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# The Management of Stakeholders' Needs and Expectations in the Development of Construction Project in Malaysia

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**Abstract**

This paper provides an analysis of the process used to identify project stakeholders, the factors used to manage their needs and expectations, and the implications of mismanaging their needs and expectations in the development of Malaysian construction projects. A survey was conducted among four construction stakeholders comprising: the Government, private clients, consultants and contractors. In total, 93 respondents completed the questionnaire. A list of 4 major processes and 22 possible critical factors for managing the stakeholders' needs and expectations are identified, in order for the respondents to determine their level of importance. The Kruskal-Wallis test of One-way ANOVA (Analysis of variance) is used to examine the significant difference in opinion between the four groups at the 5% significance level.

The findings reveal that a formalised process is more effective in identifying project stakeholders. The priority criteria used to manage the stakeholders' needs and expectations differ between the private and public sectors. The government and consultants are confident that social and political matters are of the greatest importance, whereas the private sector puts a great deal of emphasis on forming project coalitions and lobby tactics mechanisms in managing the stakeholders' needs and expectations. It is expected that this study will provide some empirical insights into the process of stakeholder management in the development of construction projects in Malaysia.

**Keywords:** Malaysia, Questionnaire survey, Project performance, Project stakeholders

## 1. Introduction

Traditionally, the main participants in a construction project coalition are the client, the architect and the contractor. The interactions and interrelationships between these participants largely determine the overall performance of a construction project, and have the crucial responsibility for delivering a project to successful completion. However, looking upstream and downstream in the construction project life cycle, there are multiple attributes that contribute to the success of a project, and these are influenced by a variety of decisions made by various individuals, bodies and organisations (Love et al. 1998a). These internal and external participants are recognised as stakeholders who are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution (Jergeas et al. 2000).

Previous work by Turner (1999) and Moodley (1999) defined stakeholders as people or groups that have, or believe they have, legitimate claims against the substantive aspects of a project. These can include the team's families, people who buy the product or are affected by the end product and the local community at large. They recognise a link between project success and an ability to forge a fruitful alliance between those affected by the end product. Nevertheless, these groups also have a great deal of resources at their disposal to frustrate projects by action-group protest activity or other sophisticated means of action. Smith et al. (2001) contribute to the definition of stakeholders as representatives, direct and indirect, who may have an interest and can make a contribution to the proposed project. Winch (2002) provides a more comprehensive definition of stakeholders as those actors who will incur a direct benefit, or loss, as a result of the project. He reckons that two classifications of stakeholders exist in the construction industry, namely internal and external stakeholders. Internal stakeholders are people who have legal contact with the client and those clustered around the client on the demand side (employees, customers, end-users and financiers) and on the supply side (architect, engineers, contractors, trade contractors and material suppliers). The second classification is the external stakeholders who are comprised of private and public actors. The private actors are from the local residents, landowners, environmentalists, and archaeologists, whereas the public actors are from regulatory agencies, and local and national government. The internal stakeholders will largely be in support of the project and external stakeholders

may be in favour, against, or indifferent. The above variation in definitions of stakeholders is quite significant. This degree of variation makes it difficult to ensure that all their needs and expectations are properly addressed and managed. Satisfying the needs of the client, users and others stakeholders is one of the criteria for project success, and failure to manage their needs and expectations may contribute to project failure (Turner 1999; Smith et al. 2001). Thus, an important aspect of project management is to obtain stakeholder buy-in and support for the project.

For the purpose of this research, stakeholders are defined "*as being those who can influence the activities/final results of the project, whose lives or environment are positively or negatively affected by the project, and who receive direct and indirect benefit from it*". They are limited to five groups namely: client, consultant, contractor, end-users and the community. This paper reports and comments on the following: (1) the process used to identify project stakeholders; (2) factors used to manage their needs and expectations; and (3) the implications for the mismanaging of their needs and expectations for Malaysian construction project development. It is part of a larger ongoing PhD research project into a framework for successful construction project performance from the client's perspective. This study utilises structured questionnaire research techniques, through the postal survey of four principal target groups (the Government, private client, consultants and contractors) in Malaysia. The different groups were targeted because they occupy different positions in the construction value chain and their perspectives would be valuable to this research.

