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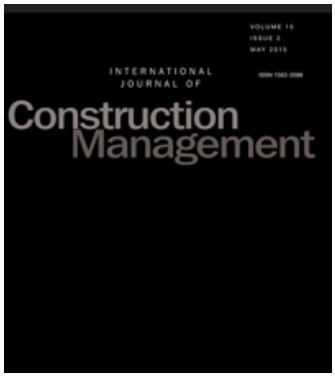

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Nabil Ibrahim El-Sawalhi[a] & Salah Hammad[a]
[a] Faculty of Engineering, Islamic University of Gaza, Gaza
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Factors affecting stakeholder management in construction projects in the Gaza Strip

Nabil Ibrahim El-Sawalhi* and Salah Hammad

Faculty of Engineering, Islamic University of Gaza, Gaza

One of the major emerging concerns in the management of construction projects is the recognition and management of project stakeholders, since the stakeholders are a major source of uncertainty in construction projects. The construction industry in the Gaza Strip has involved a diverse range of stakeholders. This research aims to evaluate the most common factors affecting the stakeholder management process in construction projects. A literature review was conducted on topics related to stakeholder management. A questionnaire survey was carried out among professionals in the construction industry. Ninety-eight questionnaires were distributed to experts from government, municipality, and non-government organizations. Sixty-seven questionnaires were received, with a 68% response rate. The mean and relative importance index were used to analyse the questionnaire results. The main factors affecting the stakeholder management process are hiring a project manager with high competency, transparent evaluation of the alternative solution, ensuring effective communication between the project and its stakeholder, setting common goals and objectives for the project, and exploring the stakeholders' needs and expectations.

Keywords: stakeholder management; Gaza Strip; construction; effective factors

Introduction

Construction project management, as a discipline, has focused on the process of planning, and managing the complex array of activities necessary for delivering a construction project. Different stakeholders have different levels and types of investment and interest in projects in which they are involved (Atkin & Skitmore 2008). Today almost every project takes place in a context where stakeholders play a major role in the accomplishment of the tasks. Often the project is sensitive to actions and decisions taken by the stakeholder (Karlsen 2002). Its professionals need to be capable of coordinating relationships with diversified stakeholders, especially with the growing tendency of stakeholder groups to try to influence the implementation of construction projects according to their individual concerns and needs (Olander & Landin 2005; Atkin & Skitmore 2008).

Stakeholders need to be identified and their power and influence mapped so that their potential impact on projects can be better understood. Appropriate strategies can be formulated and enacted to maximize a stakeholder's positive influence and minimize any negative influence. This becomes a key risk-management issue for project managers. Failure to appreciate this has led to countless project failures (Bourne & Walker 2005), primarily because construction stakeholders have the resources and capability to stop construction projects (Lim et al. 2005).

Poor stakeholder management can lead to many serious problems in construction projects. Such problems are: poor scope and work definition, inadequate resources assigned to the project (in terms of both quantity and quality), poor communication, changes in the scope of work and unforeseen regulatory changes, all of which may be the major source of delays and cost overruns (Yang et al. 2009a). Doloi (2011) mentioned that the increasing complexity of modern construction projects and the involvement of a multitude of stakeholders with varied stakes make it nearly impossible to avoid cost overruns. To ensure a successful project, the project team must identify the stakeholders, determine their requirements and expectations, and manage their influence in relation to the requirements (Othman & Abdellatif 2011).

The construction industry has complexity in its nature because it contains a large number of stakeholders as clients, contractors, consultants, regulators and others. Disagreement among participating parties rose during the implementation of projects, which adversely affected the ability of the management teams to deliver the construction project within the time and allocated budget and to the expected level of quality. These disagreements are often caused by inappropriate identification and management of the different stakeholders involved in a project, amongst other factors. The construction industry in the Gaza Strip has not fully been able to embrace the vast importance of managing stakeholders involved in projects. It presently focuses largely on the internal stakeholders, including clients, contractors, consultants etc., alienating the external stakeholders who are usually affected by the projects – i.e. end users, local, communities, neighbouring areas, and others.

*Corresponding author. Email: nsawalhi@iugaza.edu.ps

The absence of specific and significant work on stakeholder management within the context of the Gaza Strip made this study of special importance. It is necessary to explore how stakeholders are managed in the Gaza Strip. By doing that, it is hoped that the delivery of the projects will be improved through knowing how to manage the stakeholders properly and identifying their problems at various stages in order to fulfil their needs and expectations.

The aim of this research is to empower the stakeholders in construction projects in the Gaza Strip by evaluating the most common factors affecting the stakeholder management process in construction project.

Stakeholder definitions

The term 'stakeholder' is defined as 'any group or individual who can affect or is affected by the achievement of the project's objectives'. Most researchers often cite this definition. El-Gohary et al. (2006) described stakeholders as 'individuals or organizations that either are affected by or affect the deliverables or outputs of a specific organization'.

