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Identification and Ranking of Individual Abilities of Stakeholders of Construction Projects in Iran and Providing Strategies for using them

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ABSTRACT

In recent years, many researchers have come to the conclusion that project success is not only about cost, quality, and time, but also effective management and stakeholder satisfaction. Identifying and ranking of individual stakeholders' capabilities and their influential factors in accordance with the type of projects can provide a suitable framework for evaluating and verifying the outputs of the project.Therefore, the purpose of this study is to identify and rank the individual capabilities of stakeholders in construction projects in the country and present strategies for their use. This research is belonged toanapplied research and is descriptive-field in the aspect of nature. In terms of collecting information, the library method and descriptive statistics were used to analyze the information. The statistical population of this study is the managers of construction companies of Iran and according to the stakeholders of these companies that are studied in this research;they were investigated in terms of individual ability indicators such as decision-making power, autonomy and so forth. According to Cochran's formula, the sample size of the research is 384 executives of construction companies. The result of this study is to identify and review the set of criteria for the success of spacecraft projects. The significance of each of these factors is evaluated at various stages in the life cycle of the projects.

Keywords: *construction projects, individual abilities, decision-making power, autonomy*

I. INTRODUCTION

In recent years, many researchers have come to the conclusion that project success is not only about cost, quality time, but also effective management and stakeholder satisfaction. Success in the project is achieved through satisfying the various stakeholder expectations and in the project phases.

Stakeholders have an undeniable effect in reaching the projects to their goals. Successful project managers establish good relationships with project stakeholders to understand their needs and expectations and work to meet their needs.

In every project, and especially in construction projects, many different or even contradictory tendencies must be considered. These tendencies and tastes are back to stakeholders and project managers. The stakeholder is in an individual or group's project that, along with other stakeholders, can be both a benefit to the project and a threat to it.

Negative tendencies among stakeholders can easily lead to a complete halt of the project, and, on the other hand, inefficient management can also lead to intensified conflicts and disputes in the course of project implementation. To avoid these cases, project managers must use their best endeavors to create an efficient and effective business relationship between stakeholders, and, at the meantime, performtalking to resolve conflicts of interest.

Identifying and ranking constructionproject Stakeholders'Individual capabilities are major issues in project management. Failure to identify these capabilities and the lack of strategies to use them makes it difficult to monitor, control project performance. Therefore, identification and ranking of stakeholders' individual capabilities and their influential factors in accordance with the type of projects can provide a suitable framework for evaluating and verifying project outputs. The key stakeholders of each project are the project manager and customer. Also, providing strategies to use them can help manage the appropriate allocation of resources throughout the life of the project. One of the main tasks of senior executives is to clarify the destination of the organization. Given the fact that organizations should strive to meet the needs of their stakeholders, stakeholder participation in prioritizing the organization's goals seems essential. Favorable strategy increases the social responsibility of the stakeholders towards them. The importance of an interest group also promotes the social responsibility of that group when the importance of the stakeholder and the strategy is simultaneously considered.The prominence and importance of a stakeholder group affects the strategy's impact on corporate social responsibility. Therefore, the purpose of this study is to examine whether the strategy ofstakeholders' individual capabilities and their importance on corporate social responsibility affects similar stakeholders. The data of this research is collected through questionnaires that will be filled up by the top executives of the country's construction companies.In these questionnaires, the stakeholders' strategy and the social responsibility of construction companies will be evaluated against employees, customers, society, natural environment and suppliers as well as the importance of each stakeholder's stake in designing strategies for construction companies.
This research pursues four goals that include: the assessment of individual capabilities, decision-making power, degree of autonomy and strategies in identifying the stakeholders' individualcapabilities in the Iran's construction projects.

