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An investigation related to practice of stakeholder management in Turkish construction industry

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Abstract
Stakeholders and their attitudes toward a project strongly affect the overall project success. The construction projects involve numerous internal and external stakeholders that have distinct characteristics, interests, and impacts besides the conflicts and probable competition among them throughout the whole project life cycle. Project success depends on not only achieving targeted time, cost, and quality but also providing all stakeholders' satisfaction by managing effectively. This study aims to reveal the importance and necessity of stakeholder management and issues related to its implementation in current practice through experts' opinions and experiences in the Turkish construction industry. This study grounds the literature review in the context of stakeholder management issues such as stakeholder analysis, stakeholder engagement, critical success factors, and stakeholder management strategies. Researchers collected the data by using semi-structured questionnaires with in-depth interviews. The research findings indicate that effective stakeholder management can increase the probability of project success. This most relates to the impact of stakeholders and their adequate participation in the project by using a suitable stakeholder management model and plan via stakeholder management organization. The financial problems and uncertainty, lack of stakeholder engagement, change in project objectives and decisions along the project lifetime, and insufficiency of staff in the organization are the primary issues in stakeholder management. Findings underline that effective communication, stakeholder analysis, and monitoring are the significant activities of the stakehoder management process.

Keywords
Critical success factors (CSFs), Project success, Stakeholders, Stakeholder management (SM), Turkish construction projects.

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1. Introduction

Many scholars emphasized that "ignored and inadequate stakeholder management " is one of the essential causes of the failure of construction projects (Aaltonen, 2010; Bourne & Walker, 2006; El- Gohary et al., 2006; Jepsen & Eskerod, 2009; Olander, 2007; Yang et al., 2011; Zolin et al., 2012). Andersen (2008) states that overall project success is the combination of both effective project management process and the completed project as a final product. Beringer et al. (2013) consider the issue from the stakeholders' perspective, emphasizing the stakeholders' behaviors and management of them effectively as a significant factor for project success. Muliisa and Kariuki (2017) further claim that the stakeholders' interests, requirements, concerns, and apprehensions towards the project, that are not taken into account by projects' managers affect overall project success negatively. Beringer et al. (2012) state that SM should concern not only individual stakeholders but also interrelationships among them, that Yang (2014) considers as a cause of project complexity. Therefore, the complexity needs systematic and adequate project management policies and abilities considering stakeholders for achieving projects (Mok et al., 2015). Project managers who undertake the essential responsibility to ensure the meeting of needs and satisfaction of all stakeholders are also defined as significant entities for project success (Eyiah-Botwe et al., 2016). De Wit (1988) emphasizes overall project success depends on both the achievement of stakeholders and its technical performance. Eskerod and Jepsen (2013) claim that it is difficult to achieve construction projects unless focused on stakeholders and managed adequately.

This study aims to search the SM practice and circumstances in the context of the construction industry in Türkiye insomuch as a crucial aspect in overall project success. The issues of research are mainly classified as follows:

- Understanding the current practice related to SM in Turkish construction projects through expert opinions and experiences.
- Analyzing the problems related to the SM process and offering possible solutions.
- Defining the Critical Success Factors (CSFs) in SM.

The findings of this study can enhance the structure of the previous studies that contribute the theory and practice of managing stakeholders. The questionnaire survey consisting of the aforementioned main aspects aims to get information from experts who have long experiences in the construction sector. The results of this research can shed light on new perspectives for effective SM processes and assist in improving the advanced models and guidelines.

2. Stakeholder management

SM is a process of identifying, engaging, discussing with stakeholders, and growing relationships among them to get under control the debates, project's threats, and troubles. The stakeholders are a core element in construction project success via effective SM (Jayasuriya et al., 2017). SM can be discussed basically in the following five concepts.

2.1. Stakeholder theory and definitions

The concept of stakeholder evolved through Freeman's "Strategic Management: A Stakeholder Approach" that is well-known hypothetic base for the sequential developments similar to Rajablu et al. (2015) state, and various theories have been developed in stakeholder agency theory (Hill & Jones, 1992), theory of stakeholder influences (Rowley, 1997), theory of network governance (Jones et al., 1997), and stakeholder salience theory (Mitchell et al., 1997). Many scholars provided different definitions for the term stakeholder. Freeman (1984) defines it as any person or organization that has ability to affect the project success, or be affected by its consequences. Cleland (1986) describes stakeholders as individuals or organizations either under or out of the project manager's control and directly or indirectly impacted in terms of project outcomes and possess

a stake, a claim, or an interest in the project.

Many different perspectives have been improved in SM such as three aspects of classifying stakeholder theory in descriptive, instrumental, and normative (Jones ,1995), stakeholders' salience and typology (Mitchell et al., 1997), stakeholder influence strategies (Aaltonen et al., 2008; Frooman, 1999; Hendry, 2005), stakeholder response strategy (Aaltonen & Sivonen, 2009; De Schepper et al., 2014; Savage et al., 1991), stakeholder engagement (Greenwood, 2007; Strand & Freeman, 2015), the stakeholder dynamics (Aaltonen et al., 2015).

The literature demonstrates that some main concerns related to SM grouped as (1) stakeholder analysis, (2) stakeholder influence strategies, (3) stakeholder management strategies, and (4) stakeholder engagement (Nguyen et al., 2018).

2.2. Stakeholder analysis

Stakeholder analysis relates to stakeholder identification, categorization, and evaluation (Mok et al., 2015). Scholars classify stakeholders in different ways. (1) involvement and features of the relationship towards the project, (2) their claims or positions, and (3) their roles in the project.

The stakeholders are also classified according to "involvement and features of the relationship" towards the project as follows:

- *Internal stakeholders* present the formal participants via official or contractual connections with the project (Winch, 2004), those who are closely involved in the project life-cycle (Olander & Landin, 2005). They are also called primary stakeholders by Cleland (1998) and business actors by Cova and Salle (2005). Additionally, internal stakeholders are defined as owners, clients, designers, contractors, subcontractors, project managers, suppliers, process and service providers, consultants, employees, shareholders, and financiers (Newcombe, 2003; Smith & Love, 2004).
- *External stakeholders* refer to members under the effect of the project even though they do not join directly into the project, Winch (2004) also further breaks down into public and private actors. Cleland (1998) identifies them as secondary stakeholders, Cova and Salle (2005) define non-business actors. Ward and Chapman (2008) identify them as local government, regulators, local communities, environmental groups, potential users, and the media. According to Bourne and Walker (2005), Newcombe (2003), they are government establishments, the general public, legal authorities, community representatives and regional development agencies, non-governmental organizations such as activist groups, trade unions, consumer advocacy groups, etc.

