ENHANCING THE PERFORMANCE OF RESIDENTIAL CONSTRUCTION PROJECT THROUGH STAKEHOLDER SATISFACTION: THE APPLICATION OF STRUCTURAL EQUATION MODELLING (SEM)

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ABSTRACT. *Project-based companies require a proactive approach so that the needs and interests of stakeholders can be satisfied. In line with the stakeholder theory, Project Management Body of Knowledge (PMBOK) is a guideline, which has been developed to enhance residential construction project performance by fulfilling stakeholder needs and interests. In accordance to the literature review, studies which highlight the effects of guidelines on project performance are few and far in between. In investigating the association between this study's variables, a quantitative methodology, where cross-sectional survey method is involved, was applied. The collected data, which consisted of a random sample of 384 buyers and developers from the residential sectors of construction project in Iran, was categorized. Subsequently, the response rate generally amounted to 44.1%. Structural Equation Modelling (SEM) technique was used through SmartPLS software to investigate the relationship of variables. Based on the results, the positive relation between project performance, stakeholder satisfaction, and project stakeholder management are prominent. It is also revealed by the results that positive project performance, buyers' satisfaction, and project stakeholder management is also prominent. Moreover, the results show that the implementation of PMBOK standard through the mediating variables of buyers' satisfaction provides a positive impact on project performance. Additionally, resource-based theory, along with resource dependence and stakeholder theories were incorporated in this study in order to create a new theoretical framework, where the significance of social capital in enhancing project performance is evident.*

KEYWORDS: key project stakeholder management, buyer satisfaction, project performance, PMBOK, construction industry.

JEL classification: L7, L74, O2, O22, J2, J28.

Introduction

Many topical issues, which have implications for the project performance, have, so far, traditionally been discussed to a significant extent in the context of the iron triangle perspective. It is often considered that these matters concern the residential sectors of construction project. But, the construction sector everywhere faces obstacles and challenges. A frequent report regarding poor performance (Ofori, 2011; Olanrewaju and Abdul-Aziz, 2014), disregard on the satisfaction factor of the key stakeholder's interest (Masrom, Skitmore and Bridge, 2013 ;Halloran, 2014), the unwillingness to compensate for late delivery, and poor quality (Chai,Yusof and Habil, 2015) is described in the main construction project worldwide including Iran. In order to overcome these challenges, companies, which are actively operating under the residential sectors of construction project, require continuous pursuit of business models and new directions in construction management (McGeorge and Zou, 2012). Since the objectives of the project are different and are influenced by sets of success factors, the various stakeholder perceptions of the project success and key factors are

different too (Oliver Balima and Rowlinson,2010). This paper addresses other aspects influencing project success and analyse the effects of project stakeholder management both directly and through buyers' satisfaction on project performance.

The aim of this study is to investigate the impacts of project stakeholder management on project performance in the construction industry through the enhanced stakeholder's satisfaction which stems from PMBOK stakeholder management. It seeks to address four objectives of (1) reviewing the impact of stakeholder management on project performance, (2) review stakeholder management process on project performance by stakeholder satisfaction (3) review, the influence of stakeholder's satisfaction on project performance (4) review, mediating impacts of stakeholder's satisfaction on the association between project stakeholder management and project performance. The literature overviewed the previous studies in stakeholder management and its implications for the construction sector and other sectors. A case study of Iran was considered, and a quantitative survey methodology was employed for presentation and analysis.

1. Literature Review

1.1 Project Stakeholder Management

Besides providing an outline of the essential steps in project management procedure, Tasmanian Government Project Management Guidelines (2017) acknowledges the eleven key components which are supposed to be connected throughout the project lifecycle. Furthermore, in order for the success of the project, how the parties of interest are managed is one of the primary components in project management processing order. To illustrate this, acknowledgment and interaction with people, institutions, and other real and legal authorities are important for project managers and practitioners. These two factors have both direct and indirect impacts on a project success. Moreover, a vital part of the project system management is a systematized method used for recognition and management of the probable stakeholders in that environment. This method is also for determining the possible reaction of the stakeholders against decisions relating to the project (Cleland and Ireland, 2002). Alternatively, explanation is made by Jepsen and Eskerod (2009) regarding the premises which are applied by essential stakeholder management in projects. This management consists of efforts attempting to influence project stakeholders using a certain end goal in order to garner their commitments to the project. This leads to the allocation of restricted assets where the most ideal results are achieved, along with the increasing efforts which encompass the whole scope of partners rather than a couple. Therefore, the particular importance of project stakeholder management is the control it has over the drawbacks of stakeholders, its ability to increase perceived profits, and achievement of the preset mission (El-Gohary, Osman and El-Diraby, 2006; Olander and Landin, 2005). According to Bourne and Walker (2005), the creation of project management is not only to encourage that proactive project management is to be utilized in order to reduce the amount of stakeholder activities which might give adverse effects on the project. This management is also created to aid the project team in seizing opportunities, which qualify the stakeholder's support of project objectives. This is due to the fact that stakeholder management aims to emphasis on the various point of views of stakeholders, improve the communication between one another, and fulfill their needs (Yang, Wang and Li, 2009). Stakeholder management is described by Lim, Ahn, and Lee (2005) as "effective relationship management of stakeholders". When it comes to 'stakeholder management', while distinctive explanations are provided by scholars Karlsen (2002), Bourne

and Walker (2005), those explanations are within the scope of activities management related to stakeholders. These activities comprise of identification, information gathering, analysis on the influence of stakeholders, and developing communication strategies with them. However, they are not limited to these alone. In addition, according to Yang and Shen (2014), stakeholder management is possibly the incorporation of the process of identification, decision making, communication, analysis, and all types of tasks handled by the stakeholder management. This article documents a literature review of project performance in construction sector to indicate new paradigms in project management. As these seems not to have been triggered yet, additional research is recommended in order to incorporate stakeholder's satisfaction in project management.

1.2 Stakeholder Management in Construction Industry

This study is accompanied with other studies to examine the method of stakeholder management application in the construction industry. Olander and Landin (2005) accepted the guideline provided by Cleland and Ireland (2002) for stakeholder management in this industry. The process drawn in the guideline consists of achieving the purposes of directing, motivating, organizing, planning, and controlling conducted by the resources management. The resources are used for dealing with the approaches implemented by stakeholders using a particular procedure, which is as follows: identification of stakeholders, information gathering, commencement of mission, strengths and weaknesses identification, identifying the presence of any interested parties, developing approaches of predicting stakeholder's behavior, and the implementation of stakeholder management approach. Furthermore, a recessive six phase for management project stakeholder was delivered by Karlsen (2002), where it is in the order of planning, identification, analysis, communication, action, and follow-up. Apart from that, eight stages for the management of stakeholder process were introduced by Elias, Cavana, and Jackson (2002). The stages are as follows: development of a map stakeholder; setting up a particular stakeholders chart; identification of stakeholders' stakes; power versus stake grid development; management of an analysis of process level stakeholder, along with an analysis of transaction level stakeholder; ascertaining the R&D projects capability in terms of stakeholder management; analysis on the dynamics of interaction amongst stakeholders. The same process, which emphasizes on stakeholder's identification was initiated by Young (2006), which comprises of collection of information regarding stakeholders; exploring into the authority of stakeholders. However, according to Bourne and Walker (2005), it is possible that the management of the process comprises of the subsequent three stages of stakeholders' identification; prioritization of stakeholders; the development of strategy for stakeholder engagement. Walker (2008) placed stakeholder identification into consideration. This process consists of prioritization and visualization of stakeholders; stakeholder engagement, and examination on the efficiency of communication among stakeholders as the principal phases for their management. Meanwhile, Jepsen and Eskerod (2009) drew a project stakeholder management, where purposeful efforts are paid in order to influence stakeholders with the objective of strengthening the influences to the project. This article will focus on construction projects in general and on "projects performance" where the fundamental requisite is identification of stakeholder's satisfaction. Joseph Ignatius and Daniel Amofa (2016) conducted a study entitled "Stakeholder Management on Construction Projects: A Key Indicator for Project Success ". The results of the study indicated that there was inadequate explanation of the background, technical and material justification for the project to the stakeholders prior to project initiation. Stakeholders

held that they had difficulty in participating in technical discussions and there was the perceived unwillingness of project implementers to involve them during decision making, to this end, the impact of stakeholders towards project success was significant. To overcome the challenge of stakeholder involvement and meaningful impact to projects, stakeholders must develop capacities to contribute meaningfully in discussions or delegate their concerns to professional representatives. To this end, projects implementers must acknowledge the value of stakeholders and embark on stakeholder outreach to solicit their involvement for enhanced project success.

1.3 Stakeholder Satisfaction

Stakeholder satisfaction can be described as the satisfaction of all stakeholder's interests (García-Marzá, 2005). Besides being frequently used as a representation of these groups' views, emphasizing on the concept of 'satisfaction' either as a construct in accordance to different aspects of satisfaction or an external variable is a standard method (Brooks, Milne, and Johansson, 2002). According to Yigitcanlar (2010), stakeholders' satisfaction is one the components of sustainability with a significant importance. Benn (2009) propose that a successful organization fulfills the value for shareholders at minimum, if enhancing the value for stakeholders is impossible. In the past three decades, academic and international organizations have developed theories (e.g., stakeholder theory) and standards (e.g., ISO9000 standards) on stakeholders and their role in organizational achievement. Most of the time, the critical examination on the views and experiences of people who have become interested in the services and products offered by a company is reflected through stakeholder's satisfaction (Brooks, 2002). The people targeted in the study were categorized into buyers and developer. According to Freeman (1984), stakeholder theory is the primary theory which puts emphasis on the role of the significance of the relationship between companies and critical stakeholders in improving a company's performance. This particular aspect is focused on in order to support the business case for the stakeholder's satisfaction. In addition, resourced-based theory is another theoretical method which can reinforce this argument (Barney, 2001; McWilliams and Siegel, 2001). This is done by emphasizing that, with the valuable, exceptional, genuine, and non- substitutable (VRIN) organizational resources and company's potential, competitive advantages can be built, which will lead to sustainable value and operational results. However, affirming to the satisfaction of all relevant stakeholders is essential for companies in order to obtain sustainable competitive advantage. Since project performance outcomes depend heavily on their stakeholder's roles and interests; the specification of stakeholder's needs, interests, and wants, respond to critical events and evaluate activities and outcomes.