There are stakeholders in construction undertakings, just as there are stakeholders in other endeavours. The checklist of stakeholders in a construction project is often large. It would include the owners and users of facilities, project managers, facilities managers, designers, shareholders, legal authorities, employees, subcontractors, suppliers, process and service providers, competitors, banks, insurance companies, media, community representatives, neighbours, general public, government establishments, visitors, customers, regional development agencies, the natural environment, pressure groups, civic institutions, etc. (Newcombe 2003).

Types of stakeholders

Stakeholders can be divided into internal and external. Internal stakeholders are those directly involved in an organization's decision-making process (e.g. owners, customers, suppliers, employees). External stakeholders are those affected by the organization's activities in a significant way (e.g. neighbours, local community, and public and local authorities). In the construction industry, there has traditionally been a strong emphasis on the internal stakeholder relationship, such as procurement and site management, while the external stakeholder relationships have to some extent been considered a task for public officials via the rules and legislation that concern facility development (Atkin & Skitmore 2008).

Factors affecting stakeholder management

Many researchers (Jefferies et al. 2002; Yu et al. 2007; Yang et al. 2009b) have used the most important factors affecting stakeholder management as a means to improve the performance of the management process. Factors affecting stakeholder management can be defined as 'areas, in which results, if they are satisfactory, will ensure successful competitive performance for the organization' (Yang et al. 2009b cited in Rockart 1979). Saraph et al. (1989) viewed them as 'those critical areas of managerial planning and action that must be practiced in order to achieve effectiveness'. Cleland and Ireland (2007) consider it important that the project team should know whether it is successful in 'managing' the project stakeholders. Yang and Shen (2014) have identified six main groups for stakeholder management which are: precondition; stakeholder identification; stakeholder assessment; decision making; action and evaluation; and continuous support.

Factors affecting stakeholder management are viewed as those activities and practices that should be addressed in order to ensure effective management of stakeholders in a construction project. Thirty factors contributing to the success of stakeholder management are divided into six main groups (include management support; identification of stakeholder information; stakeholder assessment; decision making; action and evaluation; and a continuous support group). These will be examined as hypotheses that are important for stakeholder management in construction projects in Gaza.

Management support group

Top level or management support from the implementing agencies was essential for effective stakeholder engagement (Yang et al. 2009b). In some projects, certain individuals at director level are tasked with the responsibility of overseeing stakeholder management activities and to develop their relevant attitude. To guarantee success, stakeholder participants should be willing to share power and resources to the overall benefit of the organization's goal (Brooke & Litwing 1997).

The management support group includes the following factors: managing stakeholders with corporate social responsibility; flexible project organization; *87b*project manager competences (Olander 2006; Yang et al. 2009b; Li et al. 2011; Othman & Abdellatif 2011).

Information input group

Freeman et al. (2007) believe identifying and assessing stakeholder information is an important task, as it is the backbone of the project's success. Before any management activities commence, the project and its stakeholders require extensive research and analysis. The information includes project missions, a full list of stakeholders, areas of stakeholders' interests, and their needs and constraints regarding the project (Yang et al. 2009b); the stakeholders' commitments, interests, and power should be fully assessed so that the project manager can tackle the key problems in the stakeholder management process and the potential impact on the success of the project. This information includes setting common goals, stakeholder identification, stakeholder needs and expectations (Jergeas et al. 2000; Olander & Landin 2008; Jepsen & Eskerod 2009).

Stakeholder assessment group

To enhance project managers' understanding of stakeholders, their attributes, behaviour, and potential influence need to be assessed and estimated. The conflicts and coalitions among stakeholders could also be analysed based on the information about stakeholders (Yang et al. 2009b). Once the information about the stakeholders is gathered, an assessment of stakeholders based on their impact and vested interests in the project could be made. It is important to have an accurate understanding of stakeholder attributes in order to categorize stakeholders according to their attitudes.

The assessment group includes: stakeholders' attitudes, interests, influence, conflicts and coalitions, power, legitimacy, urgency, proximity, knowledge (McElroy & Mills 2000; Bourne & Walker 2005; Freeman et al. 2007; Olander 2007; Nguyen et al. 2009).

Decision-making group

Based on the outcomes in 'information input' and in 'stakeholder assessment', the project management team has the responsibility to reach compromises on conflicts among stakeholders through transparent evaluation of alternative solutions based on stakeholder concerns. It is necessary also to decide on the level of stakeholder engagement in order to ensure effective communication, and to formulate appropriate strategies to deal with the issues raised by stakeholders at this stage.

The decision-making group includes 'evaluation of alternative solutions', 'ensuring effective communication', 'formulating appropriate strategies' (Jergeas et al. 2000; Olander & Landin 2008; Aaltonen & Sivonen 2009).

Action and evaluation group

The action and evaluation group is the final management activity group in the process of stakeholder management. The inputs required are the formulated strategies and the level of stakeholder engagement to ensure effective communication. This group includes three management activities: implementing the strategies, predicting stakeholders' reactions, evaluating stakeholders' satisfaction (Freeman et al. 2007; Yang et al. 2011).

