extended exposure to heavy workload, results in psychological stress reactions (Zika et al, 2003). About 77% of the respondents have stated that workload is a main source of stress.

A project manager normally has to manage a group of individuals from diverse backgrounds and disciplines (Jacques et al, 2007). But the project manager may not have full abilities (knowledge, skills and experience) in all the relevant specialties, and this could be a source of stress. About 67% of the respondents confirmed this issue. A project manager from Denmark argued that “when your staffs realize that you do not have enough knowledge and experience about what they do, after a while they may ignore you, or even cheat you. This could be a source of a killing stress for a project manager”. Singh (2003) supports this argument. He takes into account lack of enough information, skills and experience as a main source of stress among project manager.

If the project scope is not clear enough then the project manager gets stressed to deal with a vague scope of work. About 57% of the respondents agreed on this argument. A respondent from Panama believe that “That is really big cause of stress! When the client and the contractor have different perceptions about the scope of work, then deliverables are vague and it is a source of stress”. As a whole, ambiguous project roles and continuous changes in plans will result in psychological stress (Zika et al, 2003).

Based on elaborations of the respondents, hiring an industrial psychologist could be so useful to mitigate the amplitude of the stressors. Also, continuous consultation with a professional psychologist is necessary for project-based organizations. There are several techniques that could be helpful in this area. For instance, team building programs gather all staff somewhere out of the office and put them in a situation to struggle with several natural and mental challenges in order to motivate them to learn how to solve the problems by team working.

7. Conclusion

The project manager has a significant role in conducting the project tasks and to delivering all deliverables in a limited time with appropriate cost and quality to satisfy all stakeholders. Since a project is a temporary activity, in most companies only few staffs are hired in project-based departments and the rest of the human resources of the project are usually provided from functional departments of the company. Based on the model suggested by this study, there are eleven major stressors that usually create a stressful project management circumstance. In order to protect the projects, it is necessary to mitigate job stress in project managers using several techniques such as hiring psychologists, conducting team building programs, giving more values to staff and paying attention to their family problems. The role of the CEO is so significant to inject a positive energy among project managers and project team members, also to initiate a fair appraisal system by identifying proper key performance indicators (KPIs) in order to motivate different departments to collaborate with project managers and create more values for the company. This close cooperation can lower the level of stress among project managers, keep the company away from several internal conflicts, and facilitate the conditions for a better organizational performance and more profitability.

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