## 2. Models For Assessing And Managing Client And Stakeholders' Needs And Expectations In Construction Project Development

Following an extensive literature search, two models are selected, namely: the strategic needs analysis (SNA) model (Smith et al,.2001) and the stakeholder management model (Jergeas et al. 2000). These models will form the basis of the following discussion.

The pre-design stage of construction projects is seen to be the focal point of construction project development. At this juncture, attention is given primarily to assessing the needs of the client, stakeholders and those of the design team. This is in line with the opinion of Love et al. (1998b), who stressed that decisions made during the formative and early design stages in the life of a project are seen as critical factors that must be taken into account if a project is to be delivered on time, to budget and to the desired quality. It is during these early stages that most of the critical decisions that affect the economy, efficiency, timing, functional content, appearance and the real value of the project are finalised and streamlined. Indeed, many researchers (Atkinson et al. 1997; Wateridge, 1998) have agreed that successful construction project performance is achieved when stakeholders meet their requirements, individually and collectively.

Previous literature suggests that in order to incorporate the needs of stakeholders into the formative stage of a project, it is necessary to allow the stakeholders to express their needs, views and expectations in an appropriate forum. In relation to this approach, Smith et al. (2001) in their studies proposed a model called Strategic Need Analysis (SNA) to assist clients, stakeholders and their design teams in determining their strategic needs for a given project. The SNA process is based on the involvement of as many significant stakeholders as is practically possible. The group includes: client; managers/executives, facility managers, project managers; employees; end-users, consultants and other design team members. The structure of the SNA process is based on the involvement of stakeholders at three levels, which consist of briefings, seminars and workshops. Level 1 is the briefing stage, where briefing is conducted in the form of seminars and workshops. At level 2, participants will be involved in developing alternative strategies for the achievement of corporate missions, whereas in level 3, participants will develop a detailed performance brief for the project implementation. The outcome of SNA is in developing a comprehensive performance brief to guide project team members to develop the project within adequate parameters.

Jergeas et al. (2000) in their studies, proposed a model of stakeholder management for construction projects. In their model, project stakeholders were initially defined and there followed an examination of the data collected during interviews with five project managers who work in three companies within the oil and gas industry. Ten major structured questions were asked and the expected answers were based on overall experiences. The ten questions are: processes used (formal/informal) to identify project stakeholders; effectiveness of the processes; methods employed to obtain stakeholder buy-in; typical stakeholders on a construction project; managing stakeholders throughout the project life cycle; maintaining the alignment of stakeholders during the project; obtaining feedback from stakeholders; communication interfaces with stakeholders in advance; improving stakeholder management; and, finally, problems encountered in the mismanagement of stakeholders. The results reveal that both formal and informal processes are used to identify project stakeholders and the processes are highly effective. Nevertheless, the formal process is more significant in order to obtain a stakeholders' buy-in. In summary, Jergeas et al. (2000) conclude that in order to improve stakeholders' management, communication, common goals, objectives and project priorities need to be systematically planned prior to embarking on to the project. Developing a more formalised process will avoid assumptions arising from the fact that the projects are very similar to one another. The limitation of this model is that the sample is too small and the results obtained might not be statistically valid. However, it does provide some guidelines for important elements in managing construction project stakeholders.

## 3. Research methodology

### *3.1 Data Collection Instrument*

The research on stakeholder management in construction project development adopted the ideas proposed by Smith et al. (2001) and Jergeas et al. (2000). The methodology adopted was based on a structured questionnaire-survey of four principal target groups within the Malaysian construction industry, focusing on the Klang Valley area. The data collection exercises were held in Malaysia over a period of three months (3rd March to 25th of April, 2003). Apart from the questionnaire survey, six case studies by means of in-depth interviews were also conducted within the stipulated time frame. However, the results of the case studies are still being processed and are not reported in this paper.

For the purpose of this article, results were merely based on the questionnaire survey. A questionnaire survey is one of the most cost effective ways to involve a large number of people in the process in order to achieve better results, as recommended by Andi and Minato, (2003). A fourteen-page structured questionnaire was distributed to the four targeted groups, representing a mixture of professionals, including those dealing with policy-formulation, design, construction, quantity surveying, and clients of construction projects. The four targeted populations were: government (public clients); private clients (developers); consultants (architects, quantity surveyors, civil & structural engineers, mechanical & electrical engineers) and contractors. However, for the project stakeholder section, a two-and-a half page questionnaire needed to be answered by those respondents. Respondents were required to rate each question on a five-point Likert scale that required a ranking (1-5), where one represented 'not important' and 5 represented 'extremely important', as the case might be.