The stakeholders are also classified according to "claims and positions " towards the project by different parties as follows:

- Winch (2004) defines internal stakeholders who support and contribute to the project as promoter stakeholders,and those who are against the project as opponent stakeholders.
- McElroy and Mills (2007) suggest five different kinds of stakeholder positions towards the project (1) active opposition, (2) passive opposition, (3) non-committal, (4) passive support, and (5) active support.
- PMI (2017) defines the stakeholders' positions as (1) supporter, (2) leading, (3) neutral, (4) resistant, and (5) unaware.

The stakeholders are classified according to their roles, in other word functional positions in the project, considering the actors of business, community, and government (Tikkanen & Lindblom, 1998), upstream and downstream stakeholders, external stakeholders, invisible stakeholders (Rowlinson & Cheung, 2008).

The stakeholders are also analyzed and assessed through their characteristics like *power, interest, position, and attitudes*. Yang et al. (2014) state that stakeholder attitude and behavior are critical factors affecting decision-making in SM strategies and managerial processes.

The Stakeholder Salience Model, presented by Mitchell et al. (1997),

categorizes stakeholders in terms of possession *power* to impact, *legitimacy* compared with other stakeholders, and *urgent* demands on project managers' attention. This model introduced seven types of stakeholders as follows:

- Power only, *latent*; they may not profess any abuse on the project.
- Legitimacy only means *discretionary*; if they associate with other stakeholders, they possess power in the project.
- Urgency only, *demanding*; they require managerial attention for their troubles.
- Power and legitimacy mean *powerful*; they have a crucial status in project managers' attention.
- Power and urgency are *hazardous*; they may become opponent to the project.
- Urgency and legitimacy mean *dependent*; they depend on other stakeholders to realize their requirements.
- Power, legitimacy, and urgency mean *decisive*; they are strong and highly salient in the decision-making process.

Park and Lee (2015) suggest that *power* is a tool to reach for resources that consist of human, economic, and social capital to affect the issue dynamics. Mitchell et al. (1997) define *legitimacy* as the general conjecture that the activities of existence are acceptable and relevant according to social norms, values, beliefs, and definitions. *Urgency* means the claims of stakeholders referring to time precision, risks, and priorities of the demands (Mitchell et al., 1997). It specifies the dynamics of stakeholder salience and relations among the stakeholders.

Many scholars have developed different matrices based on various characteristics of stakeholders like power/interest, influence/interest, and power/urgency to present the effects on each other.

Power and interest are widely used for the identification and assessment of stakeholders (Johnson et al., 2005; Newcombe, 2003; Olander & Landin, 2005; Yang, 2014). Besides, Newcombe (2003) indicates power/predictability matrix; Mendelow (1981) power/dynamism matrix; Aaltonen et al. (2015) salience/position matrix; Bourne and Walker, (2005) vested interest-impact index; Olander (2007) the external stakeholder impact index improve as well-known tools for stakeholder analysis.

Bourne and Walker (2005) introduce the *Stakeholder Circle* to map their power and impact so that the key project stakeholders are identified and prioritized by project managers. In addition, *Social Network Analysis* has provided to describe the relationships among stakeholders within the network pattern (Wasserman and Galaskiewicz, 1994). It causes to understand stakeholders' structural interrelationships and interdependency rather than only determining their characteristics. Each stakeholder is examined in terms of network level, actor level, and tie level through the social network perspective. Network level refers to communication flow and performance and indicates the collaboration and involvement of stakeholders. Actor level refers to the location and distance of stakeholder to other members in terms of centrality. Finally, the tie level indicates weak and strong relational ties among the stakeholders. Hence, the social network approach enables the project managers to analyze and comprehend the stakeholder interrelations with the environment. Since specific stakeholder characteristics cause many struggles to be dealt with by project managers, they should apply appropriate strategies for effective stakeholder management (Nguyen et al., 2018).

2.3. Stakeholder influence strategies

Stakeholder Influence refers to the policies to realize the stakeholders' needs and to force project managers to take consideration in the decision-making process (Nguyen et al., 2018). Aaltonen et al. (2008) describe diverse approaches including:

- *Direct restriction*: Stakeholders may constrain projects to attain significant resources under control, to maximize their sense of authority.
- *Indirect restriction*: Stakeholders may prevent to reach the resources even though they do not directly control them.

- *Resource building:* Stakeholders obtain and collect the crucial resources to raise their assumed power.
- *Alliance building:* Stakeholders form unions with different projects' participants to enhance their assumed authority and validity.
- *Conflict growth:* Stakeholders try to create some conflicts and escalate them in different purposes so that the project transforms into a battle area. It might produce a scene in which stakeholders' demands are considered more legitimate.
- *Reliability creating:* Stakeholders enhance their sense of legality through obtaining reliable and efficient means, for instance, prominent persons with good reputation and connections.
- *Communication:* Stakeholders utilize certain kinds of media to connect and enhance the sense of legality and urgency of their demands.
- *Direct action strategy:* Stakeholders arrange remonstrations, road blockades, or other protests to raise the perceived urgency of their demands.

Abovementioned approaches can support the stakeholders to increase their power and provide the validity of demands. Stakeholders generally take advantage of coalition building and communication to influence the decision-makers.

2.4. Stakeholder management strategies

SM Strategies are determined and used by the project management organizations as approaches and policies that might alter the level of stakeholders salience or those of positions and attitudes towards the projects (Aaltonen et al., 2015). Managers might diversify the strategies by considering the stakeholders positions and conditions of the project (Olander & Landin, 2005). Pacagnella Junior et. al (2015) suggest four strategies as follows:

- *Collaboration strategy* contributes stakeholders to avoid possible risks and increase the motivation for the project.
- *Involvement strategy* encourages stakeholders for active engagement by revealing the advantages and benefits of the project.
- *Monitor strategy* observes and controls stakeholders carefully during all project stages, approves their change constantly.
- *Defense strategy* lessens or removes negative impacts originated by participants.

Furthermore, these strategies, exchange the knowledge, and ignorance for managing stakeholders are also concerned as *stakeholder response strategies*. The other approaches project managers can use in response to stakeholders' impact are as follows (Aaltonen & Sivonen, 2009).