1.4 Stakeholders' Satisfaction in Construction Project

Based on the observation of studies which aimed to find the effective parameter for project success, a complete picture was not provided from the standard parameters of completion in time, cost, and performance parameters. Besides the significant importance of stakeholder's satisfaction, it is important for its effect to be valued and put into practice. Furthermore, the broad alignment of a study focusing on project success/failure was seen from the fact that only between 20% and 40% of projects were regarded as successful. Consistent with the reports presented by performance coaching international (www.performancecoachinginternational.com), the greater segment of the projects were either

"challenged" or considered to have "failed". It was also assumed that the success for most of the part was to be less than 20%. There was no significantly difference between these outcomes and any type of project or industry area. It is also important to take into account that there was no apparent fundamental change observed from the outcomes in the course of recent years. This finding has disregarded the fact that a complete industry has emerged and £millions have been spent on the subject of project management. Moreover, despite the absence of the essential change in the general failure of measurements, there has been enhancement in the impact of this failure in terms of cost and schedule. The vital factors which reinforce project achievement or lead to project failure are similar to the vital factors of body of research. These factors can be specified as follows: communication factors, sponsorship factors, experience factors, benefit skills, objective, clarity of mission, and accuracy of definition and planning. Accuracy in planning encompasses the awareness of risk, leadership, change factors, resource factors, team factors, and stakeholder management factors. An essential perception is that, besides these elements being positively understood, there has been no change in them through time. Although this is not a surprising fact, companies are continuously affected by the outcomes resulting from the careless consideration given to them. Likewise, it is intriguing to take note that the notice signs for the most failed projects were displayed right on time in order to enhance recuperation rate. However, the follow-up to the signs was not done properly. In fact, all stakeholders have interests in fulfilling their needs, interests, and wants (Doyle, 1994). Furthermore, they would be disappointed when the extent of the performance is insufficient to fulfill their base desires. Provided if adequate information regarding the project is provided, the base desires of the external stakeholders could possibly be fulfilled (Manowong and Ogunlana, 2006). As for now, it is perceived that project management process has a significant importance in ensuring a construction project's successful delivery. Moreover, besides the assessment of project's determined purpose with its final achievement, evaluation of project stakeholders' satisfaction is another approach to appraise the project's achievement. These approaches will ultimately determine a project's success (Long, 2004). With the consideration of all factors, it is essential to identify variables which give fundamental impacts on the satisfaction of the construction stakeholders with the procedure of project administration. This is in consideration of the fact that the fulfillment of construction project stakeholders is directly influenced by the management mechanism (Long, 2004). Besides, serving and fulfilling partners' desire are not simple to carry out. Therefore, fulfilling the desires of all groups of project stakeholders can be challenging, given the possible difference between project supporters and opponents in terms of fulfillment levels. This includes the fact that project management is dependent on their processes and result purposes during their involvement in activities in the project (Manowong and Ogunlana, 2006). Deciding on the approach to fulfill what is desired by a group of stakeholders will possibly result to other groups getting disappointed (Wheelen and Hunger, 2000). Therefore, it is important for managers to pay as much effort as possible in recognizing the relevant concerns in the project to all stakeholders. The purpose of this is to give equal satisfaction to every party, or fulfill their minimum requirements in the least. With early acknowledgment, stakeholders' expectations will be fulfilled and satisfied. This will provide even better results for the opposing stakeholders. In the exact sense, constant availability of information regarding the project and decision-making for the stakeholders is a beneficial approach in satisfying the stakeholders of construction project, especially when the project is conducted and the public will be significantly affected. Additionally, trustworthy and honest communication with the stakeholders and media involved is also a necessary approach in providing satisfaction to the groups with the information provided (Olander and

Landin, 2005). For that reason, in order to prevent from or provide solution to conflicts during in construction project, to guarantee the stakeholder's satisfaction, and for the improvement of it, management mechanism is vital for its effect to be valued and put into practice.

1.5 Project Performance

Project Performance measurement is identified as the procedure taken place during performance evaluation, which corresponds to a defined goal. With Project Performance measurement, awareness on which direction we are heading to will be acquired (Rose, 1995). Furthermore, Rose (1995) further highlights that besides being capable of providing steady advancement toward established goals, it is also useful for the identification of any shortfalls or stagnation. Due to the status and direction of a project which will be reflected by the measuring performance, Hillman Willis and Willis (1996) maintain its significance. The perspective that, in the least, the factors of the measures of performance of a project are time, cost and quality is widely accepted (Barkley and Saylor, 1994). Moreover, Atkinson (1999) points out that 'iron triangle' is the term for these three elements for the potential of a project. Even so, various criteria are put into consideration by Kumaraswamy and Thorpe (1996), when it comes to project measurement, particularly on meeting the schedule, budget, workmanship quality, technology transfer, stakeholder's satisfaction, and health and safety. Similarly, it is highlighted by Adams, Gray, and Owen (1996) that variety of other key components, such as health, environmental performance, actor ' s satisfaction and commercial value, user expectation / satisfaction and safety determine project performance. Therefore, three variables, namely cost, time and quality have been acknowledged in this article in order to measure the extent of project performance.

1.6 Cost Performance

Cost is known as the extent of the promotion given by the general conditions for completion of project within the targeted budget (Bubshait and Almohawis, 1994). It is also emphasized by Salter and Torbett (2003) that variance of cost is the most well-known approach utilized for the measurement of design performance. This technique is not only within the scope of the tender sum, but it encompasses the whole cost which is sustained from the establishment until the accomplishment of project. The cost incurred consists of the costs incurred from variations, modification during construction, and legal claims such as arbitration and litigation. It is possible to calculate these amounts in the unit of cost, or net variation percentage over final cost (Chan and Tam, 2000). Cost variance is a factor with high significance when it comes to project performance measurement, as it specifies on the extent of the shortage and excess of budget for a project. In order to measure project performance which was resulted from the faulty design by the construction industry in Japan, cost variance was the approach performed by Minato (2003). Similarly, the cost element for measurement of engineering projects potential is stated by Georgy, Chang, and Zhang (2005). Ogasavara (2016) conducted a study entitled "Effect of stakeholder collaborative management on off-site construction cost performance". The results of the study indicated that stakeholder collaborative management positively affects cost performance. Moreover, the results indicated that cost performance was the most important driver for stakeholder collaborative management. Network relationship had a positive impact on cost performance. Subsequently, the calculation of cost variance is done in this article through the variance between the cost of a project within the budget and the actual expenditure.

1.7 Time Performance

Punctuality is important for the completion of construction projects. This is because a project success is the first factor which will usually be focused by the stakeholders, users, clients, and the general public from the macro view, where the completion time is apparently the first requirement for a project success (Lim and Mohamed, 2000). Furthermore, Salter and Torbett (2003) and Odeh and Battaineh (2002) point out that one of the approaches utilized for the evaluation of project performance in construction projects is time variance. The element of time will result to awareness by project managers of the fact that the progress of a project is not as smooth as scheduled. It is also suggested by Latham (1994) that punctual delivery of projects is one of the crucial aspects for the clients in the construction industry. Construction duration can be identified as the time which elapses from site work inception to its accomplishment, followed by the building being transported to the client. Normally, the duration of a building construction is set prior to construction.

1.8 Quality Performance

In the construction industry, quality is known as the completeness of the attributes needed for a service or product to fulfill the fitness for a purpose, or a desire (Parfitt and Sanvido, 1993). It can also be said that the excellence in construction industry is especially represented by the capability to fulfill the standard conditions. Meanwhile, conditions are identified with the standard attributes of a service, process, or product. The description of the conditions is conducted in the contractual agreement, and a feature is any attribute or identification which represents the services, processes, or products. The nature of them is, in the first place, identified by the client. It is important for all parties in a project to properly comprehend those expectations, and to pay as much effort as possible in integrating them into the document regarding price of the contract, along with other contract document. This is followed by commitment and a positive belief in conducting this. These should be done so that a finished project which fulfills the owner's expectations in terms of quality could be carried out (Ganaway, 2007). As an important part of construction project management, the performance of construction project is also a hotspot in project performance theory. Thus, construction projects have the potential for greatness, but they must possess crucial abilities to ensure effectiveness.