Continuous support group

Construction projects are transient (Bourne 2005), but organizations are correspondingly permanent, since many stakeholders (such as government, local communities and media) would be involved in later stages of the project process or in future projects. Project managers, as the representatives of different organizations, have the responsibility to realize the change in their influence and relationships, promote a steady relationship with them, and communicate with them properly and frequently (Yang et al. 2009a). This group includes: frequently communicating with stakeholders; st*a*keholder involvement; promoting relationship with stakeholders; realizing changes of stakeholder; trust; reduce uncertainty; maintain alignment; access to resources and knowledge; support of higher authorities (Assudani & Kloppenborg 2010; Čulo & Skendrović 2010; Atkin & Skitmore 2008; Karlsen 2008).

The most effective factors

Yang et al. (2009b) concluded that the top three ranked factors for stakeholder management were 'managing stakeholders with social responsibilities', 'assessing the stakeholders' needs and constraints to the project', and 'communicating with stakeholders properly and frequently'.

Olander and Landin (2008) identified five factors within the stakeholder management process that could bring about different project outcomes. These factors are: 'analysis of stakeholder concerns and needs; communication of benefits and negative impacts; evaluations of alternative solutions; project organization; and media relations'.

Research methodology

The quantitative approach is selected to understand the factors affecting stakeholder management in construction projects and to investigate the local practice of stakeholder management in the Gaza Strip, and these quantitative data are be obtained from questionnaires. The questionnaire comprises two parts in order to accomplish the objectives of this research. The first part contains general information about the population and the second part contains factors affecting the stakeholder management process. Thirty factors affecting stakeholder management in construction projects are selected. These factors are divided into six groups based on a literature review. The factors which are considered in the questionnaire are summarized and collected based on previous studies. The questionnaire was designed based on numerous previous studies such as Savage et al. (1991), Mitchell et al. (1997), McElroy and Mills (2000), Cleland and Ireland (2007), Bryson (2004), Leung et al. (2004), Bourne and Walker (2005), El-Gohary et al. (2006), Young (2006), Freeman et al. (2007), Aaltonen et al. (2008), Karlsen (2008), Olander and Landin (2008), Yang et al. (2009b), Ye et al. (2009) and Nguyen et al. (2009).

The population in this research includes the project managers or those who have abundant experience in stakeholder management of construction projects. The targeted population consists of 56 government agencies, municipalities and non-government organizations (NGOs) that are involved in stakeholder management in the Gaza Strip. Their experience is gained through careers in consulting firms, local institutions or ministries, municipalities, implementing agencies, international agencies which are involved in implementation of the construction projects in the Gaza Strip. Non-probability sampling (purposive sampling) has been chosen for this research since the target population is quite small. The practitioners have been selected randomly within these organizations. Although the sample population consists of 56 organizations, 98 questionnaires were distributed, since there is more than one project manager within the same organization, and this may overcome the risk of non-response and provide greater reliability and benefits for the study. Sixty-seven questionnaires were received – a 68% response rate, which was a very good rate compared with the norm of 20–30% response rate in the construction industry (Akintoye 2000).

A pilot study was conducted by distributing the prepared questionnaire to eight experts with experience in the same field of research to seek their comments on it. The experts were asked to verify the validity of the questionnaire topics and its relevance to the research objective. Expert comments and suggestions were collected and evaluated carefully. All the suggested comments and modifications were taken into consideration.

The importance index was computed using the following equation:

$$\text{Formula Relative Importance Index (RII)} = \frac{\sum w}{AN} = \frac{5\,n_5 + 4\,n_4 + 3\,n_3 + 2\,n_2 + 1\,n_1}{5\,N}$$

where w is the weighting given to each factor by the respondent, ranging from 1 to 5, ($n1$ = number of respondents for strongly disagree, $n2$ = number of respondents for disagree, $n3$ = number of respondents for neutral, $n4$ = number of respondents for agree, $n5$ = number of respondents for strongly agree). A is the highest weight (i.e. 5 in the study) and N is the total number of samples. The relative importance index ranges from 0 to 1 (Tam & Le 2006). Also the mean value was used to rank the factors. When two values or more of means are equal, a standard deviation was used to give the priority. A low standard deviation indicates that the data points tend to be very close to the mean (also called expected value); a high standard deviation indicates that the data points are spread out over a large range of value (Bland & Altman 1996).

The Cronbach's coefficient alpha test was calculated to measure the reliability of the questionnaire for each field. The Cronbach's Alpha test result equals 0.895 for the entire questionnaire, which indicates an excellent level of reliability.

This study proposes the following hypotheses that will be tested:

First hypothesis: There is a positive relationship between management support and the perception of successful stakeholder management in the Gaza Strip.

Second hypothesis: There is a positive and efficient flow of information regarding the perception of successful stakeholder management in the Gaza Strip.

Third hypothesis: There is a positive influence between stakeholder assessment and the perception of successful stakeholder management in the Gaza Strip.

Fourth hypothesis: There is a positive influence between decision-making and the perception of successful stakeholder management in the Gaza Strip.

Fifth hypothesis: There is a positive relationship between action and evaluation and the perception of successful stakeholder management in the Gaza Strip.

