Determining the Effects of Sources and Organizational Marketing Capabilities on Civil Projects Management Success

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Abstract: The main objective of this study is to propose a framework for determining organization marketing sources and capabilities that effect Construction Project Management success. This descriptive survey study includes 75 active Companies in construction field in the year 2011. Required data was gathered through standard questionnaires by using stratified random sampling. The organization marketing sources and capabilities are latent and independent variables measured through seven observed indicators. Civil Project Management success contain dependent and latent variable that were measured by nine observed indicators. Collected Data was analyzed by structural equation modeling using Amos Graphic software. The organization marketing sources and capabilities have positive and significant relation with Civil Project Management success by 0.94 path coefficients.
[Ganji B O, Rahimi M, Moshtaghi M. **Determining the Effects of Sources and Organizational Marketing Capabilities on Civil Projects Management Success.** *J Am Sci* 2012;8(11):523-529]. (ISSN: 1545-1003). http://www.jofamericanscience.org. 80

Keywords: Organization Marketing Sources and Capabilities; Project Management Success; Civil Projects

1. Introduction

The project oriented organization is one that supports and controls many projects. The projects are scattered and are managed through appointed authorities who are accountable to the headquarters. The construction industry is project oriented and an effective project management is the key issue for complicated projects' success (Chan et al, 2004: 155). According to (Jaselskis & Ashley, 1991, p322) civil projects, due to lake of sources and their specific nature are always facing risk. Many studies have identified a variety of affective indexes regarding civil projects' success. Karen et al (2009: 653) are of the opinion that client satisfaction and the level of attributes are considered as the most effective factors in civil project management sector of an organization. Commitment to end the project, skilled project management, a defined project, flawless planning, proper correspondence (Munns & Bjeirmi, 1996: 85) adjustability to changes, rewards, emphasizing on the innovations and the project environment (Shirazi et al, 1996: 200) are some of the other effective factors for success in this respect. In addition to the mentioned indexes, adopting contemporary management techniques is effective here as well (Munns & Bjeirmi, 1996: 85). The mentioned factors in civil project management success are the outcome of factors effective in the organizational capacity, like sources , organizational marketing capabilities, strategies decision and the communicative abilities of the organization (Tohidi, 2011: 928 & Isik et al, 2009: 630).

The objective here is to determine the effects of sources and organizational marketing capabilities on civil projects management. The source and organizational marketing capabilities indicates the strength and weaknesses of the organization with respect to its success. Here the following seven indexes are of concern: financial sources, technologic competency, administrative experiences, company image, leadership, R&D capability and innovative capability. The civil project management success includes the following nine management indexes that correspond to the body of knowledge in project management field, the Project Management Body of Knowledge (PMBOK): Cost management, Quality management, Risk management, Human sources management, Supply chain management, Claim management, Planning (Time-table) management, knowledge management and Health & Safety management (Chan et al, 2004: 154 & Bodea et al, 2008: 31).

2. Material and Methods

2.1 Sources and organizational marketing capabilities

Marketing and strategic management researchers consider source and organizational marketing capabilities as to be the force by which the organizations would realize and apply their strategies (Barney, 1991: 105). To them market orientation and marketing capabilities lead to advantageous competition (Morgan et al, 2009: 910). Some of the recent studies have focused on the significant relation

between organizational function and source and organizational marketing capabilities (Kirca et al, 2005: 25). Sources and organizational marketing capabilities include tangible and intangible assets like the seven indexes introduce at the end of introduction would be described briefly hereafter.

Financial sources index displays the credit and fame of the organization among the clients and share holders in the market and shows capacity of the projects implementation (Warszawski, 1996: 137). This source provides the means to enter risky situations with the possibility of increasing income and revenues. The financial power of a construction company is determined by (Isik et al, 2009: 630) its profitability, cash flow, debt level to the share holders and other debtors. In most construction projects the capital investment is provided by the client, when the periodic payments to the contractor take place according to advances made in the project. The success in this pattern depends on the financial strength of both the client and the contractor (Gunhan & Arditi, 2005: 278).

Technologic competency index involves the equipment, facilities, tools apparatus etc. (Shenhar & Dvir, 1996: 609). According to (Raz et al, 2002: 108) this index is one of the main ones in achieving success in a civil project. (Warszawski, 1996: 137) believes that this index in the company is evaluated in the analysis of the prioritized company with respect to technical skills of the workers, commencement, construction work performance advance rate and the outcome quality of the company.

Administrative experiences index can be obtained when the recorded learned instructions of the previous projects are applied in the existing project (Kululanga & McCaffer, 2001: 354). The organizational learning is an essential strategic issue in the competitive fields. This concept promotes the potential for data collection and interpretation in the company (Godkin & Allcorn, 2009: 41). Of course this does not come easy for project-oriented organizations, since they are operating on a decentralized project basis. This obstacle could be removed through knowledge management and promotion of organizational consistent learning culture (Ozorhon et al, 2005: 68).