1.9 Theoretical Framework of the Study

This study aims to investigate how project stakeholder management impacts project performance in the residential sectors of construction area. The impacts take place directly and through the satisfaction felt by project stakeholders. Furthermore, the purpose of this study is to examine the presence of a direct and positive impact from this stakeholder management on project performance. It also examines if the impact is otherwise, which is indirect and through the enhanced satisfaction of project stakeholder which was resulted from the stakeholder management guideline presented by PMBOK. Furthermore, this study's purpose is to present scholarly proof which reinforces the statement on how the superior project performance is possible through the enhanced stakeholder satisfaction as a result from the PMBOK stakeholder management. Moreover, the resource-based theory Barney (1991), resource dependence theory (RDT) Pfeffer and Salancik (1978), and stakeholder theory (ST)

Freeman (1984) are put into practice. This is because predicting and interpreting the association between proposed constructs are the primary theoretical frameworks. The relation between managing and satisfying the stakeholder's needs and interest and the positive outcome of the project's performance will be described by the stakeholders theory The utilization of this resource-based theory is in order to include justification and illustrate on the significance of the application of intangible internal resource. It will also emphasize on its impact on project performance. Additionally, the resource dependence theory is put into practice, so that the association and purpose of the external project and resource would be made clear. Therefore, in accordance to this illustration, Figure. 1 represents the theoretical framework of research:
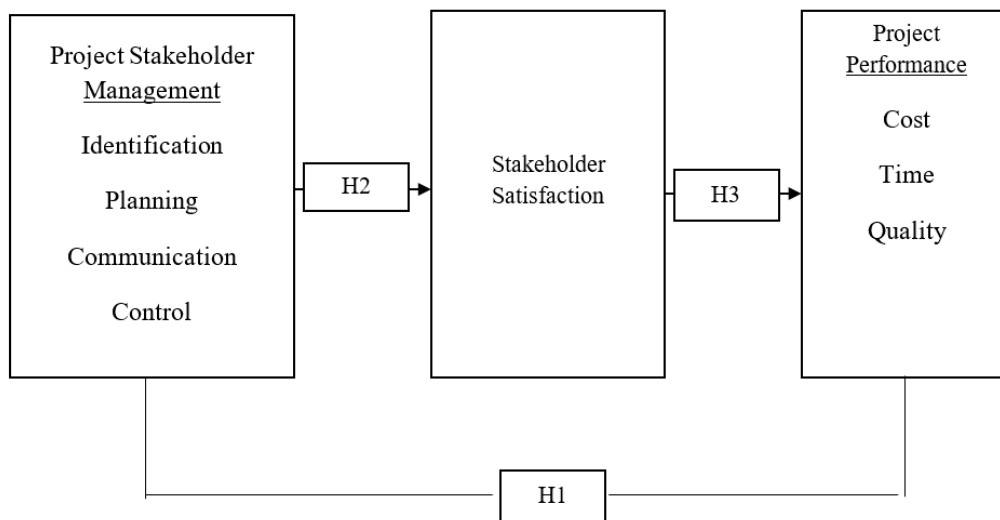
Source: created by the author.

Figure 1. **Theoretical Framework of the Study**

Additionally, the resource dependence theory is put into practice, so that the association and purpose of the external project and resource would be made clear. Therefore, in accordance to this illustration, *Figure 1* represents the theoretical framework of research:

1.10 Development of Hypothesis

1.10.1 The Association between Project Stakeholder Management and Project Performance

Scholars agree that company stakeholders should make shareholders their utmost priority (Jensen, 2001). Part of the reason is that shareholders are residual claimants due to the absence of a specifiable contract with the organization (Fama, Jensen, 1983). It is logical to say that company managers are primarily responsible in providing as much return as possible to shareholders. However, why must a company have an obligation to put other resource providers at risk with residual maximization, even if one or more resource has the residual claim? It is also possible to argue that stakeholders also deserve a number of surplus value when they provide resources which are more and better than what is required by their contracts (Barney, 2011). Furthermore, Barney (2011) agrees on the necessity of solving problems related to performance measurement from the point of view of numerous stakeholders, although it further complicates the procedure. Based on a stakeholder's point of view, due to their significance to all of companies' core stakeholders, financial performance

metrics hold a high importance. However, besides being incomplete, their rules are oversimplified and many kinds of stakeholders who are involved in the success of companies receive the utility (Barney, 2011). Performance measurement through tangible and intangible factors which have significance to core stakeholders, as proposed in this section, contributes to better comprehension by companies on the needs and desires of stakeholders. These two elements are the retrospective measures of the performance of companies, besides aiding the development of new ideas on company's future performance. The capability of developing utility for stakeholder's matters is a primary indicator of future company's potential. Therefore, discovering the approaches of obtaining more complex notions of value in a comprehensible and systematic method is important. Furthermore, the aggregation of most financial performance is highly significant that it is impossible to determine certain issues within a company with them (Johnson, Kaplan, 1987). On the contrary, if metrics of performance with track utility developed across numerous stakeholders are utilized by a company, it will be more possible to identify potential roots of issues within the system which decrease the amount of total value created. A hypothesis is generated to assess the impacts of stakeholder management on project performance potential:

H1: *The association between project stakeholder and project performance in the residential sectors of construction project is positive.*

1.10.2 The Association between Project Stakeholder Management and Stakeholder's Satisfaction

A huge number of today's project-based companies have been encouraged by the increase of sustainability as a foundational business concept. This is for the achievement and continuation of their business sustainability, which is gained through stakeholder management and not profits alone (Yunus, 2010). Previously, many companies agreed on the incompatibility of business with the maximization of shareholder returns for stakeholder's benefits. However, the growth of some theory and models which have embed a new definition into the concept of sustainability are recently challenging this belief. Stakeholder theory is an important theory where numerous stakeholders who could impact business or be impacted by it have been acknowledged (Smudde, Courtright, 2011). Theory-based companies, such as construction project-based companies are the ones that connect the stakeholders who are on the primary level. This level consists of construction industry buyer and developer (Akisik, Gal, 2011). In addition, according to Harrison *et al*. (2010), mutual relationships with stakeholders will probably contribute to superior profits. Based on the stakeholder's standpoint, what interests the individuals or organizations involved in the companies should be put into consideration (Shao, 2010). The emphasis of project stakeholder management is done on PMBOK. Previously, the amount of investigation conducted on the effects of PMBOK stakeholder management on project stakeholder's satisfaction was lower. In order to provide more scholarly evidence of stakeholder management impacts on project stakeholder's satisfaction, a hypothesis is formulated, which is as follows:

H2: *The association between project stakeholder management and project stakeholder's satisfaction in the residential sectors of construction project is positive.*

1.10.3 The Association between Stakeholders' Satisfaction and Project Performance

Stakeholder theory has been characterized as consisting of four basic aspects. One of the aspects is the descriptive aspect, which describes on the methods of companies'

interaction with stakeholders and vice versa. This is followed by the normative aspect, which concludes on the treatment which companies are supposed to give to their stakeholders. The third aspect is instrumental aspect, which highlights on the ways of fulfilling stakeholder's expectations and improving company's performance. The final aspect is managerial aspect, which agrees on the importance of managerial behavior in the development of a stakeholder company. A discussion among scholars on the influence of these fundamental aspects on project performance is created from this categorization. Moreover, a different set of priorities is emphasized by the perspective of the proponents of the stakeholder. The increasing influence of individuals and entities which are involved in the direct impact of project developers, buyers, and actions is recognized by these proponents. Based on other suggestions, the extent of a project success' evolution is to the point of incorporating other concerns such as satisfying stakeholder's needs and interests, rather than traditional objectives alone such as profit maximization (Moura-Leite, 2012). However, the advocates of the stakeholder's perspective debate that this evolution is substantial that a direct relation between financial returns and the social and sustainability concerns inherent in the point of view is frequently present (Gill, Sharma, Mand, and Mathur, 2012). Provided the attention garnered by stakeholder's interest as of recently, an organization's capability to satisfy the needs and desires of a group of stakeholders rather than the shareholders as individuals is the influencing factor of a business success. Similarly, developing partnerships with a wider range of relevant stakeholders is important for modern business company in obtaining and maintaining as high financial performance as possible for shareholders. Subsequently, this emphasizes the importance of a broader constituent group which consist of the factors of a company's continuous success (Angelopoulos, Parnell, and Scott, 2013). According to the results of previous studies in line with stakeholder theory, it was indicated that satisfying stakeholder's needs and desires contributes to several antecedents of organizational performance, such as business performance (Abdullah, Omar, and Khan, 2012; Kong, Gomez, and Hamid, 2008) and financial performance (Ayuso, Rodriguez, Garcia, and Ariño, 2007). Despite the acknowledgment on the multidimensionality of performance, the translation of it into empirical research has been hardly present. Additionally, the amount of organizational performance studies is large the management research field. Too often, organisational performance has also been unquestioningly equated with market or financial performance (Clegg and Bailey, 2007). Clegg and Bailey (2007) point out that the translation of the stakeholder approach to organizational performance through theoretical interest into empirical research has been infrequent. Emphasis has been placed on the descriptive component of stakeholder theory by many empirical literatures. These literatures have conducted evaluation on stakeholder-oriented organizational practices as part of corporate social responsibility. Meanwhile, a number of studies (Rais and Goedegebuure, 2008; Post, Preston, and Sachs, 2002; Jensen, 2001) placed emphasis on the instrumental aspect of financial performance and stakeholder's orientation. Apart from that, few studies have conducted investigation on the influence of stakeholder's satisfaction on organization's potential. Moreover, a number of studies have conducted investigation on the impacts of project stakeholder's satisfaction on project's potential in the context of the industry of construction. Based on the managerial point of view, due to the manager's focus on the particular aspects of project performance which ensure a company's success, fulfilling the needs of stakeholders is important (Sachs and Rühli, 2011). When taking the significance of fulfilling stakeholders' needs and interests to project performance into account, a hypothesis is drawn as follows:

H3: *The association between stakeholder's satisfaction to project performance in the residential sectors of construction project is positive.*

