

ДЕМОНСТРАЦИОННЫЙ ВАРИАНТ

Направление «Менеджмент»

Профиль: «Управление проектами: проектный анализ, инвестиции, технологии реализации»

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Прочитайте статью¹ и сделайте ее критический анализ на русском языке.

1. Introduction

Forty years of research have brought up a variety of new success factors and extended the number of success criteria. But success rates still do not meet expectations. Because of that, researchers have started to widen the scope of possible success factors and focus more on the structural characteristics of the project context and its impact on success. One of these factors is project governance, which has grown exponentially in popularity since 2005 (*Biesenthal & Wilden, 2014*). This stream of literature identifies the structural characteristics needed for successful project execution (*Müller & Lecoivre, 2014*) Project governance is “the use of systems, structures of authority, and processes to allocate resources and coordinate or control activity in a project” (*Pinto, 2014*), it coexists within the corporate governance framework with the objective to support projects in achieving their organizational objectives. The majority of published research on project governance is conceptual, supplemented by some qualitative studies and very little quantitative evidence on the relationship between project governance and project success. Among the few quantitative studies are *Wang and Chen's (2006)* assessment of governance impact on success in ERP projects, and *Müller and Martinsuo's (2015)* investigation of the role of project governance in the relationship between relational norms between project buyers and suppliers and their joint project's success. This is in contrast to general management studies, where the link between corporate governance, management performance, and shareholder value is well researched. As project governance is aligned with corporate governance and good corporate governance is associated with management performance, a link between project governance and project success may be assumed. This will be addressed in the present paper.

The purpose of this study is to investigate the relationship between project governance and project success, including the forms of the relations.

2. Literature review and hypotheses

2.1. Governance as a success factor on projects

Building on the early success factor models by *Pinto, Slevin and Prescott*, which covered organizational effectiveness and technical validity, the development of success factors diversified significantly over the years. Researchers soon realized that success factors without structure, grouping, and context would result in increased project risks; therefore, success factor frameworks were introduced such as those fostering multi-dimensionality and idiosyncrasy of factors. Further research showed the importance of soft factors (teamwork, leadership styles of project managers etc. *Serra & Kunc (2014)* showed the link between strategy planning and execution using benefits realization management (BRM) as a success factor. A recent quantitative study on the impact of project management methodologies on project success in different project governance contexts used the analysis framework from *Sharma et al. (1981)*. Results indicated that governance is an antecedent variable. This is in line with conceptual

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studies, which perceive governance to span the entire life-cycle of temporary organizations, such as projects. Especially the organization's shareholder or stakeholder orientation, as well as the organizational control structures can be assumed to exist before individual projects are launched in these organizations.

Hence, *Stinchcombe's (1965)* theory may apply, which suggests that “the founding characteristics imprinted at the birth of an organization influence its subsequent behavior” (*Van de Ven, 2007*). Therefore we assume “temporal precedence of the cause [project governance] occurring before the effect [project success, measured at the end of the project]” (*Van de Ven, 2007*), contingent on the criteria that governance structures are setup by organizations independent of their project types, thus governance structures are not chosen depending on the project at hand, If this is the case, the empirical test fulfills the first of three criteria for causality, as proposed by the 19th century philosopher John Stuart Mills and more recently by *Van de Ven (2007)*.

2.2. Project success

Historically the understanding of project success criteria has evolved from the simplistic triple constraint concept, known as the iron triangle to something that encompasses many additional success criteria such as quality, stakeholder satisfaction, and knowledge management. In terms of measuring success, a variety of models for measuring project success were developed later.

An amalgamation of these models was done by *Khan et al. (2013)*, who analyzed the literature on success criteria of the past 40 years. Their model for measuring success was selected for this study as it is based on most recent literature, which is a superset of the success criteria from the leading researchers on project success. Their model offers a balance between hard and soft factors and measures 25 success criteria variables organized in the five dimensions. The model contains the three criteria, which are typically termed the iron triangle (dimension 1 below), plus four additional project success criteria dimensions:

1. Project efficiency,
2. Organizational benefits,
3. Project impact,
4. Stakeholder satisfaction, and
5. Future potential.

2.3. Project governance

It is important that governance covers all levels of the organization, starting with corporate governance and down to the project level of governance. Project-related governance is based on and aligned with corporate governance; but focuses on the governance of individual projects.

After applying, of corporate governance to management, researchers started to apply management theories to help understand the factors that influence corporate governance and organizational performance. The most popular theories applied to corporate governance include agency theory, stewardship theory, transaction cost economics, stakeholder theory, shareholder theory and resource dependency theory. One of the motivations for using general management theories to ground theories in governance of corporations was to help frame, understand, and address the issues associated with poor corporate governance.