Company image index is symbolized through its products, services, strategies and missions in comparison with the competition (Isik et al, 2009: 634 & Fombrun & Shanley, 1990: 234). The active contractors in building industry create an image of a company that determines the acceptance and the demands of the consumers and the clients. The positive reputation would lead to an increase in profitability through attracting more and better investors and clients meanwhile the added value on the product in this case, the buildings.

Leadership index creates a supportive atmosphere for handling the job and learning of the workers (Andersen et al, 2009: 489 & Shirazi, 1996: 201). The results from conducted studies on this issue indicate that leadership effect on the success of the project should be a matter of emphasis in any company; otherwise, the negative effects inflicted from the outside of the project may reduce the leadership skills (Beatham et al, 2004: 99).

R&D capability index is the answer to the ever increasing technically complicated demand of the contemporary and aware consumer and the neck-to-neck competition. The dynamic nature and rapid changes in civil construction industry calls for and up to date technical approach for survival in this market (Isik et al, 2009: 632); hence the importance of R&D.

Innovative capability index adjusts the relation between the company and the dynamics of the given industry (Pries & Janszen, 1995: 48). The construction industry is very dynamic and competitive in Iran. The innovation concept would for sure enhance the achievement to better leadership in cost and concentration on strategic decisions regarding competition.

2.2 Project management

A project is the core in construction industry and project management as the only strategic means is applied for the success of the project. For this purpose nine management knowledge areas are recognized and set based on comparative library search and interviews with experts in this field. The selection of these indexes was made based on the weight that each one carries in the success of the project during implementation.

The conducted studies have considered many indexes like correspondence, control mechanism, frequent feedback on progress, coordination, decision making, supervision, organizing the project, planning, and managerial experiences that are effective in the project management process (Walker & Vines, 2000: 284). In this study the project management merits are evaluated instead of the factors that contribute to success; therefore the phases of project management will be briefly discussed based on the weight they carry in the project success.

Cost management index includes planned budget estimate and project cost control as well as client satisfaction through contentious control on reducing cost in a rational manner (saadat, 2009: 1). This phase corresponds with the project costs covered by the ratified budget by the client.

Quality management index includes all that commits to quality through planed assurance (Bodea

et al, 2008: 35). The civil construction companies usually apply total quality management (TQM) in order to obtain bigger market share and client satisfaction. The success of management system depends on how much is the top management's committement to TQM and its conception among the workers in general (Kanji & Wong, 1998: 133).

Risk management index involves recognition analysis, response, supervision and control of the risk aspect of the project (Teymouri, & Ashoori, 2011: 1604). Bearing in mind and the complexity and the challenging nature of construction projects, the risk factor is inevitable. This factor has its influence on exploitation, function, quality and the budget. Of course it should be noted that risk factor can be transferred, accepted reduced or divided. The expert managers know how to act upon its reduction and prevent unforeseen consequences (Raz et al, 2002: 109).

Human sources management index is the most important element in the success of a construction project when a positive correlation is established among the management and human sources (Delaney & Huselid, 1996: 958). Organizing orderly project oriented teams is the most important task of the management (Tohidi, 2011: 928).

Supply chain management index contributes to the whole process in order to satisfy the client requirements (Svensson, 2010: 17) and includes a network of communication process involved in production of goods and rendering services which consist of client consultants, sub-contractors and suppliers of a construction project (Kanji & Wong, 1998: 137).

Claim management index consists of documentation, process writing, and supervision; in a sense an important cycle overlooking the contract. This factor would prevent the deviation from the legal aspects of the commitment.

Planning (Time-table) management index enables the project to end on time by applying defined performance process, their priorities, source estimation, and time estimation project control in a determined time span. Here the project manager should consider the external factors that might have the potential in delaying the project (Isik et al, 2009: 632).

Knowledge management index is a prerequisite for innovation and performance (Kamara et al, 2002: 53). This factor in project management contributes to decision making process with predicting the upcoming choices. In professional performance this element in management would lead to success (Warszawski, 1996: 133). Documentation of the experiences gained in one project is necessary and would prevent the repetition of mistakes and defaults in the upcoming projects.

Health & safety management index leads to reduction in job related accidents and injuries thereof; this would contribute to a saving in labor insurance (Ringen et al., 1995: 168). The potential manners of implementing this index consist of safety precautions, provision of safe work place, safety training, and using safety tools (Sawacha et al., 1999: 313).

The conceptual flowchart of the above mentioned seven sources and organizational marketing capabilities indexes and nine project managerial indexes are presented Fig 1.