- *Adaptation strategy;* complying with claims and orders
- *Compromising strategy;* the discussion, taking notice and agreement
- *Avoidance strategy;* slacken ties among the participants, removing the responsibility
- *Dismissal strategy;* overlooking, ignorance and not paying attention
- *Influence strategy;* forming the values by taking action, sharing information, and building relationships

2.5. Stakeholder engagement

Chinyio and Akintoye (2008) and Greenwood (2007) state that "stakeholder engagement" relates to communication, involvement, and improvement of interactions among the stakeholders and considering their thoughts in the decision-making process during the whole project lifecycle, similarly Cascetta et al. (2015) also indicate. The purposes of stakeholder engagement are (1) to prevent and reduce possible stakeholder conflicts according to Deegan and Parkin (2011) and Aaltonen (2011); (2) to implement an open and clear decision-making process via stakeholders' feedback and contributions as Cascetta et al. (2015) state; (3) to give the chance to voice stakeholder views (Turner & Zolin, 2012).

The two essential concerns of stakeholder engagement are *involvement* and *participation* (Nguyen et al., 2018). It leads and encourages the stakeholders both informing and consulting towards the project. The five stages of

involvement proposed by Luyet et al. (2012) are as follows:

- *Information*; collecting and sharing information and knowledge related to the project with stakeholders.
- *Consultation*; presenting the project's issues to stakeholders, collecting suggestions and information to conclude by regarding or disregarding the participants' characteristics.
- *Co-decision*; cooperation with participants to solve the problems.
- *Empowerment*; gaining credit over the circumstances and outcomes, letting the stakeholders make a decision.
- *Collaboration*; creating an atmosphere to meet common goals by sharing information and knowledge, building trust and mutual respect among the stakeholders.

Stakeholder participation provides a higher level of engagement to avoid possible problems among stakeholders and remove the resistance towards the project.

3. Research methodology

This study adopts qualitative and quantitative research approaches and develops in three stages. First is the literature review providing main issues such as stakeholder identification and analysis, SM strategies, and CSFs in effective SM. Many scholars suggest numerous CSFs through different studies. They signify that the external factors and characteristics of project, stakeholder identification and analysis, stakeholder classification and assessment, stakeholder dynamism, stakeholder engagement and empowerment, appropriate SM strategies, monitoring and control of the process, continuous support and effective communication are the essential activity groups in effective SM. Therefore, the experts comment the CSFs list with 31 items that presents abovementioned groups in this study.

Secondly, researchers direct the semi-structured questionnaire survey that consists of three sections and face-to-face in-depth interviews with ten experts based on a 5- point Likert Scale with the total duration of interviews taking approximately 30 hrs in two months in 2021. The evaluation

Table 1. *The evaluation of research questions.*

Research Questions Section B- Section C	unimportant / important	disagree / agree	negative/ positive
importance of stakeholder and stakeholder's type, impact level of main activities in SM, change of stakeholders' positions	X		
impact of SM on project success criteria, stakeholder participation, issues and activities to improve SM, characteristics of SM model		X	
interaction of procurement route and SM			X
CSFs in SM (project characteristics, stakeholder analysis / dynamics / engagement and empowerment		X	

due to the research questions' logic as in Table 1, and scores from 1 to 5 vary as follows:

1: extremely disagree, *2*: disagree, *3*: neutral, *4*: agree, *5*: extremely agree

1: extremely negatively, *2*: negatively, *3*: neutral, *4*: positively, *5*: extremely positively

1: unimportant, *2*: somewhat important, *3*: quite important, *4*: very important, *5*: extremely important

The Relative Importance Index (RII) for each finding/item from the survey is calculated and ranked accordingly. Finally, the discussion and conclusion take place after assessing the results.

3.1. Survey concept

The questionnaire survey consists of three sections. Section A contains experts' professional characteristics. Section B aims to understand the current practice in SM and its importance in construction project success, problems and possible solutions. Section C inquires about CSFs in the stakeholder management process. The experts evaluate the aspects within each section according to their experiences through the 5-point Likert Scale mentioned above.

3.2. Questionnaire administration

The questionnaire has been purposely directed to selected experts by considering their competence level and positions in construction projects to provide the required data. The interviews take approximately 30 hrs with ten experts who are actively associated with project management in more than 25 years of experience. Survey also acquires the experts' views and comments through some open-

Table 2. *Experts' profile.*

		Field of employment					Professional title						Sector of employment			
Experts	Years in experience	Design / Project	Construction / Building	Quantity surveying / Cost	Consultancy	Business development	Project director	Project / Construction mng.	Contract manager	Construction chief	Designer	Consultant	Public	Private	Public+Private Partnership	Consortium
1	+25	x	x	x	x	x					x	x		x	x	x
2	+25		x					x						x		
3	+25	x	x								x			x		
4	+25		x		x							x		x		
5	+25	x	x	x	x		x				x		x	x		
6	+25		x					x						x		
7	+25	x	x				x		x		x			x		
8	+25			x			x						x	x		
9	+25		x	x			x	x					x	x		
10	+25	x	x					x						x		

ended questions. A limited number of experts participate in in-depth interviews, but their specialty areas and qualifications vary in professional status as information in Section A.

3.3 Ranking approach

Relative Importance Index (RII) given by formula below is to evaluate and rank each response based on the experts' scores obtained from the survey (Zarewa, 2019).

$$RII = \frac{\Sigma W}{A * N}$$

W = weight to each attribute from the experts (Likert scale 1 to 5).

A = the highest weight (it is 5)

N = total number of experts (In this survey it is 10)

RII Value ranges between 0 and 1. The higher RII value shows its impact level and ranking is high in effective SM.

4. Findings and analysis

The findings of this study explained are as follows.

4.1. Experts' profile

Table 2 shows the experts' profiles based on years of experience, professional titles and sector of employment. All of them have professional experiences more than 25 years. They have experience in different areas and professional calling in construction projects. They have been mostly in the private sector of employment.

The breakdown of the experts based on the type of projects involved are as follows:

(1) Housing %19, (2) Shopping mall %16, (3) Trade building %13, (4) Office building %10, (5) Industry, factory %9, (6) Educational building %6, (7) Transportation %6, (8) Mixed building (house+ trade) %6, (9) Hotel, recreation building %6, (10) Health centres %3, (11) Logistic, warehouse %3, (12) Sport facilities %3

The experts have been involved with various project types and sizes. The size of projects diversifies from 20.000 m^2 -30.000 m^2 to more than 200.000 m^2. The projects in remarkable sizes from 100.000 m^2 to 200.000 m^2 are logistic warehouses, housing, shopping malls, office buildings, house + trade projects, and educational buildings. The project size of more than 200.000 m^2 contains housing, shopping mall, house + trade mixed projects, sports facilities, trade buildings, transportation, and health centres.