2. Research Method

The overview of the methods, which has been implemented in this study, is presented in this thesis in order to provide answers to the research questions in the first chapter. Another objective of this overview is to investigate the hypotheses presented in the second chapter. In this study, for the collection of data regarding the constructs presented in the theoretical model, quantitative survey methodology with self-administered questionnaire was implemented. The constructs of this study are project performance, stakeholder's satisfaction, and stakeholder management. The operation of these constructs was conducted with multi-item measures where 5-point Likert scale was involved, and the measurement was performed using the instruments adjusted from previously tested scales. In this study, questionnaires were made in English. However, it was not the respondents' native language. Therefore, a bilingual expert was appointed for English to Persian translation of the survey. In order to validate the language accuracy further, three academic professors were appointed in order to have the Persian version of the questionnaire checked. Then, modifications were performed in order to make sure that the translated version was parallel to the original text. Following that, another bilingual expert was assigned for back-translating the Persian version to the English version. This is followed by assigning the third language expert to check both English and Persian versions (Yayla, 2009). For a clear and comprehensible wording of the questionnaire and equivalence of the instruments, a pilot study was conducted before the final survey was performed. This study is important for the detection of issues in the instruments, and to identify the measures face validity. The final survey took place after the pilot study. 384 questionnaires in total were distributed to the developers of residential projects and their actual and potential customers (buyers) in Tehran, the capital city of Iran. For data analysis, two statistical methods were implemented. First, the Statistical Package for the Social Sciences (SPSS) version 22 was utilized for descriptive analyses of the samples of the paper, such as frequencies, standard deviations, and means and analysis of the preliminary data. Secondly, Structural Equation Modeling (SEM using Smart-PLS) with confirmatory factor analysis (CFA) was utilized for examination to be conducted on the measurement model. The procedure of SEM consisted of two steps. It began with assessment on the measurement model, which was followed by the second step where the structural model was assessed. The model measurement process in this paper consisted of two parts. It started with evaluation of the unidimensional followed by evaluating the reliability and the underlying constructs soundness. As for the reliability aspect, AVE, construct reliability, and the internal consistency measures of Cranach's alpha were used for investigation. Additionally, evaluation of validity criterion construct, including construct, discriminant, and convergent validity will also be conducted. After the development of scale in stage one, the hypotheses developed in chapter two will be examined in the second stage (the structural model).

2.1 Scale Development

In this section, illustration is made on the selection of items which were utilized for operation on the constructs in the theoretical framework. Adaptation and adoption of the used scales have been conducted in studies with sound and dependable measures through detailed literature review, which is presented in *Table 1*.

Table 1. The Overall Number of Scale Items Utilized in this Study

Construct	Dimension	Items	
		Number	Source
Project Stakeholder Management	Identification	20	Yang and Shen (2014)
	Planning		
	Communication		
	Control		
Stakeholder's satisfaction	Buyer	52	Saghati, Zadkarim, and Emari (2016)
Project performance	Cost	13	Dadzie, Abdul-Aziz, and Kwame (2012)
	Time		
	Quality		

Source: created by the author.

On the other hand, a total of seventy items from the original questionnaire were used for the measurement of the constructs in the model.

3. Data Analysis

3.1 Demographic Attributes of the Respondents

Based on *Table 2*, the administration of demographic attributes is illustrated. It can be seen from the results that 15.723% and 84.277% of the respondents were female and male respectively. Furthermore, it is revealed from the results that the educational level for 38.365 % of them were diplomas or lower levels, while the educational level for 33.333 % of them were a bachelor's and associated degree. Lastly, the remaining 28.302 % had a master or higher educational level.

Table 2. Demographic Results

Variable	Description	Frequency	Percentage
Gender	Female	25	15.723
	Male	134	84.277
	Total	*159*	*100.000*
Education	Diploma or lower	61	38.365
	Bachelor and associated degree	53	33.333
	Master or higher	45	28.302
	Total	*159*	*100.000*

Source: created by the author.

3.2 Measurement Model

The modelling process for the structural equation consists of two parts: measurement model validation and structural model fitting. Measurement model validation was mainly performed using confirmatory factor analysis, while structural model fitting was mainly performed through path analysis with latent variables. Specification on the methods of latent variables measurement is specified by the measurement model in the aspect of the observed variables. Furthermore, the observed variables measurement attributes are also illustrated by this model. Specifically, the association between the observed and latent variables is the matter of concern for the measurement models. With these models, specification is made on the hypotheses regarding the association between a set of observed variables, such as

questionnaire items or ratings. Besides, the unobserved variables or constructs are designed for measurement. As a test for the observed variables reliability which is employed for the latent variables measurement is provided by the measurement model, it is highly significant. Based on a measurement model where a poor fit to the data is provided, not only a number of the variables of the observed indicator are least reliable, it is also impossible for researchers to proceed to analyse the structural model due to these indicator variables.

3.2.1 Reliability Measurement (Item-Level)

The first criterion of the measurement model evaluation is to assess if the observation of the measured variables/items is internally consistent with each other. Furthermore, item-reliability specifies on the particular part of the variance of item which can be described further by the underlying latent variable (Götz *et al*., 2010). It is not uncommon to presume that more than half (i.e., 50%) of the absolute correlation should be enlightened by the latent construct (Chin *et al*., 2003). However, only the values higher than 0.7 (Henseler, Fassott, 2010) and the values no lower than 0.4 (Churchill Jr, 1979) are recommended. Based on the results in *Table 3A* (*Appendix 1*) the absolute value of correlation between the construct and the construct's measuring manifest items, such as factor loading, is higher than 0.4, the minimum value of the criterion of threshold. As the value of factor loadings ranges from 0.569 to 0.543, the requirements presented by the psychometric reliability test has been fulfilled (Henseler, Fassott, 2010; Churchill Jr, 1979).

3.2.2 Reliability Measurement (Construct-Level)

The construct-level reliability has ensured that higher relationship value between the items allocated to the same constructs is shown. Despite that the reliability of the calculated individual-level item from earlier is sufficient enough, observation is still suggested on the reliability of the constructs which are jointly measured by the group of items under the same construct (Bagozzi, 1984). Furthermore, investigation on the construct level reliability was conducted in this paper through Cronbach's alpha and composite reliability. Specifically, the measurement of the one-dimensionality of the internal consistency of multi-item scale was performed by Cronbach's alpha (Cronbach, 1951). Meanwhile, how good the measurement of the items assigned to construct's performance was evaluated by composite reliability (Götz *et al*., 2010). Based on *Table 6*, the value of Cronbach's alpha is higher than 0.6, the recommended value (Cronbach, 1951). Apart from that, it is also shown that the value of composite reliability is higher than 0.7, the suggested value (Nunnally, 1978).

3.2.3 Convergent Validity Measurement

Validity refers to how correct the representation of a set of measuring items on the underlying proposed theoretical concept (Hair *et al*., 2012). Convergent validity especially illustrates that the same construct is indicated from the association between the responses acquired through different approaches (Niedergassel, 2011). Moreover, it is also implied that the same single underlying construct where confirmation can be made through their one-dimensionality should be denoted by the set of items (Henseler, Fassott, 2010). The widely recognized method, average variance extracted (AVE), was utilized in the survey on convergent validity in this paper (Hair *et al*., 2012; Tabachnick, Fidell, 2012; Henseler, Fassott, 2010). Initially, AVE was suggested by Fornell and Larcker (1981), who tried to

conduct investigation on the number of variance captured by a construct from its measuring items. Comparison was made on this amount due to the error of measurement. Based on *Table 4* it can be indicated that the AVE extracted for each construct has a higher value than 0.5 (50%), the specified value (Fornell, Larcker, 1981). It is also implied that more than half of the variance can be given further enlightenment by each construct to its measuring items on average.

3.2.4 Discriminant Validity Measurement

Discriminant validity is a corresponding concept of convergent validity, where different representation (i.e. the set of measuring items should not be un-dimensional) should be possessed by two conceptually different constructs (Henseler, Fassott, 2010). Based on this research, the inspection of discriminant validity at the construct-level was conducted in accordance to Fornell and Larcker (1981) criterion. Meanwhile, the discriminant validity at the item-level was examined through the criteria by Chin (1998). On the other hand, the criterion by Fornell and Larcker (1981) emphasizes that the square-root of AVE for each construct should have a higher value than the value of the association between other construct and anything else (i.e. inter-construct correlation). As for the discriminant validity at the item-level, inspection of the cross-loading within factor loading is suggested by Chin (1998). *Table 3A* agrees that every measuring item within a construct has a higher value compared to the value of all of its cross-loadings in every column and row. In fact, all cross-loadings have a value lower than 0.4, the value recommended by Hair *et al*. (2012).

Table 4. Square Root AVE and Latent Variables

	AVE	SQRT(AVE)	SM	SS	PP
PSM	0.534	0.731	0.731		
BS	0.563	0.751	0.557854	0.751	
PP	0.531	0.728	0.354170	0.387745	0.728

Source: own calculations.

Based on *Table 4*, it can be indicated that the correlation value of the inter-construct is below the square-root of the AVE value. Therefore, the discriminant validity criterion is fulfilled.

3.3 Structural Model Evaluation

Based on the data shown in *Table 5*, significance is visible in all paths. In the first hypothesis, the association between PSM -> PP is described. Furthermore, a positive and significant association between two constructs namely $\beta = 0.4522$ and $t = 6.3882$ is acknowledged by the results of this hypothesis. Meanwhile, in the second hypothesis, the correlation between PSM -> BS is described. It can be seen from this hypothesis results that project stakeholder management has a positive and direct association with buyer satisfaction ($\beta = 0.7227$; $t = 25.3084$). On the other hand, the correlation between BS -> PP is described in the third hypothesis. Besides, the result of this hypothesis implies that a direct and positive association between buyer's satisfaction and project performance ($\beta = 0.4564$; $t = 4.7068$) is present. Moreover, for a calculation on GoF, the global criterion was conducted for assessment on the goodness which fits the model. As for GoF, it is a geometric average of all R-Square and communalities in the model. Besides, it is an index which functions in the

validation of models with PLS. The coefficients of R -Square are 0.522 and 0.711 for BS and PP respectively. From this, it can be seen that it is possible for 52.2 % and 71.1 % of the performance results variability to be justified through BS and PP respectively. As the value is higher than GoF> 0.5, not only the structural equations are well defined, it also well represents the dataset due to its validity. Additionally, the GoF value for the current model is 0.582, which indicates 58.2 % of the reachable fitness. *Table 6* provides GoF results.