Sixth hypothesis: There is a positive relationship between continuous support and the perception of successful stakeholder management in the Gaza Strip.

Seventh hypothesis: There is a significant degree of agreement among the respondents on the factors affecting successful stakeholder management in the Gaza Strip.

Results and discussion

Of the total respondents, 38.8% (26 out of 67) were from government and municipal institutions, 7.5% (5 out of 67) were NGOs, and 53.7% (36 out of 67) were UN agencies and International Non-government Organizations (INGOs), such as ministries, municipalities, NGOs and international institutions. It is important to point that most of the construction projects were implemented by UN agencies like United Nations Development Program (UNDP) and United Nations Relief and Work Agency (UNRWA) and INGOs. The high percentage in this category is a good indicator to ensure quality information alongside the other general information. For respondents' job titles, 7.5% were general managers, 67.2% were project managers, and 21% were supervisor engineer – so more than 74.4% of the respondents have key positions, which supports the quality of the information.

Regarding experience, 31.3% of the respondents have 5–10 years of experience; 44.8% have 10–15 years of experience; 2.9% have 15 or more years of experience. So more than 68.7% of the respondents have more than 10 years' experience, which is cross-checked with the job title of the respondent. This shows that the respondents have sufficient experience of stakeholder management issues. Moreover, the variety of experience enriches the research with the different knowledge and information.

Factors affecting stakeholder management processes

Table 1 shows the Relative Importance Index (RII), and the ranks of each group affecting the stakeholder management process. Thirty factors have been identified through the literature review. The factors will be discussed based on the following assumption: all the factors with mean score of 4 and above will be discussed in each group related to the research objectives and research questionnaire.

Factors affecting management support

Table 2 shows that 'project manager competences' was ranked in first position in this group as a critical factor influencing management support in the stakeholder management process with RII at 94.33% and P-value = 0.000, which is smaller than the level of significance, $\alpha = 0.05$, and the mean of this factor is significantly greater than the hypothesized value. This result reflects the satisfaction of respondents regarding the importance of the project manager competencies. In decision making, the project manager often presents data to audiences that do not share the values of their technical culture. This means that the role of the project manager must involve not just an understanding of the technical process, but also an understanding of the links between technique, and the community. The result clarifies that the project manager should acquire knowledge and use his competencies to engage stakeholders effectively. Thus, the implemented agencies should hire the project manager with the ability to manage the stakeholder. The results are in line with the findings of Enshassi et al. (2009), Jarad (2012), Karlson (2002), and Olander and Landin (2008).

The respondents ranked 'Managing stakeholder with corporate social responsibility' second in this group as a critical factor influencing management support in the stakeholder management process, with RII of 90.62% and P-value = 0.000.

Table 1. Test values for groups affecting stakeholder management process.

Groups	Mean	RII (%)	P-value (Sig.)	Rank
Decision making	4.45*	88.96	0.000	1
Information input	4.45*	88.96	0.001	2
Management support	4.31	86.27	0.001	3
Action and evaluation	4.15	83.08	0.000	4
Continuous support	4.09	81.82	0.000	5
Stakeholder assessment	4.09	81.06	0.000	6

Note: *The rank is based on standard deviation value.

Table 2. Factors affecting 'management support'.

Statement	Mean	RII (%)	P-value (Sig.)	Rank
Project manager competencies	4.72	94.33	0.000	1
Managing stakeholder with social responsibility	4.19	83.88	0.000	2
Flexible project organization	4.03	80.60	0.000	3
All factors of the group	4.31	86.27		

This result reflects the satisfaction of respondents regarding the importance of a managing stakeholder with corporate social responsibility. The construction industry in the Gaza Strip plays a significant role in social and economic development through constructing buildings and infrastructure projects that meet the needs of the community in the short and long term, and supports government efforts by achieving strategic development objectives, increasing gross domestic product and offering employment opportunities. It seems that there is a level of acceptance of the general public toward the infrastructure project, which was designed to perform many activities using the manual labour force instead of machinery. Many agencies follow these strategies to reduce the high rate of unemployment within the Gaza Strip. The results are in line with the findings of Othman and Abdellatif (2011) and Yang et al. (2009b).

'Flexible project organization' was ranked in the last position, with RII of 80.60% and P-value = 0.000. The respondents' perceptions were that there is a need for flexibility in administering the project and recruiting personnel to achieve the project's objectives. One objective of stakeholder management is to gain acceptance from stakeholders on the implementation of the project, so the project manager needs delegation and authority from his top management in order to able to achieve the objectives of the project. This issue was studied regarding managerial obstacles facing the Gaza Seaport project (Al-Madhoun 2007), and one of the recommendations is to provide the Gaza Seaport Authority with the necessary qualified personnel (education and port-related experience) to take responsibility for the establishment of the Gaza Port in the period of construction or during operation. A similar result was found by Li et al. (2011) and Olander and Landin (2008).

The 'Management support' group was ranked third among the six groups, with RII of 86.27% and P-value = 0.000. The respondents agree that this group affects the stakeholder management process. Top-level management support of the implementing agencies was essential for effective stakeholder engagement (Yang et al. 2009b).