4.2. Research questions

The following research questions are investigated based on experts' remarks and professional experiences in *Section B*.

- Different types of stakeholders' impact levels in SM
- The impact of effective SM on project success criteria
- The importance of stakeholders SM in the project's success
- The level of stakeholders' participation and its effect on projects' overall success
- The implemented activities in the context of SM in construction projects
- The impact level of the main activities in SM
- Current practice of the experts in the context of SM
- The characteristics of the SM model to apply in construction projects and probable issues related to its implementation
- The requirement of an organizational unit or staff for SM
- The factors affecting the positions of stakeholders as interest, attitudes, and proximity toward a project
- The issues which occur in SM

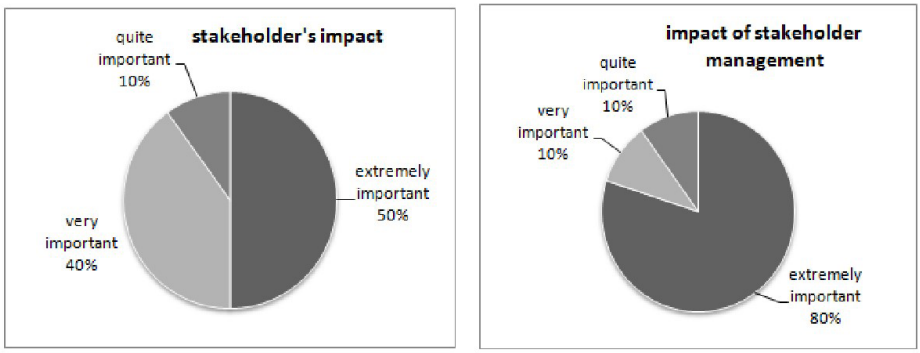

Figure 1. *The impact of stakeholders and SM on project success.*

- The activities to improve the SM
- The characteristics related to procurement route and effects on SM

In *Section C*, the research questions related to critical success factors (CSFs) in SM mentioned in four main groups (1) project characteristics, (2) stakeholder analysis, (3) stakeholder dynamics, and (4) stakeholder engagement and empowerment.

4.3. Survey findings

Experts indicate how the impact levels of stakeholders is respectively. According to RII values in the first five ranks, internal stakeholders are such as; (1) owner, client, investor, (2) project management team, (3) contractor, (4) design team, and (5) staff/employees. External stakeholders are (1) local government, (2) shareholders, (3) sponsors, (4) public services, and (5) central government.

Some findings supposed to affect the construction project through following hypotheses from H1 to H8 related to the impact of stakeholders, and the impact of effective SM on project success criteria (time, quality, cost, stakeholder satisfaction,and project benefit) are in Figure 1, besides the level of stakeholders' participation, requirement of SM organization and a proper SM model or plan. The framework of these relationships shown in Figure 2.

H1: Comprehension of stakeholders' views, requirements, and expectations is vital to analysis properly for effective SM.

H2: A stakeholder manager and team is necessary for the implementation of effective SM.

H3: Effective SM is crucial for overall project success.

H4: The stakeholders' participation is an inevitable concern for project success.

H5: An adequate level of stakeholder participation provides the efficient SM.

H6: A suitable SM model/plan enables the project success.

H7: An applicable and comprehensible model is necessary for effective SM.

H8: Proper project managers and SM organizations enhance project success.

Experts evaluate some expressions about the relationship between stakeholders' participation and project success that an *inadequate level of stakeholders' participation affects project success negatively* with a high RII of 0.98. They also agree that an *adequate level of stakeholders' participation affect project success* with an RII of 0.92. Thus, they approve neither inadequate nor excessive participation of stakeholders. Findings underline the necessity of an applicable SM model and the existence of an organization unit and or/and staff

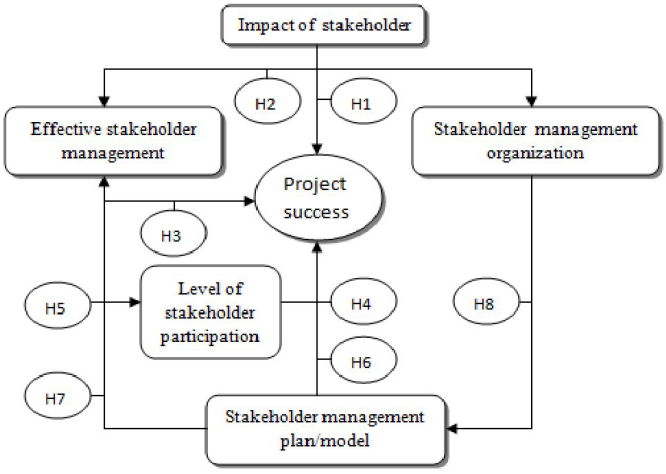

Figure 2. *The framework of relationships between SM components and overall project success.*

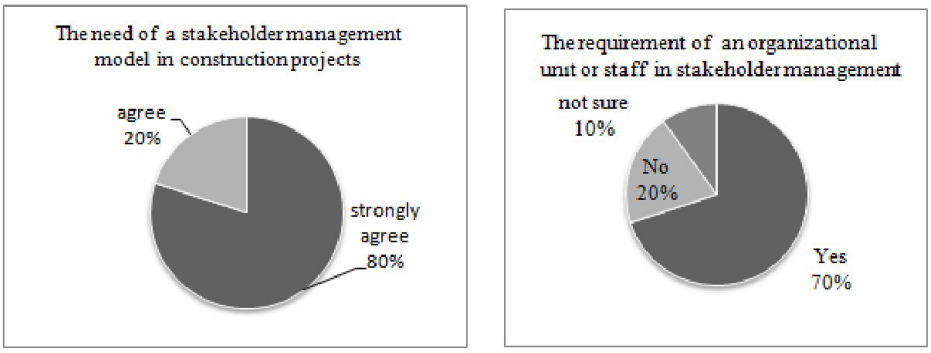

Figure 3. *The experts views in the requirement of an applicable model and organizational unit or staff in stakeholder management.*

for effective SM, as in Figure 3. The expected characteristics of an applicable model in SM are ranked below.