Table 5. Experiment of the Overall Effect with Bootstrapping

	Original Sample	Standard Error	T Statistics
BS -> PP	0.4564	0.0701	6.5064
PSM -> BS	0.7227	0.0286	25.3084
PSM -> PP	0.4522	0.0708	6.3882

Source: own calculations.

Table 6. Goodness of fit test for the Structural Model

	AVE	Composite Reliability	R-Square	Cronbach's Alpha	Communality
BS	0.534	0.972825	0.522332	0.971586	0.433768
PP	0.563	0.959845	0.711068	0.954903	0.563256
PSM	0.531	0.935619		0.92606	0.530629
Average			0.616		0.54851
Gof	0.582				
GoF= SQRT (Average R-square * Average Communality)					

Source: own calculations.

3.4 Testing for Mediation

Mediation analysis aims to make a further exploration on whether an independent variable makes any changes on a dependent variable. The purpose of mediation is to describe on the occurrence of the change (Hayes, 2009). A mediator variable allows mediation to take place in the independent and the dependent variables (Saunders *et al*., 2011). It can also be said that the relation between independent and dependent variable is illustrated by the mediator variable. Nevertheless, the general recommendations for an experiment on mediation can be specified into three general methods (MacKinnon *et al*., 2002). The first method is the causal steps method which is in reference to the works by Judd and Kenny (1981), Baron and Kenny (1986). Meanwhile, the second approach, known as the coefficients method difference, is a method where regression coefficients are tested before and after the mediating variable is included. On the other hand, the third technique is described as the involvement of paths by coefficients product in a path model method. As for the first method, analysis of regression is practised. Meanwhile, the goodness-of-fit indices which are included by covariance-based Structural Equation Modelling (SEM) are utilized by the remaining two approaches. As for SEM, it is the approach recommended for mediation analysis (Frazier *et al*., 2004). In addition, not only an indication of relationships is provided by the path coefficients developed by Partial Least Squares Structural Equation Modeling (PLS-SEM), these path coefficients can also be used in a similar method to the method of using the traditional regression coefficients (Gefen *et al*., 2000). Baron and Kenny (1986) highlight that in order to create true mediation relationship, the following requirement needs to be fulfilled: Revert the dependent variable to independent variable. To illustrate this point, validation is required for the fact that

the independent variable is an important indicator of the dependent variable. Another requirement for a true median relationship is also the reversion of the mediator to the independent variable. The point of this is the fact that the independent variable is an important indicator of the mediator. Following that, reversion of the dependent variable to both the mediator and independent variable is also required for true mediation relationship. This refers to how the significance of the mediator as the indicator of the dependent variable and controller of the independent variable should be validated. Last but not least, it is important for the association between the dependent and independent variables to undergo major decrease upon the inclusion of mediator. In addition, not only the correlation between the independent and dependent variables must be based theoretically and obtain literature support, these are also required by the independent and mediating variables. In this study, these four processes will be conducted through PLS. However, evaluation on the importance of the decrease of the association between the dependent and independent variables through visual inspection of the coefficient is impossible. It requires a mathematical evaluation (Bontis *et al.*, 2007). An approximate significance test was developed by Sobel (1982) on the indirect impact of the independent variable on the dependent variable through the mediator, which is as follows:

$$Z = \frac{ab}{\sqrt{b^2 Sa^2 + a^2 Sb^2 + Sa^2 Sb^2}}$$
(1)

Based on (Equation 1: The Statistic of Sobel Experiment), "a" represents the regression coefficient for the relation between the independent variable and the mediator. Meanwhile, "b" stands for the regression coefficient for the correlation between the dependent variable and the mediator. "Sa" represents the error occurring in the correlation between the independent variable and the mediator. Apart from that, the standard error of the correlation between the dependent variable and the mediator variable is labelled as "Sb". Moreover, bootstrapping process is important for the evaluation of the significance of path coefficients and estimation of standard error (Hair *et al.*, 2012). In accordance to this study variable's theoretical model, it is suggested that customer's satisfaction is the mediating variable.

3.4.1 Mediation Impacts of BS on the Correlation between PP and SM

In order to investigate the mediating impact of BS on the correlation between SM and PP, the criteria brought by Baron and Kenny (1986) were practised, as shown in *Table 7*. Based on the table below, it can be seen that the requirements for the mediation identified by Baron and Kenny (1986) have been fulfilled. To illustrate this, there is a direct, significant, and positive correlation between SM and PP (β=0.956 and t=19.912). Furthermore, the relationship between SM and BS (β=0.959 and t=21.876) is direct, positive, and significant. Following that, the relation between BS and PP (β=0.948 and t= 14.806) is also direct, significant, and positive. Last but not least, there is a decrease in the absolute effect posed by PSM on PP, which is from 0.956 to 0.4522 during the introduction of the mediating variable. Based on Table 7, the z-value of Sobel amounts to 6.39, with p-value < 0.000. It is suggested from these results that the association between PSM and PP is mediated by BS due to the high z-value of Sobel, a p-value less than 0.05.

Table 7. The Mediating Impacts of BS on the Association between PP and SM

	PSM -> PP	PSM -> BS	BS->PP	SM ->PP Mediated by BS		
				PSM -> PP	PSM -> BS	BS-> PP
Beta	0.956	0.959	0.948	0.4522	0.7227	0.4564
SE	0.048	0.044	0.064	0.0708	0.0286	0.0701
t-value	19.912	21.876	14.806	6.3882	25.3084	6.5064
Mediation type: Partial Sobel Z value: 6.39003678 of significance at p< 0.000						

Source: own calculations.

Moreover, registration was also made on partial mediation due to the decrease of the association between dependent variable and independent variable by a significant amount (from 0.956 to 0.4522). Following that, it is indicated from the ratio index of 52.69.98% given by (0.956 -0.4522) /0.956*100) that 52.69% of SM's impact on the PP takes place through the BS, while 47.30 % of the impact is direct.

Conclusions

This study aims to examine the impacts of the management of project stakeholder on project performance in the industry of construction, which take place directly and through buyer's satisfaction. It also intends on investigating whether project stakeholder management poses direct and positive impacts on project performance, and whether the impacts occur indirectly and through the enhanced stakeholder's satisfaction which stems from PMBOK stakeholder management. Furthermore, four different objectives have been accomplished. To illustrate this, an effort has been paid in showing whether stakeholder management poses positive impacts on project performance. This study has also strived to determine whether project stakeholder management impacts customer's satisfaction positively. Following that, an effort has been made in gaining insight on the fact that company's satisfaction impacts project performance positively. The last accomplished objective of this study is to prove the mediating impacts of customer's satisfaction on the association between project stakeholder management and project's potential through scholarly evidences. Moreover, empirical evidence has surfaced from the SEM results which has completely supported the first hypothesis (β = 0.4522; t = 6.3882). Besides, SEM results have also proven the significant association between the management of project stakeholder and project's potential. There is a consistency between this study's results and the ones from previous studies (El-Gohary *et al*., 2006; Olander, Landin, 2005; Johnson, Kaplan, 1987). The aforementioned scholars are the scholars who have acknowledged the positive and direct association between project stakeholder management and Project Performance. In addition, according to the results acquired from the second hypothesis experiment, the positive and significant association between project stakeholder management and customer's satisfaction (β=0.7227 and t=25.3084) has been given a new academic confirmation. The results obtained from this hypothesis are consistent to the results of the previous studies (Aras, Crowther, 2012; Freeman *et al*., 2010; Bosse *et al*., 2009; Brammer, Millington, 2008; Sheth *et al*., 2006; Berman *et al*., 1999) (Explain the findings of these references one by one here and update the references). The aforementioned scholars have presumed the positive association between stakeholder's satisfaction and project performance. Furthermore, the results acquired from the experiment of the third hypothesis have validated the significant and positive relation between customer's satisfaction and project performance (β=0.4564 and t= 6.5064). Similarly, there is consistency in the results obtained from this hypothesis with the results from the previous

studies (Aras, Crowther, 2012; Freeman *et al*., 2010; Bosse *et al*., 2009; Brammer, Millington, 2008; Sheth *et al*., 2006; Berman *et al*., 1999). The aforementioned scholars have made presumption on the positive association between customer's satisfaction and project performance. The fourth hypothesis has been intended to emphasize the mediating impacts the satisfaction of customer on the association between Project Performance and project stakeholder management. Moreover, in order to investigate whether the mediation impact is statistically significant, Sobel experiment was used. According to the results of the experiment, the association between project's potential and project stakeholder management has been mediated by customer's satisfaction. It is possible that the experiment results of hypotheses will be explained through the instrumental method of stakeholder theory. Based on this method, stakeholder orientation provides a company with a competitive advantage. Subsequently, the company will display a better performance. The key presumption of this method is that market success is what a company ultimately aims for, and this objective can be succeeded through stakeholder's satisfaction (Donaldson, Preston, 1995; Freeman, 1984). It is possible that there is no association between this objective and the wellbeing of stakeholders in general. However, this association is possible in the interest of shareholders. Therefore, stakeholder management has a strategic merit with a ''means to an end'' point of view (Berman *et al*., 1999). This perspective contrasts with the normative approach's intrinsic value. The formulation and implementation of processes which satisfy stakeholders are supported by the instrumental approach as they are the key resources' controllers (Pfeffer, Salancik, 1978). Besides, they propose that companies will get continuous survival and success with stakeholders' satisfaction (Post *et al*., 2002; Freeman, McVea, 2001; Hillman, Keim, 2001; Freeman, 1984). Moreover, further insight regarding the observed relationship between customer's satisfaction and project performance may be done with resourced based theory. This theory consists of a dominant and the strategy literature rising area, where the issue of company's identity is drawn on, and it principally emphasizes on the roots and nature of strategic capabilities. Besides having an intra-organizational focus, it highlights on how firm-specific resources and potential are influenced by company's performance (Barney, 1991; Wernerfelt, 1984). Additionally, this theory has an idea that future competitiveness in the growth of the distinguished and unique abilities of companies, which possibly have intangible and implicit nature, will be found in the successful ones (Teece, Pisano, 1994). According to Lengnick-Hall (2003), there is a lack of comprehension on the intangible assets companies. Apart from that, the author's intangible assets are difficult to quantify, not visible, cannot be traced through accounting, and must be created in a path-dependent way over time. Besides that, instant purchase or imitation is impossible, purposeful use is encouraged. Although tangible assets are important, it does not fully contribute to competitive advantage in the knowledge economy, as most tangible assets can be copied or obtained through the market. However, succeeded companies and vice versa will be determined through the intangible assets.