Table 2 shows that there is a significant positive effect at the 0.05 level of management support in the stakeholder management process.

Factors influencing information input

Table 3 shows that 'setting common goals and objectives for the project' was ranked first under this group as a critical factor influencing stakeholder management, with RII at 89.55%. This result clearly illustrates the influence of setting common goals and objectives for the project in the stakeholder management process. The project manager should have a good understanding of the tasks and objectives at each particular stage of the project lifecycle, including issues about cost, schedule and budget. Enshassi et al. (2012) recommended that construction organizations have a clear mission and vision to formulate, implement and evaluate their performance. The results are in line with the findings of Yang et al. (2009b).

'Exploring the stakeholders' needs and expectations' was ranked second as a critical factor influencing information input in stakeholder management with RII at 88.96%, and P-value = 0.000, which is smaller than the level of significance, $\alpha = 0.05$. This result reflects the agreement of respondents regarding the importance of exploring the stakeholders' needs and expectations during the project; all stakeholders' needs should be assessed so that a satisfactory and realistic solution to the problem being addressed is obtained. Failing to address and meet the concerns and expectations of the stakeholders involved has resulted in many project failures. As a clear example of the importance of exploring the stakeholders' needs

Table 3. Factors influencing 'information input'.

Statement	Mean	RII (%)	P-value (Sig.)	Rank
Setting common goals and objectives for the project	4.48	89.55	0.000	1
Exploring the stakeholders' needs and expectations	4.45	88.96	0.000	2
Identifying stakeholders	4.42	88.36	0.000	3
All factors in the group	4.45	88.96		

and expectations, the Gaza Emergency Water Project (GEWP) formed an environmental management plan to evaluate the environmental impacts of the project during all development stages – planning, design, construction and operation – in order to mitigate the negative environmental impact by using adequate public consultation during the assessment process (Coastal Municipalities Water Utility 2010). The results are in line with the findings of Olander and Landin (2008) and Li et al. (2013).

'Identifying stakeholders' was ranked in the last position in this group, with RII at 88.36%. This result reflects the full agreement of respondents regarding the importance of the identification of the stakeholders and their necessary contributions, and expectations concerning rewards for contributions, as a prerequisite for stakeholder assessment in managing the stakeholders in the construction project. A similar result was found by Jepsen and Eskerod (2009), Karlsen (2002) and Olander (2006).

Regarding the whole group of factors, 'information input' was ranked in the first position among the six groups, with RII at 88.96% and P-value = 0.000, which is smaller than the level of significance, $\alpha = 0.05$. The respondents totally agree that the factors influencing 'information input' affect the stakeholder management process. Freeman et al. (2007) believe that identifying stakeholder information is important for assessing stakeholders, and it is the backbone of the project's success.

Factors influencing the stakeholders' assessment

As shown in Table 4, respondents ranked 'assessing stakeholders' attitudes' in the first position under this group, with RII at 83.88% and P-value = 0.000. Stakeholder attitude refers to whether the stakeholder supports or opposes the project. This result illustrates clearly that the respondents agreed over this factor. Because stakeholders may have negative or positive impacts on projects, there is a need to determine opponents and supporters. The result indicates that attitude is the main attribute that affects the decision-making process in the Gaza Strip. Savage et al. (1991), Freeman et al. (2007) and McElroy and Mills (2000) are in agreement that this factor is important for stakeholder assessment.

'Evaluating the stakeholder legitimacy' was ranked second under this group as a critical factor affecting the stakeholder management process, with RII at 83.58% and P-value = 0.000. This result reflects the agreement of respondents regarding the importance of evaluating stakeholder legitimacy. Legitimacy concerns the contractual relations, legal and moral rights in relationships between stakeholders and a project. Nguyen et al. (2009), Mitchell et al. (1997), and Freeman et al. (2007) are in line with our result as this factor is important for stakeholder assessment.

'Predicting the influence of stakeholders' was ranked third under this group, with RII at 82.99% and P-value = 0.000. This factor plays a significant role in influencing stakeholder assessment, thus recognizing that stakeholders' influence is important to plan and execute a sufficiently rigorous stakeholder management process. A similar result was found by Olander and Landin (2005) and Olander (2007).

'Understanding area of stakeholders' interests' was ranked fourth under this group, with RII of 82.69%. The respondents' perceptions were that identifying stakeholder interests is important for assessing stakeholders; these interests include product safety, integrity of financial reporting, new product services. The results are in line with the findings of Yang et al. (2009b), Freeman et al. (2007), Karlsen (2002) and Olander and Landin (2008).

'Understanding the stakeholder urgency' was ranked fifth under this group, with RII at 82.09% and P-value = 0.000. The respondents' perceptions were that this factor plays a significant role in influencing stakeholder assessment. Urgency is described as the degree to which stakeholder claims call for immediate attention, and it decides the extent to which they

Table 4. Factors influencing 'stakeholder assessment'.