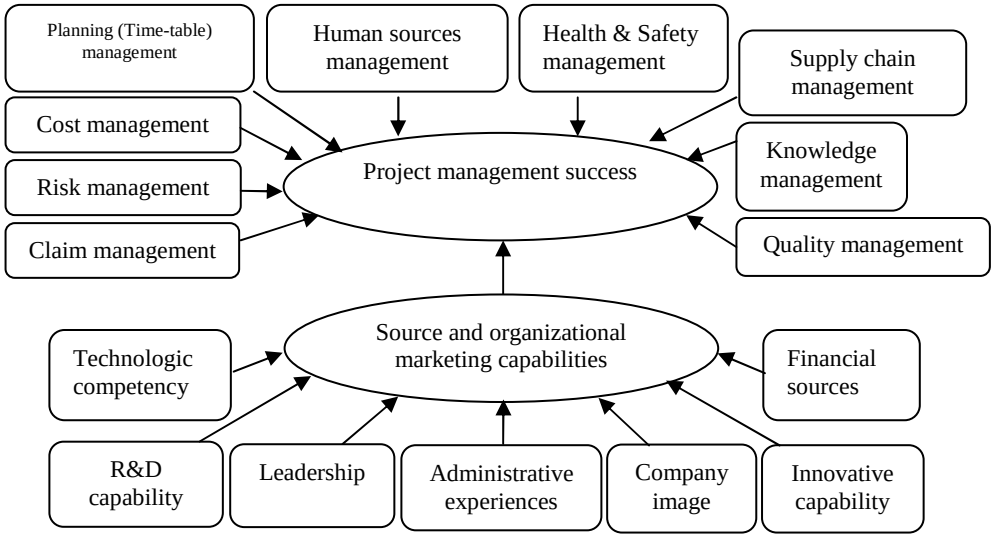

Figure 1. The conceptual model of correlation between Effects of Sources and Organizational Marketing Capabilities on Civil Projects Management Success (Isik et al. 2009)

2.3 Methodology

The objective of this article is applied and the nature is a descriptive survey and field study. The test sample consists of 75 active contractors in residential complexes construction field. The study is conducted is 2011 in Isfahan province. Here the Isik et al (2009) standard questionnaire is used for data collection stratified random sampling is considered here. The questionnaire contains 16 questions in relation to the resource and capabilities of organizational marketing and civil project management indexes based on Likert scale. In order to calculate indexes the structural modeling equations are applied here. The Kronbach alfa coefficient is applied here to determine the sustainability of the measuring tools calculation (Table 1).

Table 1. The Kronbach alfa coefficient

Row	Indexes	Kronbach alfa coefficient
1	Financial sources	0.9
2	Technologic competency	0.81
3	Administrative experiences	0.78
4	Company image	0.83
5	Leadership	0.81
6	R&D capability	0.72
7	Innovative capabilities	0.69
8	Cost management	0.74
9	Quality management	0.79
10	Risk management	0.76
11	Human sources management	0.78
12	Supply chain management	0.70
13	Claim management	0.71
14	Planning (Time-table) management	0.83
15	Knowledge management	0.71
16	Health & safety management	0.70

According to table 1 most of the obtained coefficients are above 0.7; therefore, the sustainability of the measuring tool is acceptable.

2.4 The findings

In order to evaluate the hypothesis of this study the equation modeling simulation was performed by Amos Graphic software and regressive standard was applied in calculating the coefficients (see Table 2).

The obtained TL1 in this model is 0.97, indicating an acceptable index, close to the designated 1. Volumes above 0.95 are considered very good bellow 0.7 indicate modification (Ghasemi, 2010: 78). The RMSEA index here is 0.2, while in acceptable models it should be 0.05 or less (Ghasemi, 2010: 81). Most researchers accept the 5-1, 3-2, 2-1 and 1-3 values for CMIN/DF (Ghasemi, 2010: 94); here it is 2-1. T P-value here is 0.34 against the suggested 0.05 for this index. Consequently the obtained estimated indexes here have acceptable values and the model is suitable and practical.

Table 2. The estimated indexes resulted of this study

Index	CMIN/DF	P	TL1	PCF1	RMSEA
Volume	2-1	0.34	0.97	0.73	0.02

In order to test the study's hypothesis and calculate the regressive weights' standard coefficients the analyzing structures equation is applied (see Fig 2).