Contribution of Study

Through the application of resource-based theory, resource dependence and stakeholder theories have paid effort in providing further insight on the impacts of management of stakeholder on project performance in the residential sectors of the industry of construction. The following two primary fields indicate the contributions expected from the study: theoretical contribution and practical contribution.

Theoretical Contribution

The first theoretical contribution is seen from project stakeholder management on PMBOK's basis. This standard guides project management on the global level. It is a process-based framework which is commonly used for project management worldwide (Madsen, 2012). Based on literature, firm establishment of research on the advantages of the guideline in construction industries developed from project-based capabilities has yet to be done, despite the distinguished characteristics of the standard. Furthermore, this study has intended to delve further on the effects of this guideline on the potential of project in the residential sectors of the industry of construction. This is done through the exploration of resource-based, resource dependence, and stakeholder theories. The second objective of this study is associated to the indirect impacts of PMBOK's stakeholder management on project's potential in the residential sectors of the industry of construction. Last but not least, there has been consistency in the results of this paper with stakeholder, resource dependence, and resource-based theories. This has implied that social capital, for example, customer's satisfaction gained from the application of the guideline, positively contributes to project performance in construction industry.

Practical Implications

This paper has created new Board of company, owners, and developers in construction industry. This is due to company's goal to apply a guideline for their project management. Therefore, implementation of valuable and appropriate approach for the application of the standard is possible through the standard's potential. Besides, mutual responsibility among companies is essential for implementation of the standard.

Research Limitations

Similar to other studies, this study contains limitations which required consideration during the application and generalization of its findings. The first limitation lies in its sole focus on the residential sectors of Iranian construction industry. This had resulted in the lack of thoroughness in the findings application in different context. Subsequently, extension of this study is needed. Following that, the limitation lies in the number of stakeholders. In this study, only two stakeholders namely buyers, were emphasized on. Therefore, it was impossible to present the impacts of different stakeholder's management and satisfaction i.e., community, governments, suppliers etc., on project performance. The final limitation is that the respondents of this study only emphasized on the residential sectors of construction industry, which resulted to the negligence of other sectors.

Future Research Directions

Some opportunities have surfaced for future research through the extension of both methodological and theoretical areas of this study. In regards to this study's limitations, future research has been suggested in this section. This study's findings were obtained from a sample of the residential sectors of a construction project in Iran. This study can be repeated by future researchers with other countries and another sampling frame. This study has examined the relationship between project stakeholder management on project performance, which takes place directly and through buyer satisfaction. However, the moderating impacts

of project size and type have not been focused on. Furthermore, this study has not acknowledged the intra-industry impacts on project performance. The impacts of project heterogeneity on project performance variation have not been considered by a few studies. Nevertheless, further research could be performed in determining the project impacts and segment on project performance in the residential sectors of construction industry. In order to emphasize on both internal and external organizational contexts, three complementary theoretical points of view have been utilized in this study. Those points of view are stakeholder, resource-based, and resource dependence theories. It has also been presumed by the traditional resource-based perspective that the possession of irreplaceable, inimitable, unique, and valuable resources would contribute to competitive advantages in companies. Therefore, the mechanisms where these resources are developed have become a concern among some researchers. In addition, the resource management perspective enhances the resource-based perspective with an explanation on the value developed from the transformation of resources done by companies (Sirmon, Hitt, and Ireland, 2007). Therefore, future studies can be conducted with the resource management view, along with the two aforementioned theories in creating more theoretical explanations on the effectiveness of the standard on the project achievement. Provided that a variance-based SEM has been used in this study for data analysis by Smart-PLS software, duplication of this study through covariance-based SEM method by AMOS or LISREL software is possible in future research. Besides, duplication of the study is also possible in future research by applying the nonlinear relationship between PMBOK stakeholder management, stakeholder's satisfaction, and project performance. Last but not least, Artificial Neural Networks (ANNs) and comparison between the results can provide more empirical evidences of PMBOK's ability to enhance project performance.

References

Abdullah, M., Omar, M., & Khan, B. Z. A. (2012). "measuring the impact of ISO9000 adoption on business performance" In Global conference on operation and supply chain management Indonesia

Adams, C., Gray, R. H., & Owen, D. (1996). Accounting & Accountability: Changes and challenges in corporate social and environmental reporting: Prentice Hall.

Akisik, O., & Gal, G. (2011). "

Albert, Balve, Spang, (2017) "Evaluation of project success: a structured literature review", International Journal of Managing Projects in Business, Vol. 10 Issue: 4, pp.796-821.

Amoatey, C. and M. V. K. Hayibor (2017). "Critical success factors for local government project stakeholder management." Built Environment Project and Asset Management 7(2): 143-156.

Angelopoulos, G., Parnell, J. A., & Scott, G. J. (2013). "Performance satisfaction, shareholder and stakeholder orientations: managers' perceptions in three countries across continents". South African Journal of Economic and Management Sciences, 16, 199-215.

Aras, G., & Crowther, D. (2012). A handbook of corporate governance and social responsibility: Gower Publishing, Ltd.

Atkinson, R. (1999). "Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria". International journal of project management, 17, 337-342.

Ayuso, S., Rodriguez, M. A., Garcia, R., & Ariño, M. A. (2007). "Maximizing stakeholders' interests: An empirical analysis of the stakeholder approach to corporate governance". IESE Business School-University of Navare.

Bagozzi, R. P. (1984). "Expectancy-value attitude models an analysis of critical measurement issues". International Journal of Research in Marketing, 1, 295-310.

Barkley, B. T., & Saylor, J. H. (1994). Customer-driven project management: A new paradigm in total quality implementation: McGraw-Hill New York, NY.

Barney, J. (1991). "Firm resources and sustained competitive advantage". Journal of management, 17, 99-120.

Barney, J. B. (2001). "Is the resource –based "view "a useful perspective for strategic management research?"

Yes Academy of management review, 26, 41-56.

Barney, J. B. (2011). Gaining and Sustaining Competitive Advantage: Pearson.

Baron, R. M., & Kenny, D. A. (1986). "The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations". Journal of Personality and Social Psychology, 51, 1173.

Benn, S., Dunphy, D., & Martin, A. (2009). "Governance of environmental risk: New approaches to managing stakeholder involvement". Journal of environmental management, 90, 1567-1575.

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). "Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance". Academy of Management Journal, 488-506.

Bontis, N., Booker, L. D., & Serenko, A. (2007). "The mediating effect of organizational reputation on customer loyalty and service recommendation in the banking industry". Management Decision, 45, 1426-1445.

Bosse, D. A., Phillips, R. A., & Harrison, J. S. (2009). "Stakeholders, reciprocity, and firm performance". Strategic management journal, 30, 447-456.

Bourne, L., & Walker, D. H. (2005). "Visualising and mapping stakeholder influence". Management decision, 43, 649-660.

Brammer, S., & Millington, A. (2008). "Does it pay to be different? An analysis of the relationship between corporate social and financial performance". Strategic management journal, 29, 1325-1343.

Brooks, M., Milne, C., & Johansson, K. (2002). "Using stakeholder research in the evaluation of organizational performance". Evaluation Journal of Australasia, 2, 20-26.

Bubshait, A. A., & Almohawis, S. A. (1994). "Evaluating the general conditions of a construction contract". International Journal of Project Management, 12, 133-136.

Büyüközkan, G., Feyzioğlu, O., & Gocer, F. (2016). "Evaluation of hospital web services using intuitionistic fuzzy AHP and intuitionistic fuzzy VIKOR". In Industrial Engineering and Engineering Management (IEEM), 2016 IEEE International Conference on (pp. 607-611): IEEE.

Cantor, V. J. M., & Poh, K. L. (2018). "Integrated Analysis of Healthcare Efficiency: A Systematic Review". Journal of Medical Systems, 42, 8.

Chai, C. S., Yusof, A. M., & Habil, H. (2015). "Delay Mitigation in the Malaysian Housing Industry: A Structural Equation Modelling Approach". Journal of Construction in Developing Countries, 20, 65-83.

Chan, A. P., & Tam, C. (2000). "Factors affecting the quality of building projects in Hong Kong". International Journal of Quality & Reliability Management, 17, 423-442.

Chaston, I. (2012). Strategy for Sustainable Competitive Advantage: Surviving Declining Demand and China's Global Development: Taylor & Francis.

Chin, W. W. (1998). "Commentary: Issues and opinion on structural equation modelling". MIS quarterly, vii-xvi.

Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). "A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study". Information systems research, 14, 189-217.

Churchill Jr, G. A. (1979). "A paradigm for developing better measures of marketing constructs". Journal of Marketing Research, 64-73.

Clegg, S., & Bailey, J. R. (2007). International Encyclopedia of Organization Studies: SAGE Publications.

Cleland, D., & Ireland, L. (2002). Project management: Strategic design and integration. In: New York: McGraw-Hill.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

Dadzie, J., Abdul-Aziz, A., & Kwame, A. (2012). "Performance of consultants on government projects in ghana: Client and contractor perspective". International Journal of Business and Social Research, 2, 256-267.

Demirkesen, S. and B. Ozorhon (2017). "Impact of integration management on construction project management performance." International Journal of Project Management 35(8): 1639-1654.