Statement	Mean	RII (%)	P-value (Sig.)	Rank
Assessing stakeholders' attitudes	4.19	83.88	0.000	1
Evaluating the stakeholders' legitimacy	4.18	83.58	0.000	2
Predicting the influence of stakeholders	4.15	82.99	0.000	3
Understanding area of stakeholder's interests	4.13	82.69	0.000	4
Understand the stakeholder's urgency	4.10	82.09	0.000	5
Evaluate the stakeholder's power	4.03	80.60	0.000	6
Determine the stakeholders' knowledge	3.94	78.81	0.000	7
Analysing conflicts among stakeholders	3.88	77.61	0.000	8
Determine the stakeholder's proximity	3.87	77.31	0.000	9
All factors in the field	4.05	81.06		

exert pressure on a project manager by calling for emergency action. A similar result was found by Mitchell et al. (1997), Nguyen et al. (2009) and Yang et al. (2009).

'Evaluating the stakeholder's power' was ranked in the sixth position under this group with RII of 80.60%. This factor was seen to play a significant role in stakeholder assessment. In the questionnaire, stakeholder power is understood as a stakeholder's capacity to make a change in the project. That power is considered to be a key driver of stakeholder–manager relations, since most the contracts implemented in the Gaza Strip are unit price contracts and project managers are protected under this type of contract. The results are in line with the findings of Mitchell et al. (1997) and Bourne and Walker (2005).

Regarding all the groups of factors influencing the 'stakeholder assessment', it was ranked sixth position among the six groups, with RII of 85.70% and P-value = 0.000, which is smaller than the level of significance, $\alpha = 0.05$, so the mean of this factor is significantly greater than the hypothesized value. The respondents agree that the group 'stakeholder assessment' affects the stakeholder management process. To enhance project managers' understanding of stakeholders, their attributes, behaviour and potential influence need to be assessed and estimated. The conflicts and coalitions among stakeholders could also be analysed based on the information about them (Yang et al. 2009b).

Table 4 shows that there is a significant positive effect at the 0.05 level of stakeholders' assessment of the stakeholder management process.

Factors affecting the decision making

Table 5 shows that 'transparent evaluation of alternative solutions based on stakeholder concerns' was ranked in the first position under this group, with RII at 91.64% and P-value = 0.000, which is smaller than the level of significance $\alpha = 0.05$ and the mean of this factor is significantly greater than the hypothesized value. This result reflects the full agreement of respondents regarding the importance of transparent evaluation of alternative solutions based on stakeholder concerns, since this factor reflects the style of management of the construction managers leading construction projects in the Gaza Strip. A recommended characteristic for a project manager is, according to previous studies (Jarad 2012): ethics as moral reasoning behind decision making. The results are in line with the findings of Olander and Landin (2008) and El Gohary et al. (2006).

'Ensuring effective communication between the project and its stakeholder' was ranked second under this group, with RII of 90.15%. This result reflects the full agreement of respondents regarding the importance of ensuring effective communication between the project team and its stakeholder. Many researchers have studied communication and its effect on construction project management in the Gaza Strip and found that there is a significant relationship – for example, poor communications and misunderstanding is an important factor influencing time overruns in construction projects (Al-Najjar 2008); The lack of coordination between the project stakeholder is an influencing factor in disputes in construction projects (Abu Rass 2006). Information coordination between the owner and project team is a factor affecting construction projects in the Gaza Strip (Enshassi et al. 2009). The results are in line with the findings of Čulo and Skendrović (2010).

'Formulate strategy to deal with stakeholder' was ranked in the last position under this group, with RII of 85.07% and P-value = 0.019, which is smaller than the level of significance, $\alpha = 0.05$. The respondents' perception was that this factor plays a significant role in influencing stakeholder management. The central question was: what are the strategies that organizations use to address stakeholders? The significant effort of the project manager in this field is a perquisite since most of the infrastructure projects are funded by donors and the most of the implementing agencies are NGOs. Management's role is mainly as the mediator of the funding body, and there are many stakeholders with different attributes are looking to achieve their need from the project, so the project manager has to formulate a suitable strategy to deal with those stakeholders. The results are in line with the findings of Karlsen (2002) and Aaltonen and Sivonen (2009).

Regarding the whole group of 'decision making', it was ranked in the first position among the six groups, with RII of 88.96% and P-value = 0.000. The respondents agree that this group influences the stakeholder management process.

Table 5. Factors affecting 'decision making'.

Statement	Mean	RII (%)	P-value (Sig.)	Rank
Transparent evaluation of alternative solutions based on stakeholder concerns	4.58	91.64	0.000	1
Ensuring effective communication between the project team and stakeholders	4.51	90.15	0.000	2
Formulate strategy to deal with stakeholder	4.25	85.07	0.000	3
All factors in the group	4.45	88.96		

Project managers have the responsibility to reach compromises in conflicts among stakeholders, and formulate appropriate strategies to manage stakeholders.