Samples were randomly selected from the listing provided by their respective professional institutions. The target population for contractors was based on companies that are registered with the CIDB of Malaysia under the Class G7 (projects greater than Ringgit Malaysia 10 Million) categories and were identified from the CIDB directory. The states of Selangor and Kuala Lumpur were chosen because there were larger groups of professionals and Class G7 contractors registered in these regions, which brings the total percentage of the two states to around 61% (CIDB, 2003a).

### *3.2 Response Rate*

As shown in Table 1, a total of 446 questionnaires were sent to the different target groups in Malaysian construction organisations. Ninety-three questionnaires were returned within two months of being sent out, making the total response rate 20.9 percent. All the questions were satisfactorily completed. The respondents had an average construction experience of approximately 16 years. The majority of them were in senior positions in their firms. Table 2, however, shows the posts held by respondents. Twenty-one (29.5%) respondents were from public clients, followed by 15 (18.5%) from developers, 34 (17.8%) from consultant organisations, and 23 (22.3%) from contractor companies. The response rate of 20.9 percent is not uncommon and acceptable and is in line with the opinions of Akintoye (2000) and Dulami *et al* (2003). They reported that the norm response rate in the construction industry for postal questionnaire is around 20-30 percent. Ofori and Chan (2001) received a 26 percent response rate. Vidogah and Ndekugri (1998) received a 27 percent response rate and Shash (1993) a 28.3 percent rate. Notwithstanding this, the authors approached personal contacts in the construction industry and made follow-up calls. Several responses were received through this effort.

Respondents were required to tick as follows: Firstly, the types of processes used for identifying project stakeholders and how effective these processes are from a structured list of four items which ranged from an informal process; sign-off design Memorandum of Agreement (MOA) or design-basis memorandum (DBM); the preparation of a development plan (DP) and local advertisements and town hall meetings. Secondly, to tick relevant factors used by their company in managing the needs and expectations of project stakeholders, and to what extent can those factors be useful in project development and, thirdly, to state the possible implications of mismanaging the stakeholders' needs and expectations via a Likert scale. This technique is particularly helpful in examining the respondents' consideration of the degree of importance in identifying, managing and mismanaging the needs of construction project stakeholders in Malaysia. The results were analysed using the Statistical Package for the Social Sciences (SPSS).

## 4. Data analysis and results

The analyses primarily deal with the ranking of the variables, based on the mean values to determine their level of importance. It is then followed by comparing the mean values across the groups. The Kruskal-Wallis test One-Way ANOVA (Analysis of Variance) is used to examine the significant differences in the mean scores of the dependent variables, across the four groups (government, private client, consultant & contractor). In addition, to see whether there is a statistically significant difference between the four groups, a one-to-one comparison is applied using the Mann-Whitney U test of two independent samples at the 5 % significance level. The Wilcoxon Signed Rank Test is used to test the difference between the two sets of score.

In addition, the objectives of the data analyses are to test two hypotheses: *(1) the criteria used to identify project stakeholders would not vary according to the different types of project organisations and,* (2) *the criteria used to manage the needs and expectations of project stakeholders would not vary according to the different types of project organisations.* The ANOVA provided an opportunity to clarify whether or not the opinions of the different project team members for managing project stakeholders in construction are the same or otherwise. The reliability of the 5-point Likert scale measurement is determined using Cronbach's alpha coefficient. This measures the internal consistency among the items on each factor and varies from 0 to 1; the higher the alpha, the greater the internal consistency reliability of the scale. According to Pallant (2001), the value for alpha should be greater than 0.7 for the scale to be reliable, whereas Nunnally (1978) suggests that the modest reliability scale is in the range of 0.50-0.60. Hence, the results were in the range of 0.713-0.942 indicating that the data collected from the survey is interrelated and that scale was consistent with the sample.