Donaldson, T., & Preston, L. E. (1995). "The stakeholder theory of the corporation: Concepts, evidence, and implications". Academy of management review, 65-91.

Doyle, P. (1994). "Setting business objectives and measuring performance". European Management Journal, 12, 123-132.

El-Gohary, N. M., Osman, H., & El-Diraby, T. E. (2006). "Stakeholder management for public private partnerships". International Journal of Project Management, 24, 595-604.

Elias, A. A., Cavana, R. Y., & Jackson, L. S. (2002). "Stakeholder analysis for R&D project management". R&D Management, 32, 301-310.

El-Sawalhi, N. I. and S. Hammad (2015). "Factors affecting stakeholder management in construction projects in the Gaza Strip." International Journal of Construction Management 15(2): 157-169.

Emerson, Richard M. (1962). Power-dependence relations. American sociological review, 31-41.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. Journal of law and economics, 301-325.

Foo, C. Y., Lim, K. K., Sivasampu, S., Dahian, K. B., & Goh, P. P. (2015). "Improving the effectiveness of service delivery in the public healthcare sector: the case of ophthalmology services in Malaysia". BMC Health Services Research, 15, 349.

Fornell, C., & Larcker, D. F. (1981). "Evaluating structural equation models with unobservable variables and measurement error". Journal of Marketing Research, 39-50.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). "Testing moderator and mediator effects in counseling psychology research". Journal of counseling psychology, 51, 115.

Freeman, R., & McVea, J. (2001). A stakeholder approach to strategic management.

Freeman, R. E. (1984). Strategic management: A stakeholder approach (Vol. 1): Pitman Boston.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). Stakeholder theory: The state of the art: Cambridge University Press Cambridge.

Ganaway, N. B. (2007). Construction Business Management: Routledge.

García-Marzá, D. (2005). "Trust and dialogue: theoretical approaches to ethics auditing". Journal of Business Ethics, 57, 209-219.

Gefen, D., Straub, D. W., & Boudreau, M.-C. (2000). Structural equation modeling and regression: Guidelines for research practice. In Communications of the Association for Information Systems: Citeseer.

Georgy, M. E., Chang, L.-M., & Zhang, L. (2005). "Prediction of engineering performance: a neurofuzzy approach". Journal of Construction Engineering and Management, 131, 548-557.

Gill, A., Sharma, S. P., Mand, H. S., & Mathur, N. (2012). "The relationship between corporate governance and the investment decision of small business firms in India". Journal of Finance and Investment Analysis, 1(2): 41-59.

Götz, O., Liehr-Gobbers, K., Krafft, M. (2010), "Evaluation of structural equation models using the partial least squares (PLS) approach Handbook of partial least squares (pp. 691-711): Springer.

Hadad, S., Hadad, Y., & Simon-Tuval, T. (2013). Determinants of healthcare system's efficiency in OECD countries. The European Journal of Health Economics, 14, 253-265.

Hair , J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). "Mirror, Mirror on the Wall: A Comparative Evaluation of Composite-Based Structural Equation Modeling Methods". Journal of the Academy of Marketing Science, 45(5): 616-632.

Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). "Managing for stakeholders, stakeholder utility functions, and competitive advantage". Strategic management journal, 31, 58-74.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. Communication Monographs, 76, 408-420.

Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In Handbook of partial least squares (pp. 713-735): Springer.

Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line? Strategic management journal, 22, 125-139.

Hillman Willis, T., & Willis, W. D. (1996). "A quality performance management system for industrial construction engineering projects". International Journal of Quality & Reliability Management, 13, 38-48.

Jamehshooran, Shaharoun, Haron (2015). "Assessing Supply Chain Performance through Applying the SCOR Model". International Journal of Supply Chain Management IJSCM, ISSN: 2050-7399 (Online), 2051-3771.

Jensen, M. (2001). "Value maximisation, stakeholder theory, and the corporate objective function". European Financial Management, 7, 297-317.

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, 335-343.

Johnson, H. T., & Kaplan, R. S. (1987). Relevance lost. In: Boston: Harvard Business School Press.

Joseph Ignatius, T. B. and F. A. Daniel Amofa (2016). "Stakeholder Management on Construction Projects: A Key Indicator for Project Success." American Journal of Civil Engineering 4(4): 117-126.

Judd, C. M., & Kenny, D. A. (1981). Process analysis estimating mediation in treatment evaluations. Evaluation review, 5, 602-619.

Karlsen, J. T. (2002). "Project stakeholder management". Engineering Management Journal, 14, 19-24.

Kelbessa, D. (2016). The role of project stakeholder management on performance of public projects in ethiopia, Addis Ababa University.

Klossner (2014), Factors that influence firm' environmental performance: An examination of large companies.PhD Thesis, Weatherhead School of Management Designing Sustainable Systems case Western Reserve university.

Kong, S. M., Gomez, C. P., & Hamid, Z. A. (2008). Benefits of ISO9001: 2000 cortication – evidence from Malaysian construction industry

Kumaraswamy, M. M., & Thorpe, A. (1996). "Systematizing construction project evaluations". Journal of Management in Engineering, 12, 34-39.

Lai, K. K., Cheung, M. T., & Fu, Y. (2017). "Resource allocation in public healthcare: A team-dea model". Journal of Systems Science and Complexity.

Latham, M. (1994). Constructing the Team, HMSO, London.

Lengnick-Hall, M. L. (2003). Human resource management in the knowledge economy: New challenges, new roles, new capabilities: Berrett-Koehler Publishers.

Lim, C., & Mohamed, M. Z. (2000). "An exploratory study into recurring construction problems". International Journal of Project Management, 18, 267-273.

Lim, G., Ahn, H., & Lee, H. (2005). "Formulating strategies for stakeholder management: a case-based reasoning approach". Expert Systems with Applications, 28, 831-840.

Long, N. D., Ogunlana, S., Quang, T., & Lam, K. C. (2004). "Large construction projects in developing countries: a case study from Vietnam". International Journal of project management, 22, 553-561.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). "A comparison of methods to test mediation and other intervening variable effects". Psychological methods, 7, 83.

Madsen, S. (2012). The Project Management Coaching Workbook: Management Concepts Press.

Manowong, E., & Ogunlana, S. O. (2006). "Public hearings in Thailand's infrastructure projects: effective participations?" Engineering, Construction and Architectural Management, 13, 343-363.

Masrom, M. A., Skitmore, M., & Bridge, A. (2013). "Determinants of contractor satisfaction". Construction Management and Economics, 31, 761-779.

McGeorge, D., & Zou, P. X. W. (2012). Construction Management: New Directions: Wiley.

McWilliams, A., & Siegel, D. (2001). "Corporate social responsibility: A theory of the firm perspective". Academy of management review, 26, 117-127.

Minato, T. (2003). "Design documents quality in the Japanese construction industry: factors influencing and impacts on construction process". International Journal of Project Management, 21, 537-546.

Niedergassel, B. (2011). Knowledge Sharing in Research Collaborations: Understanding the Drivers and Barriers: Springer.

Nunnally, J. C. (1978). Psychometric theory (2nd ed): Tata McGraw-Hill Education.

Nyandika, O. and K. Ngugi (2014). "Influence of Stakeholders' Participation on Performance of Road Projects At Kenya National Highways Authority." European Journal of Business Management 1(11): 384-404.

Oakley, P. (2011). Projects with people: The practice of participation in rural development. Geneva: International Labour Office.

O'Halloran, B. (2014). "A study of the awareness of stakeholder management amongst project managers in the construction industry in Ireland". Dublin Business School.

Odeh, A. M., & Battaineh, H. T. (2002). "Causes of construction delay: traditional contracts". International journal of project management, 20, 67-73.

Ofori, G. (2011). New Perspectives on Construction in Developing Countries: Taylor & Francis.

Ogasavara, M. H., et al. (2016). "Experience, resources and export market performance: The pivotal role of international business network ties." International Marketing Review 33(6): 867-893.

Olander, S., & Landin, A. (2005). "Evaluation of stakeholder influence in the implementation of construction projects". International journal of project management, 23, 321-328.

Olanrewaju, A. L., & Abdul-Aziz, A. R. (2014). Building Maintenance Processes and Practices: The Case of a Fast Developing Country: Springer Singapore.

Oliver Barima, Rowlinson (2010), "Critical, manifest variables in virtual construction project value Delivery". Engineering, Construction and Architectural Management Vol. 17 No. 2, 2010 pp. 197-209.

Overton-de Klerk, N., & Verwey, S. (2013). "Towards an emerging paradigm of strategic communication: Core driving forces". Communication, 39, 362-382.

Parfitt, M., & Sanvido, V. (1993). "Checklist of critical success factors for building projects". Journal of Management in Engineering, 9, 243-249.

Pfeffer, Jeffrey, & Salancik, Gerald R. (2003). The external control of organizations: A resource dependence perspective: Stanford University Press.

Post, J. E., Preston, L. E., & Sachs, S. (2002). Redefining the corporation: Stakeholder management and organizational wealth: Stanford University Press.

PMI , roject Management Institute. (2017). Guide to the Project Management Body of Knowledge, Project Management Institute (PMI), USA.

Rais, S., & Goedegebuure, R. (2008). Stakeholder orientation and financial performance: evidence from

Indonesia. In: Maastricht, Netherlands: Maastricht School of Management, Netherlands.

Rosamaria C.Moura-Leite, Robert C. Padgett, Jose I. Galan, (2012) "Is social responsibility driven by industry or firm- specific factors?", Management Decision, Vol. 50 Issue: 7, pp.1200-1221, https://doi.org/10.1108/00251741211246969

Rose, K. H. (1995). "A performance measurement model". Quality progress, 28, 63.