Amiri et al. (2010), in a paper entitled "Providing a Consolidated Model for Stakeholder Analysis for Major Objectives; Case Study", noted that in the current unstable situation, one of the main tasks of senior executives is to clarify the destination of the organization.The macro goalsrepresent the results of the performance of the organization in the long run and their priorities determine how the relevant programs are implemented. Given the fact that organizations must strive to meet the needs of their stakeholders, stakeholders' participation in prioritizing the organization's goals seems necessary, but so far none of the models presented in the field of strategic management have explicitly addressed this issue. Therefore, in this paper, a combined model for ranking the goals is presented based on a stakeholder analysis that identifies key stakeholders and prioritizes them to extract needs and ultimately ranking the goals of the macro.
Mirzai and Nourani (2013), examined in a research entitled "The Impact of the Benefit Management Strategy and the Importance of the Beneficiaries on Social Responsibility of the Case Study Company", whether the strategy in relation to primary stakeholders and their importance impact oncorporate social responsibility compared to similar stakeholders.The data were collected through questionnaires filled up by the principals and top managers of Tehran's small companies. In these questionnaires, the strategy of stakeholders and social responsibility of the company were evaluated towards the employees, customers, society, natural environment and suppliers, as well as the importance of each stakeholder group in formulating corporate strategies. Our findings indicate that a desirable strategy increases the social responsibility of the stakeholders towards them. The importance of a stakeholder group also causes the social responsibility of that group be promoted, when the importance of the stakeholders and the strategy is simultaneously taken into account, the prominence and importance of a stakeholder group affect the

impact of the strategy on the company's social responsibility.

Movafeghi (2013) suggested in a study entitled "Strategic Proportionin Organizational Design" that organizations that have apoor performance or faildue to the non-alignment of their goals with their strategies know the lack of having proper leaders with no knowledge about the company design as the reason. The process of strategic proportion is to empower leaders to overcome organizational silence about the organization's lack of alignment with the environment and the choice of a strategy. The process of strategic proportion is a research methodology that an organization's top research team can achieve organizational dynamic capability with this method. In addition to describedifferent stages of the strategic management process, it describes its role in the redesign of the organization. The research was re-designed on an industrial company by the organization.

VahidiArbabi and Malek (2011), suggested in the article "Investigation and Identification of the Factors Affecting Project Success", that the success of a project is one of the biggest and most important goals and concerns of managers and all those involved in a project that is somehow unifying the efforts made by all members of the project team. Investigating the success and failurefactors of projects in construction projects due to the dynamic and variable natureof the construction industry is more sensitive in different stages of project implementation.Butidentifying the success factors of a project is a relative and complicated concept, which, given their nature and executive system and their natural attributes, many experts have presented many different and sometimes contradictory definitions.A glimpse of previous studies on the success factors of construction projects implies the absence of a unique definition acceptable to all. But because of different and sometimes contradictory interests of different stakeholders of a project, we tend to determine that from whom view and in what industry thefactors of success are investigated.In this research, due to the importance and high influence of space structures in the construction industry in the world and especially in Iran, the success factors of a project is investigated from the viewpoint of the people involved in this industry such as designers, manufacturers and executives as the statistical research community, with attention to the implementation stages of the project.

This research has been done by descriptive-field method. After reviewing the research background, a set of criteria for project success has been extracted in five different phases of the implementation of the projects of space structures. Then, with the help of this set of factors, a questionnairewas prepared and it randomly distributed among the statistical population to determine the percentage of confirmation and the significance of each of the criteria. The result of this study is to identify and review the set of criteria for the success of space structure projects. The significance level of each of these factors is evaluated at various stages in the life cycle of the projects.