*4.1 Identification of Project Stakeholders*

In the Malaysian construction industry, the available techniques for identifying project stakeholders are recognised to be as follows: signing-off formal agreements; signing of development plan & documents; local advertising and community/town hall meetings; and through an informal process (those people who have direct/indirect effects on a project). With regard to the appointment of government projects, the Memorandum of Agreement (MOA) (BAM/JKR -Revised 1/83) constitutes the formal agreement between the government and respective consultants to provide the professional services for the work and in accordance with the Conditions of Engagement. This agreement is the Government's policy issued by the Ministry of Finance, Malaysia, and needs to be signed-off by the respective consultants and client and was applied to conventional projects. The distinctive numbers of stakeholders are limited to client, architects, engineers, quantity surveyors and planners. Apart from MOA, the signing-off development plan, pre-bid and contract documents are other ways of identifying project stakeholders. The informal process, however, deals with those people who have a direct/indirect effect on the development of the project and are recognised as end-users and surrounding communities. Table 3 shows the identification of project stakeholders in Malaysia

As expected, the study reveals that the main processes used to identify project stakeholders in Malaysia is the signing-off Memorandum of Agreement (MOA), followed by the preparation of the development plan, with overall mean scores of 3.99 and 3.79, respectively. The Kruskal Wallis One-Way ANOVA test for a k-independent sample indicated that there is no difference of opinion in the identification of project stakeholders by the groups (government, private client, consultant and contractor) at the 5% significance level. Further observation showed that, the overall rating of 3.33 for the informal process is lower than 3.79 for the preparation of the development plan at the 0.05 level of significance ($p=0.002$). Therefore, the two sets of scores are significantly different when the Wilcoxon Signed Rank Test of two related samples is applied. This suggests that the formal processes are the most significant for Malaysian construction organisations in identifying project stakeholders, compared to the informal techniques.

*4.2 Managing Stakeholders' Needs and Expectations*

Table 4 gives the overall mean scores and the priority ranking of the groups' perceptions of factors used to manage the project stakeholders' needs and expectations in the development of Malaysian construction projects.

For a descriptive analysis and for the sake of readability, the overall mean scores on the five most important factors were selected. Among these factors, keeping stakeholders satisfied showed the highest rank (ranked 1$^{st}$) with the overall mean score of 3.78. This is followed by 'keeping stakeholders well-informed,' ranked 2$^{nd}$ (overall mean= 3.58), 'focussing on the definition of project mission', ranked 3$^{rd}$ (overall mean=3.54), 'visual techniques', ranked 4$^{th}$ (overall mean=3.53), and 'forming project coalitions', ranked 5$^{th}$ (overall mean=3.53). When a comparison was made across the groups, the results indicated that those respondents from the Government and consultants agreed to place a higher priority (ranked 1$^{st}$) on 'keeping stakeholders satisfied' than did private clients and contractors. In contrast, the private client ranked 1$^{st}$ on 'forming project coalitions', while, contractors ranked 1$^{st}$ on 'lobby tactics'

A possible explanation is that, the Government and their consultants are used to dealing with top management level, end-users and surrounding communities as their answerable stakeholders while implementing construction projects. Therefore, if *satisfactions* are not properly addressed, the top management will be dissatisfied, and fail to support, appreciate and value the project. Subsequently, the negative reactions from end-users might disrupt partially or fully the progress of the project as mentioned by Jergeas *et al*, (2000). On the other hand, forming project coalition is of interest to the private sector since a temporary coalition will assist them to shape the strategy of the project and minimise conflicts (Newcombe, 2003). The contractor, however, puts a great deal of emphasis on 'lobby tactics'. This is factual and it is not uncommon for contractors to use the lobby tactics mechanism to get the intended project from clients (private or public) as well as swift approval from the respective authorities. To a certain extent, a contractor will need to establish a good reputation by means of lobby tactics and it seems to be more pragmatic than ethical. On the whole, the overall mean scores for all the factors are higher than the mid-point score of 2.5, with the exception of 2 factors: mitigate/ change the project (mean value = 2.36) and compensating stakeholders (mean value =2.29). Hence,

it can be interpreted that the Malaysian construction professionals agreed that those factors are essential in managing stakeholders' needs and expectations in the development of project (Cheung and Yeung, 1998).