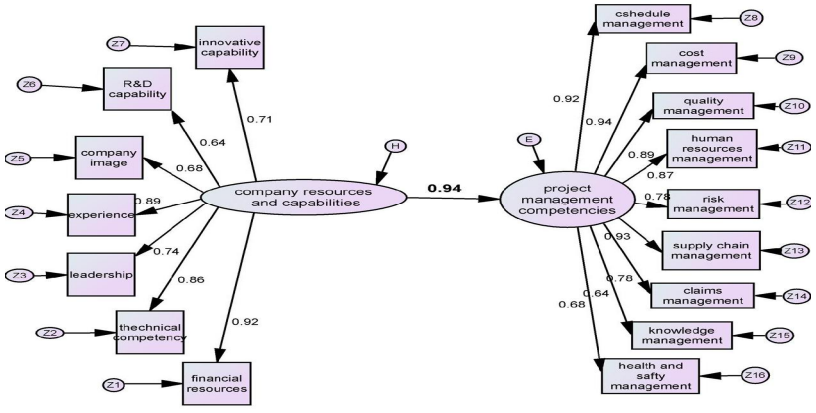

Figure 2. The estimated indexes of the interrelated structural model for sources and capabilities of marketing and Civil Project Management success

The results of tested hypothesis of this study, is presented in Table 3.

Table 3. The results of tested hypothesis of this study

Row	Hypothesis	Regression	Results
1	There exists a direct relation with significance between financial sources and sources and organizational marketing capabilities	0.92	Approved
2	There exists a direct relation with significance between technologic competency and sources and organizational marketing capabilities	0.86	Approved
3	There exists a direct relation with significance between administrative experiences and sources and organizational marketing capabilities	0.89	Approved
4	There exists a direct relation with significance between company image and sources and organizational marketing capabilities	0.68	Approved
5	There exists a direct relation with significance between leadership and sources and organizational marketing capabilities	0.74	Approved
6	There exists a direct relation with significance between R&D capability and sources and organizational marketing capabilities	0.64	Approved
7	There exists a direct relation with significance between innovative capability and sources and organizational marketing capabilities	0.71	Approved
8	There exists a direct relation with significance between cost management and civil projects management success	0.94	Approved
9	There exists a direct relation with significance between Quality management and civil projects management success	0.82	Approved
10	There exists a direct relation with significance between Risk management and civil projects management success	0.78	Approved
11	There exists a direct relation with significance between human resource management and civil projects management success	0.87	Approved
12	There exists a direct relation with significance between supply chain management and civil projects management success	0.93	Approved
13	There exists a direct relation with significance between claim management and civil projects management success	0.78	Approved
14	There exists a direct relation with significance between Planning (Time-table) management and civil projects management success	0.92	Approved
15	There exists a direct relation with significance between knowledge management and civil projects management success	0.64	Approved
16	There exists a direct relation with significance between health & safety management and civil projects management success	0.68	Approved
17	There exists a direct relation with significance between sources and organizational marketing capabilities and civil projects management success	0.94	Approved

Analysis of the first hypothesis

According to table 3 the course coefficients with a 95% confidence it could be claimed that the seven capabilities have positive effect on sources and organizational marketing capabilities. Here the financial sources with a course coefficient of 92% have the highest influence on sources and organizational marketing capabilities and R&D capability with a course coefficient of 64% has the lowest influence on sources and organizational marketing capabilities.

Analysis of the second hypothesis

According to table 3 and the course coefficients of each of the independent variables affecting the civil projects management success with a 95% confidence it could be claimed that there exists a significant correlation between the nine management indexes and the success factor of the project management. Here the cost management index with 94% correlation level contributes the most to the project management process success in civil construction companies and the knowledge management index with 0.64 correlation level contributes that least to the same.

Analysis of the third hypothesis

According to the significance of course coefficients and the obtained results in table 3, with a 95% confidence it could be claimed that the sources and organizational marketing capabilities with a 94% course coefficients have a significant effect on the civil projects management success.

3. Results and discussion

In this study, through applying the organizational opportunities correlation and management competency of Isik et al (2009); model a reliable model is presented in order to evaluate the correlation between effective indexes on sources and organizational marketing capabilities and civil project management success. This model identifies the indexes of both the sources and organizational marketing capabilities and civil project management success variables through structural equations modeling procedure. The results, here, indicate that the sources and organizational marketing capabilities have a significant effect on civil project management success and it is in complete agreement with Isik et al's results. It is also found that among sources and organizational marketing capabilities and indexes that

financial resource in the opportunities is the most effective and cost management, planning (Time-table) and claim management are the most effective indexes in civil projects management respectively. Bearing in mind the results here, in order to enhance project management regarding Cost management, planning (Time-table) and Claim management and achieve success it is suggested that the civil construction companies better concentrate on financial resource, technologic competency, administrative experiences and innovative capabilities indexes.

The difficulty in obtaining secondary sources during data gathering from subject companies was lake of sincerer cooperation can be considered as one of the limitations in this study; therefore, it is recommended that for future studies in this respect it is better for the research team to involve civil project management personal for better communication and data gathering. Another limitation here is lack of a properly defined pattern in characterizing civil construction companies. Attempts should be made by the authorities at national level to develop defined patterns and introduce procedures based on the previously conducted studies for measuring the correlation between the seven capabilities indexes and the nine project management components as variables with respect to marketing capabilities.

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10/12/2012