RoofigariHaghighat (2014), suggested in a research entitled "Providing a Method for Performance Evaluation and Prioritization of Projects Using the BSC and QFD Combined Model", that the existence of a model conforming to the structure of the organization's strategic plan to provide feedback in order to improve the performance of their differentbranches and access the tool for satisfying this need of managers is very necessary and logical.A common method is the balanced scorecard performance management, which has indicators in four perspectives include finance, processes, customer, and learning, growth and development, aiming at balancing four perspectives. In this research, which was carried out in Isfahan municipality, firstly, the strategy of Isfahan Municipality was provided based on the strategic plan of Isfahan Municipality during the years of 2011 to 2016, during which strategic goals, strategic objectives, along with causal relationships between them and the required indicators the four determined balanced scorecards have been identified. Then, the collected data of these goals and indicators in the city of Isfahan are become quite small and then, according to the quantitative objectives, they were evaluated for each period between 2011 and 2013. From the result of the evaluation of goals, the success rate of each goal is determined and it isdetermined as inputfor prioritizing future projects in Isfahan 2016program and it utilized using Quality Function Development Technique. In other words, this research has presented a BSC model and QFD to evaluate the performance of Isfahan municipality and prioritize projects to improve performance.

The results of the research show that the municipality of Isfahan, according to the implementation of all the measures and projects

approved in its strategic plan (Isfahan, 2016), which was carried out between the years2011 and 2013 years, could not reach a 100% success to some its strategic purposes (development and Maintenance of urban green space, good municipal waste management, urban decay management, public transport development, infrastructure development and sports programs, infrastructure development and recreational programs). Accordingly, in order to bridge the gap between the existing and the desired situation, it is necessary to implement the specified index projects in the order of priority specified using the technique of expanding the function of quality.Heravi et al. (2015), in the paper entitled "Reviewing the Stakeholder Participation during Construction Planning", explores the current level of stakeholder participation during the project planning process. Stakeholders often need resources and have the ability to control the communication and flow of resources in the network.It also has a great impact on the survival of an organization, and as a result, stakeholders' key participation and management should be an important part of project management for each program. A collection of reviews of the versions was conducted to identify and categorize the significant stages involved in planning. To collect data, a questionnaire was designed and it distributed among nearly 200 companies that were work in the residential building sector in Australia.

Aarsethet al. (2016) focused on the sustainability of the content of an ongoing project in a research entitled "Project sustainability strategy: A review of systematic articles". Systematic literature review covers all research published in five leading journals on project management and sustainable production before 2016.Our analysis has shown two distinct perspectives in project sustainability research.One of the assumptions of the views is the organization of the project asset and the second assumption is the host organization's view. Identifying and describing the eight distinct strategies used by the both organization, the host organization, or both in collaboration to support sustainability goals.

Strohmeier(1992), investigated in a study entitled "Developing Individual Skills for Senior Project Managers," qualified personnel for project management fordetermining the success of a project. Due to the degrees and expertise in the field of project management, interpersonal social aspects are often ignored in relation to the senior qualification of project managers. This paper examines the results of an empirical study of the individual competencies of stakeholders and the subjectsthat examines whether challenges are met by employee development policies.

Yang et al. (2016), in the paper "The Effect of the Requirements Definition and Management on Performance Results: The Role of Interpersonal Conflict, Production Benefits and Project Type," stated that early planning in many cases has not properly done in new product development (NPD). Most versions of NPD focus more on product rather than on the development process (Funk 1992). The main objective of this research was to investigate the relationship between RDM, Interpersonal Difference, Product and Performance Advantage (NPD) in terms of project and market performance. Structural Equation Method (SEM) modeling has been used to validate the research model. The results indicate that in the term (RDM) the implementation process and improvement education is related with the required quality and stability. The findings also indicate the number of balanced groups and the relationship between the quality required and the stability and performance of the project.

II. MATERIALS AND METHODS

In this research, a questionnaire was used. Research data is collected in a field and non-field manner. In order to collect information in this research based on the nature of the subject, the library method (documents), which includes: books, reports, research and theses and field are used so that the necessary information is collected by referring to construction companies and the relevant organizations. Since the results of this study are intended to be used in planning and solving problems and problems in the structure of construction projects, this study is of anapplied method. The statistical populationsthat are studied and investigated in this study are the managers of construction companies of the Iran and according to the stakeholders of these companies studied in this research, they are investigated in terms of individual ability indicators such as decision-making power, autonomy etc. Based on the Cochran formula, the sample size of the study is 384 executives of construction companies.