The experts define some expected characteristics of an SM model. Firstly "being clear and comprehensible (RII of 0.92)", secondly "proper logical structure and practical/ applicable way of use (RII of 0.90)", then "inclusive all different stakeholder groups and enhancing the stakeholder engagement and motivation (RII of 0.88)", finally "resolving conflicts between stakeholders (RII of 0.86)". Although most experts submit the necessity of an SM model, some possible problems and barriers in application are described through open-ended questions by experts' experiences in real-life practice as follows:

- Intensity of work and lack of consideration using the model adequately.
- Shortage of experience and difficulties in adaptation during the early period.
- The resistance to innovation and rejection of different management tools.
- Inadequate attitudes and mindset of stakeholders, also lack of motivation to apply the model.
- The conflicts and competitions between the stakeholders.
- The requirement of managerial procedures and guidelines for model application if necessary sanctions are applied.
- The need for responsible personnel /staff to observe the model's application process.
- Different kinds of stakeholders with educational and socio-cultural backgrounds gather in construction projects.

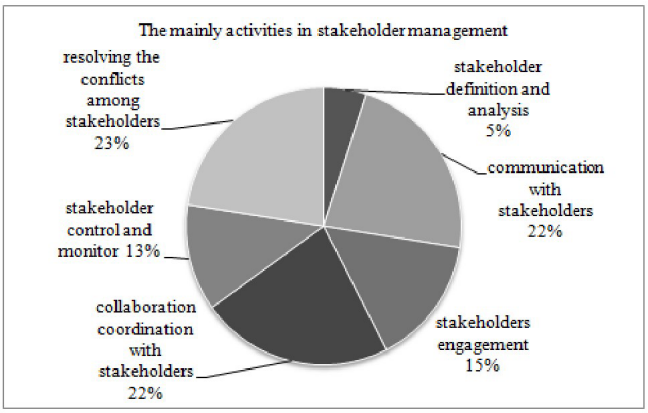

Figure 4. *The main activities of experts' current SM practice.*

The frequency of basic activities implemented by experts in current practice is shown in Figure 4. Resolving the conflicts among stakeholders, communication with stakeholders, collaboration, and coordination with stakeholders are mainly executed aspects. However, the experts also underline the essential activities in SM as (1) effective communication (RII of 0.94), (2) stakeholder analysis (RII of 0.88), (3) stakeholder monitoring RII of 0.88), (4) stakeholder engagement (RII of 0.86), (5) adequate strategies for SM (RII of 0.84). In addition, 70% of experts emphasize following their method and manner, whereas only 40% of them indicate applying the structured procedures in SM practice.

According to respondents, the factors that affect the position of stakeholders, namely, interest, attitudes, and proximity towards the project are defined in Table 3. Changes in the project's aim and objectives, lack of stakeholders' engagement, and inadequacy in sharing information are remarkable

factors that cause changes in stakeholders' positions.

The experts identify the stakeholders' nature in large-scale construction projects firstly as being numerous stakeholders (RII of 0.94), difficulty both private and public stakeholders' satisfaction (RII of 0.92), complexity and interrelationships among the stakeholders (RII of 0.86), change of stakeholders' nature in long project duration (RII of 0.86), the stakeholders from various socio-cultural backgrounds (RII of 0.84), stakeholders with conflicting interests (RII of 0.80), dynamic and unpredictable stakeholders (RII of 0.78).

The research findings show the remarkable issues related to SM in Table 4. Firstly, financial problems and uncertainty are the most significant issues, secondly, the lack of stakeholder engagement, the change of project objectives and decisions along the project lifetime, insufficient capacity in personnel /staff, lastly, ineffective conflict management, clash of responsibilities between various private and public organizations, difficulty and misevaluation for stakeholders' expectations.

The influential activities to improve SM defined are as follows. (1) trustworthiness of the SM team and the existence of SM organization (RII of 0.94), (2) ability to resolve conflicts among stakeholders (RII of 0.92), (3) effective communication (RII of 0.88), (4) balancing opponent ideas among stakeholders (RII of 0.84), (5) improving the conditions for stakeholders' collaboration (RII of 0.82).

Table 5 shows the findings of characteristics related to the procurement route and its effects on SM. The remarkable aspects are (1) collaborations among internal stakeholders, (2) open and efficient communication and monitoring, (3) defining the responsibilities clearly, (4) implementation of stakeholder analysis appropriately, and (5) avoiding conflicts and finding solutions.

Many scholars determine various CSFs to facilitate effective SM (Eyiah-Botwe et al., 2016; Hammad, 2013; Li et al., 2011; Molwus, 2014; Tsiga, 2016; Yang et al., 2009; Yang et al., 2014; Zarewa, 2019). Eyiah-Botwe et al.

Table 3. *The factors affecting the positions of stakeholders towards the project.*

The factors affect the position of stakeholders towards project	RII	rank
The change in project's aims and objectives	0.80	1
Lack of stakeholders' engagement	0.80	1
Inadequancy of share information	0.80	1
Lapse project duration	0.76	4
Lack of communication	0.72	5
Weakness of stakeholders' responsibility / empowerment	0.72	5
Lost of trust and belief against project team	0.70	7
Reduction of proximity and involvement towards project	0.68	8

Table 4. *The issues occurring in SM.*

The issues occur in stakeholder management	RII	rank
▪ Financial problems and uncertainty	0.94	1
▪ Lack of stakeholder engagement	0.84	2
▪ The change of project objectives and decisions along the project life-time	0.84	2
▪ Insufficient capacity in personel /staff	0.84	2
▪ Ineffective conflict management among the stakeholders	0.80	5
▪ Clash of responsibility between various private and public organizations	0.80	5
▪ Difficulty and misevaluation for stakeholders' expectations	0.80	5
▪ Political uncertanity in project decision and lack of engagement of public party	0.74	8
▪ Absence of project management organizations	0.74	8
▪ Lapse of project duration and vagueness for project delivery date	0.72	10
▪ Shortage of pay attention in stakeholders' performance monitoring in long term	0.72	10
▪ Lack of taking account in public welfare	0.64	12
▪ Lack of public relations and sharing information with local community	0.58	13

Table 5. *The characteristics related to procurement route and its effects on SM.*

The characteristics related to procurement route and effects on stakeholder management	RII	rank
▪ The collaborations among internal stakeholders	0.94	1
▪ Open and clear communication and monitoring	0.92	2
▪ Defining the responsibilities clearly	0.92	2
▪ Implementation of stakeholder analysis easily and properly	0.92	2
▪ Avoiding conflicts and finding solutions	0.88	5
▪ To be organized stakeholder management	0.88	5
▪ Separating the role of design and construction	0.82	7
▪ Definition of external stakeholders and engagement	0.82	7
▪ The providing suitable conditions for change management	0.78	9
▪ Integration of design and construction roles	0.76	10
▪ Participation of owner/client as from inception phase	0.64	11
▪ Participation of contractor into design phase	0.62	12
▪ Gathering all responsibility at single authority	0.56	13