In addition, Table 4 shows the results of the Kruskal-Wallis test for a k-independent sample. The test indicated that 4 variables (1, 15, 12 and 2) exhibited a statistically significant difference at the 1% and 5 % significance level, respectively. The remaining 18 variables indicated no statistically significant difference in opinion between the four groups at the 5 % significance level. To see whether there is a statistically significant difference between the four groups, a one-to-one comparison was applied using the Mann-Whitney U test of two independent samples at the 5 % significant level. The results are tabulated in Table 5.

The results in Table 5 show that a statistically significant difference in 'mapping stakeholders' interests' existed between the Government and the private client (*probability value=0.002*), between the Government and the consultant (probability value=0.019), and between the Government and the contractor (*probability value=0.002*). This indicates that it is the Government that contributed to the difference between the groups at the 5 % significance level criteria. The second observation regards the 'consult and refine' approach variable. Once more it is the Government that contributed to the difference between the groups (*government/consultant with a probability value = 0.002*) and (*government/contractor with* a *probability value=0.005*). Conversely, for 'lobby tactics', initial observations revealed that there is a big gap between the Government, the private client, the consultant and the contractor, with scores of 2.67 and 2.50 and 2.80, and 4.0, respectively. In this case, it is the contractor who contributed to the difference between the groups, based on the confirmation of the Mann-Whitney U test of two independent samples. Thirdly, there is also, a statistically significant difference in 'articulating stakeholders' interests' existing between the Government and the private client (*probability value=0.003*) and between the Government and the contractor (*probability value=0.040*). The Mann-Whitney U test shows that it is the Government that contributed to the difference between the groups.

*4.3 Implications of Mismanaging Stakeholders' Needs and Expectations*

Further results from the questionnaire revealed that 'client and stakeholders will be dissatisfied with the project outcomes' if project stakeholders are not properly managed, with the overall mean scores of 4.00 and 3.88, respectively, within the groups. These are the highest ranked out of 14 variables (client will be dissatisfied; stakeholders will be dissatisfied; project failure; affecting future relationships; stakeholders fail to support the project; conflicts; disrupted project progress; fail to determine definition of project success; not enough endorsement to start the project; meeting unintended goals; negative community reaction; stakeholder intervention; completed building will not be used; and strike).

Moreover, factors on contributing to project failure (overall mean=3.65); affecting future relationships (overall mean=3.59); failure to support the project (overall mean=3.53); and conflicts (overall mean=3.50) are among the most important critical factors that might occur in mismanaging the stakeholders' needs and expectations. The Kruskal Wallis One-Way ANOVA test for a k-independent sample indicated that there is no statistical difference of opinion on the overall implications of mismanaging the stakeholders' needs and expectations by the group at the 5% significance level.

## 5. Conclusions

This paper examines the current views on identifying project stakeholders and managing their needs and expectations in construction project development in Malaysia. Based on the empirical research, a few findings have emerged as follows: Firstly, the four sectors in Malaysia (government, private client, consultant, and contractor) are in broad agreement that a systematic formal process is more effective and is employed for identifying project stakeholders. The formal processes are recognised as: 'Sign-off Memorandum of Agreement (MOA)' and the 'Preparation of Development Plan (PDP)'. The Kruskal-Wallis test confirmed that there is no discrepancy existing between the groups. Therefore, the first hypothesis could not be rejected.

Secondly, the findings indicated that priority criteria used to manage the stakeholders' needs and expectations differ between the public and private sectors in Malaysia, depending on their interests. The Government and the consultants put more emphasis on keeping their stakeholders' satisfied, well-informed, and educating them by means of providing forums, open communications interfaces and visual techniques (photomontage and project models). This reinforces the belief that any criteria possibly affecting a project in terms of social obligations and political interference are most likely to be of great importance to the Government and their consultants. The political decisions and top management's support of the project by providing the necessary money, man-power and other sufficient resources are needed for the successful implementation of the project (Manley, 1975).