Rouyendegh, B. D., Oztekin, A., Ekong, J., & Dag, A. (2016). "Measuring the efficiency of hospitals: a fully-ranking DEA–FAHP approach". Annals of Operations Research.

Sachs, S., & Rühli, E. (2011). Stakeholders matter: A new paradigm for strategy in society: Cambridge University Press.

Saghati, A. H., Zadkarim, S., & Emari, H. (2016). Employee commitment prediction in civil projects using adaptive Neuro-Fuzzy Inference System. Journal of Current Research in Science, 2, 326-337. Retrieved from http://www.jcrs010.com/

Salter, A., & Torbett, R. (2003). "Innovation and performance in engineering design". Construction Management and Economics, 21, 573-580.

Saunders, M. N., Saunders, M., Lewis, P., & Thornhill, A. (2011). Research Methods For Business Students, 5/e: Pearson Education India.

Shao, G. (2010). "The effects of board structure on media companies' performance: a stakeholder perspective." Journal of Media Business Studies, 1.

Sheth, J. N., Sisodia, R., & Wolfe, D. B. (2006). Firms of Endearment. Engelwood Cliffs: Prentice-Hall.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). "Managing firm resources in dynamic environments to create value: Looking inside the black box." Academy of management review, 32, 273-292.

Smudde, P. M., & Courtright, J. L. (2011). "A holistic approach to stakeholder management: A rhetorical foundation." Public Relations Review, 37, 137-144.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. Sociological methodology, 13, 290-312.

Song, Yu, Zhang. (2017). "Green procurement, stakeholder satisfaction and operational performance." The International Journal of Logistics Management, Vol. 28 Issue: 4, pp.1054-1077.

Tabachnick, B. G., & Fidell, L. (2012). Using Multivariate Statistics: International Edition: Pearson.

Tasmanian Government Project Management (2017). Guidelines Office of eGovernment, Department of Premier and Cabinet, Tasmania, 1-196.

Teece, D., & Pisano, G. (1994). "The dynamic capabilities of firms: an introduction." Industrial and corporate change, 3, 537-556.

To, W., Lee, P. K., & Billy, T. (2011). "ISO 9001: 2000 implementation in the public sector: a survey in Macao SAR, the People's Republic of China." The TQM Journal, 23, 59-72.

Weng, S.-J., Wu, T., Blackhurst, J., & Mackulak, G. (2008). "An extended DEA model for hospital performance evaluation and improvement." Health Services and Outcomes Research Methodology, 9, 39.

Wernerfelt, B. (1984). "A resource- based view of the firm." Strategic management journal, 5, 171-180.

Wheelen, T., & Hunger, J. (2000). "Strategic issues in entrepreneurial ventures and small businesses." Strategic Management: Year, 283-304.

Yang, G.-f., Wang, Z.-p., & Li, X.-q. (2009). "The optimization of the closed-loop supply chain network." Transportation Research Part E: Logistics and Transportation Review, 45, 16-28.

Yang, 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, 900-910.

Yang, R. J., & Shen, G. Q. (2014). "Framework for stakeholder management in construction projects." Journal of Management in Engineering, 04014064.

Yayla, A. A. (2009). Antecedents of IT-business strategic alignment and the moderating roles of goal commitment and environmental uncertainty: Florida Atlantic University.

Yigitcanlar, T. (2010). Rethinking Sustainable Development: Urban Management, Engineering, and Design: Information Science Reference.

Young Mark (2006). HR as the Guardian of Corporate Values at Cadbury Schweppes, Strategic HR Review, Vol.5 (2): 10-11.

Yunus, M. (2010). Building Social Business: The New Kind of Capitalism That Serves Humanity's Most Pressing Needs: Public Affairs.

Zhou, L., Xu, X., Antwi, H. A., & Wang, L. (2017). "Towards an equitable healthcare in China: evaluating the productive efficiency of community health centers in Jiangsu Province." International journal for equity in health, 16, 89.

GYVENAMŲJŲ NAMŲ STATYBOS PROJEKTŲ EFEKTYVUMO DIDINIMAS, ATSIŽVELGIANT Į SUINTERESUOTŲ ŠALIŲ POREIKIUS: STRUKTŪRINIŲ LYGČIŲ MODELIAVIMO (SLM) TAIKYMAS

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SANTRAUKA

Projektu grindžiamos įmonės reikalauja aktyvaus požiūrio, kad būtų patenkinti suinteresuotųjų šalių poreikiai ir interesai. Vadovaujantis suinteresuotųjų šalių teorija, Projektų Valdymo Žinios (PVŽ) yra gairės, kurios buvo sukurtos siekiant pagerinti gyvenamųjų namų statybos projektų veiklą, patenkinant suinteresuotų šalių poreikius ir interesus. Remiantis literatūros apžvalga, tyrimų, kuriuose pabrėžiamas projektų veiklos gairių poveikis, yra labai nedaug. Nagrinėjant ryšį tarp šio tyrimo kintamųjų buvo panaudota kiekybinė metodika, kurioje buvo taikomas vadinamasis skerspjūvio tyrimo metodas. Duomenys buvo surinkti pagal atsitiktinę atranką iš 384 Irane gyvenančių namų statybos projektų pirkėjų ir kūrėjų, vėliau įtrauktų į tam tikras kategorijas. Vėliau, atsakymų lygis sudarė 44,1%. Struktūrinių Lygčių Modeliavimo (SLM) metodika naudojant „SmartPLS" programinę įrangą buvo naudojama siekiant ištirti kintamųjų tarpusavio ryšį. Remiantis rezultatais, pastebimas yra teigiamas santykis tarp projekto rezultatų, suinteresuotųjų šalių pasitenkinimo ir projekto suinteresuotųjų šalių valdymo. Rezultatuose taip pat pastebimi ir teigiama projekto veikla, pirkėjų pasitenkinimas ir akivaizdus suinteresuotųjų šalių projekto valdymas. Negana to, rezultatai rodo, kad Projektų Valdymo Žinių (PVŽ) standarto įgyvendinimas, per tarpinius pirkėjų poreikių kintamuosius, teigiamai veikia projekto rezultatus. Be to, šiame tyrime buvo įtraukta išteklių teorija, kartu su priklausomybės nuo išteklių ir suinteresuotų šalių teorijomis, siekiant sukurti naują teorinę sistemą, kurioje būtų akivaizdi socialinio kapitalo reikšmė projektų veiklai gerinti.

REIKŠMINIAI ŽODŽIAI: pagrindinis projekto dalyvių valdymas, pirkėjo poreikis, projekto vykdymas, PVŽ, statybos pramonė.

Structural Transformations in Business Development

APPENDIX 1

Table 3A. Outer/Factor Loading with Cross-Loadings

	BS	PP	PSM
BS2	0.664	0.580	0.576
BS3	0.639	0.523	0.590
BS4	0.644	0.460	0.575
BS5	0.557	0.483	0.599
BS7	0.656	0.547	0.516
BS8	0.681	0.589	0.565
BS9	0.691	0.519	0.627
BS11	0.632	0.515	0.511
BS12	0.663	0.611	0.534
BS13	0.636	0.551	0.539
BS14	0.729	0.629	0.574
BS15	0.670	0.548	0.450
BS16	0.708	0.621	0.613
BS17	0.685	0.559	0.506
BS18	0.744	0.617	0.599
BS19	0.663	0.596	0.542
BS20	0.615	0.504	0.308
BS21	0.654	0.466	0.341
BS22	0.543	0.394	0.259
BS23	0.573	0.451	0.355
BS24	0.648	0.460	0.353
BS25	0.658	0.497	0.401
BS26	0.586	0.413	0.367
BS27	0.645	0.398	0.353
BS28	0.644	0.422	0.341
BS29	0.651	0.410	0.332
BS30	0.678	0.453	0.432
BS31	0.632	0.544	0.426
BS32	0.782	0.601	0.559
BS33	0.685	0.491	0.454
BS34	0.663	0.471	0.397
BS35	0.684	0.431	0.416
BS36	0.708	0.451	0.386
BS37	0.699	0.495	0.376
BS38	0.632	0.422	0.309
BS39	0.649	0.460	0.390
BS40	0.749	0.510	0.398
BS41	0.649	0.386	0.339
BS42	0.591	0.343	0.376
BS44	0.714	0.483	0.481
BS45	0.724	0.487	0.456
BS46	0.570	0.342	0.255
BS47	0.698	0.590	0.484
BS48	0.628	0.481	0.410
BS49	0.597	0.417	0.358
BS51	0.645	0.442	0.459
BS52	0.611	0.525	0.546
pp1	0.674	0.811	0.731
pp2	0.679	0.869	0.678
pp3	0.584	0.703	0.568
pp4	0.438	0.613	0.536
pp5	0.556	0.705	0.593
pp6	0.564	0.798	0.572

	BS	PP	PSM
pp7	0.658	0.805	0.675
pp8	0.481	0.664	0.498
pp9	0.477	0.555	0.380
pp10	0.463	0.554	0.367
pp11	0.658	0.805	0.675
pp12	0.679	0.869	0.678
pp13	0.564	0.798	0.572
pp14	0.679	0.869	0.678
pp15	0.564	0.798	0.572
pp16	0.446	0.544	0.348
pp18	0.679	0.869	0.678
pp19	0.513	0.585	0.448
pp20	0.679	0.869	0.678
psm1	0.636	0.542	0.587
psm2	0.632	0.644	0.826
psm3	0.334	0.338	0.632
psm4	0.365	0.437	0.693
psm5	0.345	0.355	0.593
psm6	0.392	0.433	0.730
psm7	0.430	0.442	0.755
psm8	0.651	0.644	0.777
psm9	0.632	0.644	0.826
psm10	0.565	0.636	0.793
psm11	0.496	0.646	0.745
psm12	0.519	0.621	0.759
psm13	0.584	0.634	0.701

Source: own calculations.