III. RESULTS AND DISCUSSION

Respondents' frequency distribution in terms of age

According to the findings, 10.9% of the respondents are in the age group of 35-40 years, 24.2% in the age group of 40-45 years, 41.7% in the age group of 50-45 and 23.2% in the age group of more than 50 years. The largest number of respondents belongs to the age group of 45-50 years with 41.7%.

Respondents' frequency distribution in terms of education

According to the findings, 7.8% had an associated degree, 29.9% had a bachelor degree, 43.5% had a MA degree, and 18.8% had Ph.D. degree. The largest number of respondents belongs to the people with MA with 43.5%.

Respondents' frequency distribution in terms of occupational experience

According to the findings, 8.6 percent have 10 to 15 years of work experience, 24.5%have 15-20 years, 46.9% have 25-20 years, and 20.1 percent have more than 25 years of experience. the highest number of respondents belongs to people with work experience of 20-25 years with 46.9%.

Respondents' frequency distribution in terms of gender

71 individuals of this population are female and 313 individuals are male.

Stakeholders' individual abilities

The components of individual stakeholder capabilities include: correct training of human resources, enhancing organizational culture, creating a competitive environment, providing empowerment strategies and methods, and creating a sense of responsibility. According to the analysis of the correlation between the variable of development projects and the components related to the individual abilities of the stakeholders, the increase of organizational culture is 62%, which is more than the other components and there is a direct relationship between the two. Also, because the value of p is smaller than 0.05, then it is also significant.Therefore, there is a relationship between the construction projects and individual abilities of stakeholders. Also, the coefficient of determination in the numerical value is .843. Regarding this, it can be said that the fitting in this case has 84% of the predictive power of dependent variables compared to the independent variable. Also, from the results and coefficients of the linear regression model it was observed that the sense of liability component with .448has more effect than other components on construction projects.

Stakeholders' making decision power

The components considered in relation to this variable are: stakeholder self-confidence, sufficient knowledge and expertise, stakeholders' anxiety, stakeholder experience and stakeholder investment.

In this analysis, the correlation between the variable of construction projects and the component of knowledge and specialization is 83.7%, which is more than the other components and there is a direct relationship between the two. Also, since the value of p is smaller than 0.05, then it is also significant. Therefore, there is a relationship between the variable of construction projects and the stakeholder decision-making power. The correlation coefficient between variables is also 0.906 and the coefficient of determination in the numerical value is 0.821. It was concluded fromthe result of linear regression model coefficients that havingwork knowledge and expertise of the stakeholders with a .442 coefficient is more in relation with construction projects than other components.

Stakeholders' autonomy

The components considered in connection with this variable are: independence and excessive freedom in the workplace, the lack of proper regulations and provisions in the workplace, peremptoryof shareholders and having falseconfidence.

In this analysis, the correlation between the variable of construction projects and the component of stakeholder peremptory is 63.6% and is higher than other components and there is a direct relationship between the two. Also, because the value of p is smaller than 0.05, then it is also significant. Therefore, there is a relationship between the variables of the construction projects and the stakeholder's autonomy.

Strategies to identify individual stakeholders' capabilities

The components considered in relation to this variable are: anticipation about the following work issues, building approaches to achieving the consideredoccupational goals, identifying the issues of work as a specific organization, the place of innovation in the organization's strategy.

In this analysis, the correlation between the variable of construction projects and the component of the innovation position in the organization's strategy is 93%, which is more than the other components and there is a direct relationship between the two. Also, since the value of p is smaller than 0.05, then it is also significant. Therefore, there is a relationship between the variables of construction projects and the choice of the type of strategy. The beta coefficient expresses

the amount of changes in the observed variables in lieu of the variations of a unit in the independent variable. Also with respect to this issue, the position of innovation in the organization's strategy with coefficient .883 is more in relation to types of construction projects than other projects.