In contrast, private clients ranked the factor 'forming a project coalition' as highly important, followed by 'focussing on the definition of project mission'. Contractor however, chose 'lobby tactics', followed by 'keeping stakeholders well-informed' and 'focussing on the definition of project mission' to be highly essential in managing their project stakeholders. The study conducted by Newcombe (2003) reveals that clients' attitudes towards the development of a

project are unpredictable and may change as it progresses. Thus, by forming a project coalition or alliances with them it will assist and encourage them to maintain their level of predictability, interest and power to ensure the successful implementation of project strategies. Further, failure to focus on the definition of project mission may end up with the project meeting goals that were never intended by the potential stakeholders (Karlsen, 2002)

Moreover, in managing the stakeholders' needs and expectations, the results disclose that out of 22 variables, 4 (18%) variables exhibited a statistically significant difference in opinion between the groups at the 5 % significance level. The Government and contractors are seen to be the notable groups that showed the most inconsistency and uncertainty amongst the groups. This implies that the second hypothesis could not be totally rejected.

The research has also addressed some results that could be used to improve on the effects of mismanaging the stakeholders' needs and expectations. It is suggested that the involvement of project stakeholders is required throughout the project life cycle, particularly in the front-end project planning. Overall communications with various stakeholders are to be emphasised by the project client in order to achieve alignment and feedback between them. This is fundamental since the project client and end-users are significantly more important than other stakeholders and have the sole power in bringing any hidden agendas and project priorities to the forefront (Jergeas et al. 2000; Karlsen, 2002). The importance of interaction with the project's client and end-users throughout the duration of the project is paramount, since it is the project client who defines and finances the project, while it is the end-users who decide about the usefulness of the project results.

The results of this study offer an insight into stakeholder management in the development of Malaysian construction projects and will hopefully provide valuable guidelines, especially to client organisations (public or private), for managing their construction project stakeholders.

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Table 1. Response data

| Type of organisation | Number of questionnaires | | Percentage return |
|---|---|---|---|
| | Sent | Return | (%) |
| Government | 71 | 21 | 29.5 |
| Developers | 81 | 15 | 18.5 |
| Consultants | 191 | 34 | 17.8 |
| Contractors | 103 | 23 | 22.3 |
| Total | 446 | 93 | 20.9 |

Table 2. Profile of respondents and their experiences

| *Sample* | Designation | | *Experience in the construction industry (years)* | | |
|---|---|---|---|---|---|
| *Type of organisation* | *Principal, Partner, Director, MD GM, Senior Manager Senior QS Manager, Head & Deputy Head* | *Arch, Eng, QS Project manager, Senior Technical Assistant* | *Max* | *Average (Mean)* | *Min* |
| Government | 7 | 14 | 27 | 13.62 | 3 |
| Developers | 9 | 6 | 36 | 14.40 | 5 |
| Architect | 8 | 1 | 28 | 17.67 | 1 |
| C&S Engineer | 8 | 2 | 27 | 20.70 | 11 |
| M&E Engineer | 4 | 0 | 23 | 17.75 | 13 |
| Quantity Surveyor | 6 | 5 | 30 | 16.50 | 5 |
| Contractor(G7) | 14 | 9 | 25 | 14.13 | 4 |
| Total | 56 | 37 | --- | --- | --- |

Table 3. The mean score of ranking-identification of project stakeholders

| *V* | *Processes* | *Overall mean score* | *Government* | *Private client* | *Consultants* | *Contractor* | *Chi-square value* | *Kruskal-Wallis Sig p* |
|---|---|---|---|---|---|---|---|---|
| 2 | Sign-off Memorandum o Agreement (MOA) | 3.99 | 3.55 | 3.92 | 4.00 | 4.36 | 4.312 | *0.230* |
| 3 | The preparation of the Development Plan (DP) | 3.79 | 3.33 | 3.67 | 4.00 | 3.86 | 3.182 | *0.364* |
| 1 | Informal process | 3.33 | 3.05 | 3.43 | 3.33 | 3.56 | 3.087 | *0.378* |
| 4 | Local advertising and town hall meetings | 3.13 | 2.75 | 3.11 | 3.00 | 3.75 | 4.434 | *0.218* |