Table 6. *CSFs according to RII values from survey results.*

CSFs related to project characteristics		RII	rank
1	Clearly defining project mission, goals and objectives	0.96	1
2	Good leadership and management skills	0.94	2
3	Top management support	0.94	2
4	Determining project external conditions such as political, economical, legal, ethical, cultural	0.90	4
5	Choosing appropriate procurement methods for material, finance, employment etc.	0.84	5
6	Taking account of economical, legal, environmental/ecological, ethical concerns via Corporate Social Responsibility(CSR)	0.80	6
7	Flexible project organization	0.80	6
CSFs related to stakeholder analysis			
1	Determining the stakeholders' priority and importance	0.94	1
2	Recording the commitments of stakeholders	0.94	1
3	Determining the stakeholders' tasks and responsibilities	0.92	3
4	Predicting stakeholders' potential influence on each other	0.86	4
5	Predicting and mapping stakeholders' behaviour and attitudes (supportive, opponent, neutral etc.)	0.84	5
6	Properly classifying the stakeholders according to their characteristics (power, legitimacy, urgency, proximity, interest)	0.82	6
7	Determining and assessing; Stakeholders' power (the influence capacity on other stakeholders' actions)	0.82	6
8	Stakeholders' legitimacy (legal validity of stakeholders' claims)	0.80	8
9	Stakeholders' proximity (level of closeness and involvement with project)	0.80	8
10	Stakeholders' urgency (degree of immediate attention and importance to which requires other stakeholders' claims and demands)	0.76	10
CSFs related to stakeholders' dynamism			
1	Resolving the conflicts among the stakeholders effectively	0.98	1
2	Managing effects of project decisions on stakeholders	0.92	2
3	Predicting and analysing the potential conflicts and coalitions among stakeholders	0.90	3
4	Managing the change of stakeholders' interests	0.84	4
5	Managing the change of stakeholders' influence and attributes	0.84	4
6	Predicting possible reactions of stakeholders for implementation project decisions.	0.82	6
7	Managing the change of relationship among stakeholders	0.78	7
CSFs related to stakeholder engagement and empowerment			
1	Providing effective, open and frequently communication throughout project life cycle	0.98	1
2	Sharing information with stakeholders	0.94	2
3	Establishing an appropriate way of communication with stakeholders in order to institute feedback and control mechanism	0.90	3
4	Formulating relevant strategies to manage and engage different kind of stakeholders	0.90	3
5	Improving collaboration and empowerment among stakeholders	0.84	5
6	Promoting and improving positive relations among stakeholders	0.80	6
7	Incorporate the stakeholders into decision making process	0.78	7

(2016) emphasize that the remarkable CSFs are as respectively;(1) on time and accurately identification for whole stakeholders, (2) managing stakeholders by focusing on external factors of political and cultural atmosphere, (3) open and constant communication, (4) project managers' competence, experience, leadership style and technical ability, and (5) a formal and structured SM process. According to findings of research by Molwus (2014), CSFs are ranked as (1) involving adequate project stakeholders at the inception stage and if necessary refining the project mission, (2) determining stakeholders' interest in the project, (3) communication properly and frequently, (4) understanding how project decisions affect stakeholders, and (5) resolving conflicts among stakeholders.

On the other hand, Yang et al. (2009) define the highly prioritized CSFs as (1) managing stakeholders through social responsibilities (legal, economic, environmental and ethical), (2) defining the stakeholders' requirements and constraints to the project, (3) communicating with and engaging stakeholders properly and frequently, (4) comprehending the area of stakeholders' interests, and (5) identifying stakeholders appropriately.

In this study, *Section C* inquiries the impact of CSFs through experts' opinions regarding lists in four categories and 31 items with RII values shown in Table 6.

The findings of this study significantly overlap with the mentioned studies from the literature; they indicate the most significant CSFs as (1) resolving the conflicts among the stakeholders effectively, (2) providing effective, open, and constant communication throughout the project lifetime, (3) clearly defining project mission, goals, and objectives, (4) determining the stakeholders' priority and importance, (5) good leadership and management

skills, (6) top management support, (7) recording the commitments of stakeholders, and (8) sharing information with the stakeholders.

The findings obtained from both the literature and this study underline that the remarkable CSFs in effective SM are effective communication, identifying and understanding the stakeholders by analyzing properly, and competency in management skills. However, the experts assess some CSFs with lower RII scores as stakeholders' urgency, incorporating the stakeholders into the decision-making process, and managing the change of relationships among the stakeholders. Above all, CSFs requires efficiency in organizational and managerial skills.

5. Discussion and conclusion

The literature review clarifies that both the construction industry and the academic world pay attention to effective SM. Overall project success depends upon not only targeted time, cost, and quality criteria called the "iron triangle" but also stakeholders' satisfaction, benefit, and technical performance of the project. This study justifies that the experts admit the significance of the subject matter in the Turkish construction industry, as well. The findings of the research show the remarkable factors for project success as (1) impact of stakeholders, (2) adequate level of stakeholders' participation, (3) accurate and continual SM, (4) requirement of management team/ organization, and (5) an appropriate stakeholder management model/plan. Although these results conform to previous studies, most experts apply their methods and approaches using learned lessons in current SM practice. It might lead the scholars to produce managerial guidelines and a structured formal model/plan to facilitate the SM process.

The human factor is the decisive element in the effective SM. Unless a competent management team, responsible and involved individuals, and stakeholders exist, it is difficult to achieve an effective SM.

The experts confirm that the most significant activities are efficient communication, stakeholder analysis, stakeholder monitoring and control, stakeholder engagement, and proper strategies for stakeholder management for an ideal SM scene. However, they state that the most applied activities in their current SM practice are resolving conflicts among stakeholders (23%), communication (22%), and collaborating with stakeholders (22%) with respect to application percentage. On the other hand, stakeholder monitoring and control (13%) and stakeholder analysis (5%) are applied more infrequently. These activities can be facilitated by suggesting more applicable methods in future studies. The findings further shed light on problems regarding current SM practice as (1) financial problems and uncertainty,(2) lack of stakeholder engagement, (3) the change of project objectives and decisions along the project lifetime, (4) insufficient capacity in personnel /staff, (5) ineffective conflict management, (6) clash of responsibility between various private and public organizations, and (7) difficulty and misevaluation stakeholders' expectations. All of these problems underline the organizational problems.