Factors affecting the action and evaluation

Table 6 shows that 'implementing the strategy based on schedule' was ranked in the first position by the respondents under this group, with RII of 86.57%. This result reflects the full agreement of respondents regarding the importance of implementing the strategy based on schedule plans. This activity is self-explanatory. The formulated strategies should be implemented accordingly, and the outcome of this activity is to keep the project moving forward. A similar result was found by Bryson (2004).

'Evaluation of stakeholder satisfaction in terms of achievement of pre-project expectations' was ranked second under this group, with RII at 81.49% and P-value = 0.000. The respondents' perceptions were that this factor plays a significant role in influencing stakeholder management. It has been emphasized that if a project's key stakeholders are not satisfied with the ongoing project outcomes, the project team will be required to adjust scope, time, cost and quality in order to meet the stakeholders' requirements and expectations. According to Enshassi et al. (2009), client and community satisfaction factors are significant for the effectiveness of project performance. A similar result was found by Li et al. (2013) and Olander and Landin (2008).

'Flexibility in the implementing strategy to take account of stakeholder reactions' was ranked in the last position under this group, with RII of 81.19%. This result reflects the agreement of respondents regarding the importance of flexibility in the implementing strategy to take account of stakeholder reaction. When designing strategies, project management must be aware of how to respond to stakeholder claims, and of the implications of their responses for different dimensions of the project's success. The results are in line with the findings of Freeman et al. (2007).

Regarding the whole group of factors 'action and evaluation', it was ranked fourth among the six groups, with *RII* of 83.08% and P-value = 0.000, which is smaller than the level of significance, $\alpha = 0.05$. The respondents agree that this group 'factors affecting the action and evaluation' in the stakeholder management process. The action and evaluation group is the final management activity group in the process of stakeholder management, and the inputs required are the formulated strategies and the level of stakeholder engagement to ensure effective communication.

Table 6 shows that there is a significant positive effect at the 0.05 level for the action and evaluation of the stakeholder management process. This leads us to reject the null hypothesis Ho. Therefore, it was concluded that there is sufficient evidence to support the alternative hypothesis Ha. Hence, there is a significant positive effect at the 0.05 level for the action and evaluation of the stakeholder management process.

Factors affecting continuous support

Table 7 shows that 'proper and frequent communication with the engaging stakeholder' was ranked in the first position under this group as a critical factor affecting continuous support, with RII at 87.76%. This factor plays a significant role in influencing stakeholder management. Formal and clear communication channels/networks are needed to ensure efficient information transfer. Therefore, increasing the degree of communication amongst the project participants leads to higher participant satisfaction. The results are in line with the findings of Enshassi et al. (2009), where the coordination of information between the owner and project parties led to client satisfaction in a construction project in the Gaza Strip.

'Mutual trust and respect amongst the stakeholders' was ranked second by the respondents under this group, with RII of 86.27%. Mutual trust is a facilitator of positive relationships among project stakeholders. Trust is argued to enhance a variety of stakeholder relationships, including among the project team, contractor, consultant, beneficiaries, governmental ministries and other stakeholders. This finding is cross-cut with Jarad (2012), who finds in his study of the leading characteristics of project managers in Gaza that building mutual trust among project stakeholder is an important factor which has a positive impact on the project management's success.

Table 6. Factors affecting 'action and evaluation'.

Statement	Mean	RII (%)	P-value (Sig.)	Rank
Implementing the strategy based on schedule plans	4.33	86.57	0.000	1
Evaluation of stakeholder satisfaction in terms of achievement of pre-project expectations	4.07	81.49	0.000	2
Flexibility in implementing strategy to take account of stakeholders' reactions	4.06	81.19	0.000	3
All factors in the group	4.15	83.08		

Table 7. Factors affecting 'continuous support'.

Statement	Mean	RII (%)	P-value (Sig.)	Rank
Proper and frequent communication with the engaging stakeholder	4.39	87.76	0.000	1
Mutual trust and respect amongst the stakeholders	4.31	86.27	0.000	2
Obtain support from higher authorities	4.19	83.88	0.000	3
Keeping and promoting an ongoing relationship with stakeholder	4.19	83.88	0.000	4
Stakeholder involvement in decision making	4.13	82.69	0.000	5
Access to resources and knowledge	3.96	79.10	0.000	6
Reduce uncertainty	3.93	78.51	0.000	7
Maintain alignment between or among stakeholders	3.91	78.21	0.000	8
Analysing the change in multiple stakeholder engagement and relations	3.81	76.12	0.000	9
All factors in the field	4.05	83.59		

'Obtain support assistance from higher authorities' was ranked third under this group with RII of 83.88%. The top management in the implementing agencies always monitor the management process, help figure out problems, and use the effects of stakeholder management as an indicator for performance measurement of the management team; during the project lifecycle the project manager faces a lot of conflict and sometimes the decisions need support from others in order to overcome the objections, and to increase the ability to enforce that decision. The results are in line with the findings of Yang et al. (2011).

'Keeping and promoting an ongoing relationship with stakeholders' is ranked third under this group, with RII at 83.88%. The result indicates that it is wrong to ignore stakeholders or attempt to impose rigid detailed control on the relationship with the project stakeholder. These are challenging demands which the project manager cannot overlook, but has to take into consideration and address. The results are in line with the findings of Karlsen (2008).