*V= Variables* *Reliability coefficient (Cronbach's alpha) = 0.7125*

Table 4. The mean score of ranking-managing stakeholders' needs and expectations

| *V* | *Factors* | *Overall mean score* | *Government* | *Private Client* | *Consultant* | *Contractor* | *Chi-square value* | *Kruskal - Wallis Sig p* |
|---|---|---|---|---|---|---|---|---|
| 11 | Keep satisfied *(complying with stakeholders requirements but subject to constraints)* | 3.78 | 3.63 | 3.83 | 3.90 | 3.75 | 1.174 | 0.759 |
| 9 | Keep stakeholders well informed | 3.58 | 3.56 | 3.11 | 3.53 | 3.89 | 4.231 | 0.238 |
| 5 | Focussing on the definition of project mission | 3.54 | 2.82 | 3.89 | 3.58 | 3.83 | 7.913 | 0.048 (0.05) |
| 17 | Visual techniques | 3.53 | 3.00 | 3.50 | 3.63 | 3.69 | 3.291 | 0.349 |
| 16 | Forming project coalitions | 3.53 | 2.90 | 3.90 | 3.60 | 3.60 | 5.552 | 0.136 |
| 13 | No bribe & ignore strategies | 3.49 | 2.71 | 3.50 | 3.76 | 3.55 | 5.022 | 0.170 |
| 4 | Educate stakeholders | 3.45 | 3.46 | 3.29 | 3.52 | 3.43 | 0.338 | 0.953 |
| 1 | Mapping stakeholders' interests | 3.42 | 2.64 | 3.83 | 3.44 | 3.80 | 11.934 | ***0.008*** |
| 6 | Negotiating a compromise between stakeholders | 3.37 | 3.00 | 3.57 | 3.18 | 3.80 | 6.981 | 0.072 |
| 14 | Forums and open communication interfaces | 3.33 | 3.21 | 3.33 | 3.44 | 3.27 | 0.851 | 0.837 |
| 8 | Minimal effort *(public relation approach )* | 3.29 | 2.90 | 3.63 | 3.07 | 3.78 | 5.364 | 0.147 |
| 12 | Consult and refine approach | 3.28 | 2.64 | 3.20 | 3.50 | 3.60 | 11.195 | ***0.011**** |
| 19 | Obtaining stakeholders' feedback | 3.24 | 2.93 | 3.11 | 3.28 | 3.62 | 3.232 | 0.357 |
| 22 | Resolve differences between or among stakeholders | 3.21 | 2.50 | 3.57 | 3.24 | 3.50 | 4.240 | 0.237 |
| 18 | Maintaining alignment between stakeholders | 3.18 | 2.77 | 3.27 | 3.18 | 3.50 | 3.988 | 0.263 |
| 10 | Constantly selling and reselling the project | 3.18 | 2.67 | 3.67 | 3.00 | 3.50 | 6.048 | 0.109 |
| 15 | Lobby tactics | 3.15 | 2.67 | 2.50 | 2.80 | 4.00 | 11.880 | ***0.008***** |
| 2 | Articulating stakeholders' interest | 3.15 | 2.50 | 3.88 | 3.08 | 3.33 | 9.266 | ***0.026**** |
| 7 | Emphasis on social responsibility | 3.06 | 3.00 | 3.00 | 2.75 | 3.58 | 4.824 | 0.185 |
| 3 | Changing of all opponents to supporters | 2.90 | 2.50 | 2.67 | 3.00 | 3.25 | 1.273 | 0.736 |
| 20 | Mitigate/change the project | 2.36 | 2.13 | 1.67 | 2.62 | 2.50 | 2.686 | 0.443 |
| 21 | Compensate stakeholders | 2.29 | 2.11 | 1.50 | 2.60 | 2.60 | 3.841 | 0.279 |

*Reliability coefficient (Cronbach's alpha) =0.9185* **The mean difference is significant at the 0.05 level*

*V= Variables* ***The mean difference is significant at the 0.01level*

Table 5. Group differences test using Mann-Whitney U test of two independent samples

| Factors | Government/ private client | Government/ Consultant | Government/ Contractor | Private client/ consultant | Private client/ contractor | Consultant/ Contractor |
|---|---|---|---|---|---|---|
| Mapping stakeholders' interests | | | | | | |
| Consult & refine approach | 0.002* | 0.019* | 0.002* | 0.460 | 0.896 | 0.506 |
| Lobby tactics | 0.170 | 0.002* | 0.005* | 0.493 | 0.422 | 0.728 |
| Articulating stakeholders' | 0.855 | 0.829 | 0.026* | 0.452 | 0.006* | 0.005* |
| Interest | 0.003* | 0.118 | 0.040* | 0.117 | 0.197 | 0.751 |

**The mean difference is significant at the 0.05 level*