According to research findings, influential activities to improve SM have been suggested as follows. (1) the trustworthiness of the SM team and the existence of the SM organization, (2) the ability to resolve conflicts among stakeholders, (3) effective communication, (4) balancing opponent ideas among stakeholders, and (5) improving the conditions for stakeholders' collaboration. The ideal model for SM can use these criteria for developing an effective process and policies.

The characteristics related to the project procurement route and its effects on SM are (1) collaborations among internal stakeholders, (2) open and efficient communication and monitoring, (3) defining the responsibilities clearly, (4) implementation of stakeholder analysis appropriately, and (5) avoiding conflicts and finding solutions. Many scholars suggest several CSFs considering the overall project domain and the characteristics of the project and stakeholders for a successful SM process. In this study, the essential CSFs are as follows. (1)providing

effective, open, and frequent communication throughout the project life cycle, (2) resolving the conflicts among the stakeholders effectively, (3) clearly defining the project mission, goals, and objectives, and (4) determining the stakeholders' tasks and responsibilities.

As a result, recognizing the current conditions and potentials of the SM process helps researchers introduce new perspectives and approaches to the subject. The study becomes better to understand the probable restraints, risks, and obstacles besides requirements and suggestions with numerous participants. The research findings are tested through different construction projects as well. Future studies might suggest efficient SM models and managerial procedures, organizations, and guidelines considering the research gaps and incoherency.

References

Aaltonen, K., Kujala, J., Havela, L., & Savage, G. (2015). Stakeholder dynamics during the project front-end: The case of nuclear waste repository projects. *Project Management Journal, 46(6),* 15-41.

Aaltonen, K. (2011). Project stakeholder analysis as an environmental interpretation process. *International Journal of Project Management, 29(2),* 165-183.

Aaltonen, K. (2010). *Stakeholder Management in International Projects.* (Phd. Dissertation). Aalto University, School of Science and Technology, Espoo, Finland.

Aaltonen, K., Jaakko, K., & Tuomas, O. (2008). Stakeholder salience in global projects. *International Journal of Project Management, 26(5),* 509-516.

Aaltonen, K., & Sivonen, R. (2009). Response strategies to stakeholder pressures in global projects. *International Journal of Project Management, 27(2),*131-142.

Andersen, E.S. (2008). *Rethinking project management: An organizational perspective*. FT Prentice Hall: Pearson Education.

Beringer, C., Jonas, D., & Gemunden, H.G. (2012). Establishing project portfolio management: An exploratory analysis of the influence of internal stakeholders' interactions. *Project Management Journal 43(6),* 16-32.

Beringer, C., Jonas, D., & Kock, A. (2013). Behavior of internal stakeholders in project portfolio management and its impact on success. *International Journal of Project Management, 31(6),* 830-846.

Bourne, L., & Walker, D.H.T. (2005). Visualizing and mapping stakeholder influence. *Management Decision, 43(5),* 649-660.

Bourne, L., & Walker, D.H.T. (2006). Using a visualizing tool to study stakeholder influence-two Australian examples. *The Project Management Journal*, *37(1),* 5-21.

Cascetta, E., Carteni, A., Pagliara, F., & Montanino, M. (2015). A new look at planning and designing transportation systems: A decision-making model based on cognitive rationality, stakeholder engagement and quantitative methods. *Transport Policy, 38,* 27-39.

Chinyio, E., & Akintoye, A. (2008). Practical approaches for engaging stakeholders: findings from the UK. *Construction Management and Economics, 26(6),* 591-599.

Cleland, D.I. (1998). Stakeholder management. In: Pinto J., (Ed.), Project Management Handbook, San Francisco, Jossy -Bass, Project Management Institute, 55-72.

Cleland, D.I. (1986). Project stakeholder management. *Project Management Journal,17(4),* 36-44.

Cova, B., & Salle, R. (2005). Six key points to merge project marketing into project management. *International Journal of Project Management, 23(5),* 354-359.

De Schepper, S., Dooms, M., & Haezendonck, E. (2014). Stakeholder dynamics and responsibilities in public-private partnerships: A mixed experience. *International Journal of Project Management, 32(7),* 1210-1222.

De Wit, A. (1988). Measurement of project success. *International Journal of Project Management, 6(3),* 164-170.

Deegan, B., & Parkin, J. (2011). Planning cycling networks: Human factors and design processes. *Proceeding of the ICE-Engineering Sustainability, 164(1),* 85-93.

El-Gohary, N.M., Osman H., & El-Diraby, T.E. (2006). Stakeholder management for public-private part-

nerships. *International Journal of Project Management, 24(7),* 595-604.

Eskerod, P., & Jepsen, A.L. (2013). *Project Stakeholder Management (fundamentals of project management).* Farnham, Surrey, England: Gower.

Eyiah- Botwe, E., Aigbavboa, C.O., & Thawala, W.D. (2016). Critical success factors for enhanced stakeholder management in Ghana. *The Scientific Journal for Theory and Practice of Socio-economic Development, 5(10),* 153-170.

Freeman, R.E. (1984). *Strategic Management: A Stakeholder Approach.* Pitman Publishing Inc. Mansfield, MA

Frooman, J. (1999). Stakeholder influence strategies. *Academy of Management Review, 24 (2),* 191-205.

Greenwood, M**.** (2007). Stakeholder engagement: Beyond the myth of corporate responsibility. *Journal of Business Ethics, 74(4),* 315-327.

Hammad, S. (2013). *Investigating the stakeholder management in construction projects in the Giza strip.* (MSc thesis). The Islamic University of Gaza.

Hendry, J.R. (2005). Stakeholder influence strategies: An empirical exploration. *Journal of Business Ethics, 61(1),* 79-99.

Hill, C. W., & Jones, T.M.(1992). Stakeholder agency theory. *Journal of Management Studies, 29(2),* 131-154.

Jayasuriya, S., Zhang, G., & Yang, R.J. (2017). *Structural Equation Model of strategies for successful stakeholder management.* AUBEA Australian Universities Building Education Association Conference, EPIC Series in Education Science, (1), 341-350.

Jepsen, A.L., & Eskerod, P. (2009). Stakeholder analysis in projects: Challenges in using current guidelines in the real world. *International Journal of Project Management, 27(4),* 335-343.