Influence of Variables in Construction Project

The variables examined are: Individual abilities of stakeholders, stakeholders' decision-making power, stakeholders' autonomy, choice of strategy type.

The correlation between the construction project variable and the stakeholder's autonomy is 75.3%, which is more than the other variables and there is a direct relationship between the two. Also, because the value of p is smaller than 0.05, then it is also significant. Therefore, there is a relationship between the variables of the construction projects and the stakeholder's autonomy.

The correlation coefficient between variables is 0.881 and the coefficient of determination in the numerical value is .776. The determination coefficient expresses the predictive power of fitting. Regarding this, it can be said that the fitting in this case has 77.6% of the predictive power of dependent variables compared to the independent variable.

IV. DISCUSSION AND CONCLUSION

Mirzai and Nourani (2013), in a research entitled "The Impact of the stakeholders' Management Strategy and the Importance of the stakeholders on Social Responsibility of the Company; Case Study ", examined whether the strategy in relation to mental parents and their importance on corporate social responsibility affect similar stakeholders. The data were collected through questionnaires filled up by the principals and top managers of Tehran's small companies. In this questionnaire, the strategy of stakeholders and social responsibility of the company were evaluated against the employees, customers, society, natural environment and suppliers, as well as the importance of each stakeholder group in formulating corporate strategies.Our findings indicate that a desirable strategy increases the social responsibility of the stakeholders towards them. The importance of astakeholder group also promotes the social responsibility of that group when the importance of the stakeholder and the strategy is simultaneously considered. The prominence and importance of a stakeholder group affects the strategy's impact on corporate social responsibility.Considering the relationship between the impact of the stakeholder management strategy and the importance of the stakeholders on social responsibility and considering that in our research, the choice of the type of stakeholder strategy as one of the important factors on construction projects has been addressedso these two studies are related in this regard.

VahidiArbabi and Malek (2011), in the article "Investigation and Identification of the Factors Affecting Project Success", stated that the success of a project is one of the biggest and most important goals and concerns of managers and all those involved in a project that is somehow unifying the effortsof all members of the project team. Investigating the success and failure factors of projects in construction projects is more sensitive due to the dynamic and variable nature of the manufacturing industry in the various stages of project implementation. But identifying the success factors is a complicated and relative conceptual project, which, given the nature and operating system and their natural characteristics, many of the experts have presented many different and sometimes contradictory definitions, and a glimpse of previous studies on the success factors of the construction project implies the absence of a unique definition acceptable to all. But because of the different and often contradictory interests of different stakeholders, a project is to determine which factors of success look at who and in what industry. In this research, due to the importance and influence of space structures in the manufacturing industry in the world and especially in Iran, the success factors of a project are examined from the viewpoint of people involved in this industry such as designers, manufacturers and executives as a statistical research community, according to the implementation of the project.

V. CONCLUSION

This research has been done by descriptive-field study. After reviewing the research background, a set of criteria for project success in five different phases of the implementation of space structures projects has been extracted. Then, with the help of this set of factors, a questionnaire was prepared and distributed among the statistical community to determine the percentage of confirmation and the importance of each of the criteria. The result of this study is to identify and review the set of criteria for the success of space projects. The significance

of each of these factors is evaluated at different stages in the life cycle of the projects. In our research, we also in investigate the influential factors on construction projectswith providing questionnaires, and the percentage of the effect of each of the factors on this variable is also investigated.

Suggestions

- Providing an approaches to achieve objectives for the stakeholders and Strategies for the use of them in construction projects
- Identification and ranking of stakeholders decision-making power in construction projects in Iran
- Ranking and addressing the problems caused by the lack of adequate rules and regulations in the work environment and its effects on construction projects
- Establishing an attitude to observe and have ethical values of stakeholders in construction projects
- Study of the dimensions of research, especially the factors that create the confidence of stakeholders in the workplace

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