'Stakeholder involvement in decision-making' is ranked in the fifth position under this group, with RII of 82.69%. Participation of project stakeholders at different stages of a construction project can be beneficial in several ways. On the other hand, public opposition due to various factors has been reported as the main reason for failure in several instances, so stakeholder involvement in infrastructure projects plays a very important role. The results are in line with the findings of Li et al (2012), and El-Gohary et al (2006).

The whole group of factors affecting 'continuous support' was ranked in the fifth position, with RII of 83.59%. The respondents totally agree that this group of factors influences the stakeholder management process. Project managers, as the representatives of different organizations, have the responsibility to understand changes in their influence and relationships, promote a steady relationship with them, and communicate with them properly and frequently.

Table 7 shows that there is a significant positive effect at the 0.05 level of continuous support in the stakeholder management process, this leads us to reject the null hypothesis Ho. Therefore, it was concluded that there is sufficient evidence to support the alternative hypothesis Ha. Hence, there is a significant positive effect at the 0.05 level of continuous support in the stakeholder management process.

The important factors affecting stakeholder management process overall

Table 8 shows that 'project manager competencies' under the group 'management support', with RII of 94.33%, and 'transparent evaluation of alternative solutions based on stakeholder concerns' under the group 'decision making', with RII of 91.64%, were ranked at the top of the factors that affect stakeholder management. 'Evaluate stakeholder power', with RII of 80.60%, under the group 'stakeholder assessment', and 'flexible project organization', with RII of 80.60% under the group 'management support', were ranked in the last position.

Conclusion

This study has emphasized shifting the traditional thinking when planning and executing construction projects by considering the management of stakeholders. The aim was to evaluate the most common factors that affect stakeholder management in construction projects in the Gaza Strip. Several factors that affect stakeholder management were suggested in the literature. A total of 30 factors affecting the stakeholder management process were synthesized in six dimensions: decision making; information input; management support; action and evaluation; continuous support; and stakeholder assessment.

Table 8. Overall important factors affecting stakeholder management process.

Statement	RII (%)	Rank	Group
Project manager competencies	94.4	1	Management support
Transparent evaluation of alternative solutions based on stakeholder concerns	91.6	2	Decision making
Ensuring effective communication between the project and its stakeholder	90.2	3	Decision making
Setting common goals and objectives for the project	89.6	4	Information input
Exploring stakeholder needs and expectations	89	5	Information input
Proper and frequent communication with the engaging stakeholder	87.8	6	Continuous support
Implementing the strategy based on schedule plans	86.6	7	Action and evaluation
Mutual trust and respect amongst the stakeholders	86.2	8	Continuous support
Formulate strategy to deal with stakeholder	85	9	Decision making
Managing stakeholder with corporate social responsibility	83.8	10	Management support
Identifying stakeholders	83.8*	11	Information input
Assessing stakeholders' attitudes	83.8*	12	Stakeholder assessment
Obtain support from higher authorities	83.8*	13	Continuous support
Keeping and promoting an ongoing relationship with stakeholders	83.8*	14	Continuous support
Evaluating stakeholder legitimacy	83.6	15	Stakeholder assessment
Predicting the influence of stakeholders	83	16	Stakeholder assessment
Understanding areas of stakeholders' interests	82.6	17	Stakeholder assessment
Stakeholder involvement in decision-making	82.6	17	Continuous support
Understand the stakeholders' urgency	82	19	Stakeholder assessment
Evaluation of stakeholder satisfaction in terms of achievement of pre-project expectations	81.4	20	Action and evaluation
Flexibility in the implementing strategy to take account of stakeholder reaction	81.2	21	Action and evaluation
Flexible project organization	80.6	22	Management support
Evaluate stakeholder power	80.6	22	Stakeholder assessment

Note: *The rank is based on standard deviation value.

Based on questionnaire surveys, the mean and ranking order of these factors were obtained. The mean and relative importance index (RII) was used to analyse the questionnaire results.

The most effective dimensions were decision making and information input. The top five factors that affected stakeholder management in construction projects in the Gaza Strip are: project manager competencies; transparent evaluation of alternative solutions based on stakeholder concerns; ensuring effective communication between the project and its stakeholder; setting common goals and objectives for the projects; and exploring the stakeholders' needs and expectations.

The study concludes that the role of the project manager who has high competencies, experience and good communication skills is essential to the successful relationship management of stakeholder and will contribute to the good performance of the project. Furthermore, it is vital to the project's success to consider stakeholder concerns and needs. It is very important to consider the information input concerning setting common goals for the project and meeting the stakeholders' needs and expectations.

The main contribution of this paper is that the findings could be used as an evaluation mechanism for stakeholder management and further proposals for improvements.

The results of this paper are based on a questionnaire survey, which is bounded by the respondents' understandings about stakeholder management. Therefore, the findings in this paper should be further validated by other means such as interviews and case studies. As the questionnaire survey was conducted locally in Gaza Strip, the output of the research may not be generalized to the other geographical locations.

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