Jones, T.M. (1995). Instrumental stakeholder theory : A synthesis of ethics and economics. *Academy of Management Review, 20(2),* 404-437.

Jones, C., Hesterley, W.S., & Borgatti, S.P. (1997). A general theory of network governance: Exchange conditions and social mechanisms. *Academy of Management Review,* 22(4), 911-945.

Johnson, G., Scholes, K., & Whittington, R**.** (2005). *Exploring Corporate Strategy: Text and Causes,* 7th edn. London: Prentice Hall.

Li, Y., Lu, Y., & Peng, Y. (2011). Hierarchical structuring success factors of project stakeholder management in construction organizations. *African Journal of Business Management, 5(22),* 9705- 9713.

Luyet, V., Schlaepfer, R., Parlange, M.B., & Butler, A. (2012). A framework to implement stakeholder participation in environmental projects. *International Journal of Environmental Management, 111,* 213-219.

McElroy, B., & Mills, C. (2007). Managing stakeholders , in Turner, J.R.(ed). *Gower Handbook of Project Management, 4th edition,* Gower Publishing, Aldershot, 757-77.

Mendelow, A.L. (1981). *Environmental Scanning-the Impact of the stakeholder* Concept. Proceedings of the International Conference on Information Systems, Cambridge

Mitchell, R.K., Agle, B.R., & Wood, D.J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review, 22(4),* 853-886.

Molwus, J.J. (2014). *Stakeholder Management in Construction Management*. (Doctoral dissertation). Heriot Watt University, Edinburgh.

Mok, K.Y., Shen, G.Q., & Yang, J. (2015) Stakeholder management studies in mega construction projects: A review and future directions. *International Journal of Project Management,3(2),* 446-457.

Muliisa, R., & Kariuki, P. (2017). Role of stakeholder management on project sustainability; A case of compassion International supported projects in Huye District of Rwanda. *International Journal of Science and Research, 6 (11),* 61-68.

Newcombe, R. (2003). From client to project stakeholders: A stakeholder mapping approach. *Construction Management and Economics, 21(8),* 841-848.

Nguyen, T.S., Mohamed, S., & Panuwatwanich, K. (2018). Stakeholder management in complex projects: Review of contemporary literature. *Journal of Engineering, Project and Production Management, 8(2),* 75-89.

Olander, S. (2007). Stakeholder impact analysis in construction project management. *Construction Management and Economics,25(3),* 277-287.

Olander, S., & Landin, A. (2005). Evaluation of stakeholder influence in the implementation of construction projects. *International Journal of Project Management, 23(4),* 321-328.

PMI. (2017). *A guide to the project management body of knowledge (PMBoK ® guide) (Vol. 6th; sixth edition)* Newtown Square, PA: Project Management Institute, Inc.

Pacagnella Junior, A.C., Porto, G.S., Pacifiso, O., & Salgado Junior, A.P. (2015). Project stakeholder management: A case study of a Brazilian science park. *Journal of Technology Management and Innovation, 10(2*), 39-49.

Park, H.S., & Lee, Y.H. (2015). Exploring a process model for stakeholder management. *Public Relations Journal, 9(4),* 1-17.

Rajablu, M., Marthandan, G., & Yusoff, W.F.W. (2015). Managing for stakeholders: The role of stakeholder-based management in project success. *Asian Social Science, 11(3),* 111-125.

Rowley, T.J. (1997). Moving beyond dyadic ties: A network theory of stakeholder influences. *Academy of Management Review, 22(4),* 887-910.

Rowlinson, S., & Cheung, Y.K.F. (2008). Stakeholder management through empowerment: modeling project success. *Construction Management and Economics, 26,* 611-623.

Savage, G.T., Nix, T.W., Whitehead, C.J., & Blair, J.D. (1991). Strategies for assessing and managing organizational stakeholders. *The Executive, 5(2),* 61-75.

Smith, J., & Love, P.E.D. (2004). Stakeholder management during project inception: Strategic needs analysis. *ASCE Journal of Architectural Engineering, 10(1),* 22-33.

Strand, R., & Freeman, R.E. (2015). Scandinavian cooperative advantage: The theory and practice of stakeholder management in Scandinavia. *Journal of Business Ethics, 127(1),* 65-85.

Tikkanen, H., & Lindblom, J. (1998). A network approach to international project marketing. A case study of a technology transfer project to the PRC, Working Paper No. 11, University of Oulu, Oulu.

Tsiga, Z., Emes, M., & Smith, A. (2016). Critical success factors for the construction industry. *PM World Journal, 5(8),* 1-12.

Turner, R., & Zolin, R.(2012). Forecasting success on large projects: Developing reliable scales to predict multiple perspectives by multiple stakeholders over multiple time frames. *Project Management Journal, 43(5),* 87-99.

Ward, S., & Chapman, C. (2008). Stakeholders and uncertainty management in projects. *Construction Management and Economics, 26(6),* 563-577.

Wasserman, S., & Galaskiewicz, J. (1994). *Advances in social network analysis: Research in the social and behavioral sciences.* Thousand Oaks, California: Sage Publications.

Winch, G.M. (2004). *Managing project stakeholders.* In: Morris P. W. G. and Pinto J.K. (Eds.), The Wiley Guide to Managing Projects, John Wiley & Sons Inc., Wiley, New Jersey.

Yang, R.J., Shen, G.Q., Ho. M., Drew, D.S., & Chan, A.P. (2009). Exploring of critical factors for stakeholder management in construction projects. *Journal of Civil Engineering and Management, 15(4),* 337-3348.

Yang, R. J., Wang, Y., & Jin, X-H. (2014). Stakeholders' attributes, behaviors, and decision-making strategies in construction projects: Importance and correlation in practice. *Project Management Journal, 45 (3),* 74- 90.

Yang, R.J., Shen, G.Q., Ho, M., Drew, D.S. & Xue, X. (2011). Stakeholder management in construction: An empirical study to address research gaps in previous studies. *International Journal of Project Management*, *29(7),* 900-910.

Yang, R.J. (2014). An investigation of stakeholder analysis in urban development projects: Empirical or rationalistic perspectives . *International Journal of Project Management, 32(5),* 838-849.

Zolin, R., Cheung, Y.K.F., & Turner, R. (2012). Project managers' understanding of stakeholders' satisfaction. *Project Perspectives, 34,* 10-15.

Zarewa, G. A. (2019). Barriers to

effective stakeholder management in the delivery of multifarious infrastructure projects (MIPs). *Journal of Engineering Project and Production Management, 9(2),* 85-96.