Agency theory, which is based on *Jensen and Meckling's (1976)* work takes an economic view of the shareholder and manager relationship in companies by assuming rational and self-interested actors. Agency theory has been used by researchers in different areas, including project management. In this study we use agency theory as a proxy to explain behavior in the shareholder oriented and behavior controlled governance structures.

Stewardship theory arose in response to the criticism regarding the generalizability of agency theory. It takes a psychological perspective towards governance and states that the actors

(managers) are stewards whose motives are aligned with the higher level objectives of their principles rather than their own, short term utility maximizing objectives (*Donaldson & Davis, 1991*). *Davis et al. (1997c)* relate this behavior to the higher levels of *Maslow's (1970)* hierarchy of needs. The steward differs from the agent in that the steward is trustworthy and will make decisions in the best interests of the organization, whereas an agent needs to be incentivized and/or controlled to do this (*Davis et al., 1997b*). In the present study we use stewardship theory as a proxy to explain behavior in the stakeholder oriented and outcome controlled governance structures.

Neither agency theory nor stewardship theory is more valid than the other, as each may be valid for different types of phenomena (*Davis et al., 1997b*). This study investigates some of these phenomena.

Both agency and stewardship theory define the relationship between actors, thus are task or project level theories. They are complemented by their organizational counterparts' shareholder and stakeholder theory respectively.

In the realm of projects, two of the three elements that constitute governance are project governance (governance of individual projects) and the governance of projects (governance of a group of projects such as a program or portfolio) (*Müller et al., 2015*). Both elements are aligned with the Project Management Institute (PMI) definitions and governance structures of projects, programs, and portfolios (*PMI, 2013a, 2013b, 2013c*). Papers on governance within the realm of projects have utilized to a large extent the same management theories used in corporate governance (*Biesenthal & Wilden, 2014*).

Quantitative studies on project governance and success were mainly done in the IT industry, where *Wang and Chen (2006)* used structural equation modelling to show that an equilibrium of explicit contracts, implicit contracts, reputation, and trust as governance mechanisms mediates the relationship between project hazards and project success. A study by *Müller and Martinsuo (2015)* showed the moderating role of project governance in the relationship between relational norms between project buyers and suppliers and their joint project's success. Thus, the number of quantitative studies is limited and industry specific. The cross sectional study by *Joslin and Müller (2015)* identified governance as a quasi-moderator, thus holding an indeterminable role in the methodology – success relationship. Complementarily, the qualitative case studies by *Bekker and Steyn (2008)* indicate an antecedent relationship between governance and project success. Taken together, the results show lots of variation in the role of governance in project success. This knowledge gap calls for further research.

Few publications have provided some sort of categorization system for governance and its context, such as the four governance paradigms described by *Müller (2009)*. This model builds on two dimensions. The first dimension addresses the corporate-wide governance orientation by using *Clarke's (2004)* continuum from shareholder to stakeholder orientation of a firm. The second dimension addresses the control behavior exercised by the parent organization over its project, by using *Ouchi's (1980)* and *Brown and Eisenhardt's (1997)* continuum from behavior control (i.e. following the process) to outcome control (i.e. meeting pre-established expectations). The operationalization of the paradigms was done by *Müller and Lecoivre (2014)* and allows a quantitative assessment of a project parent organization's governance position. This model was chosen because of its applicability to a wide range of projects, in an attempt to understand organizations' project governance approaches and the role of the two dimensions for project success over a wide spectrum of possible project types, industries and geographies.

Literature on corporate governance and corporate performance shows a relationship between governance and organizational success, such that weaker governance mechanisms have greater agency problems resulting in lower corporate performance (*Hart, 1995; Hirschey et al., 2009; John & Senbet, 1998; Ozkan, 2007*); greater shareholder rights have a positive impact on corporate performance (*Hirschey et al., 2009*); and independent boards lead to higher corporate performance (*Millstein & MacAvoy, 1998*). The assumption that governance timely precedes

organizational success can be transferred from the general management literature to the realm of projects. This follows the notions of *Biesenthal and Wilden (2014)*, as well as *Turner and Simister (2000)* who see project governance as important in ensuring successful project delivery, and the particular quantitative findings by *Wang and Chen (2006)* for governance of IT projects, and the broader findings by *Joslin and Müller (2015)*. Hence, it's possible to hypothesize:

Hypothesis 1. Project governance correlates with project success.

The correlation between corporate governance orientation (i.e. preference for shareholder or stakeholder oriented governance) and project success has not been assessed in the past. A shareholder-orientation of the firm is indicated when an organization prioritizes the maximization of shareholder wealth higher than the requirements of other stakeholders (*Clarke, 1998; Davis et al., 1997c*). Hence, when organizations take a more internal view of their *raison d'etre* (*Heblich Hirschey et al., 2009*). Definition of stakeholders vary. In this paper Freeman's (1984) view that stakeholders are those individuals or organizations that might affect the business objectives and anyone who might be effected by its realization can be adopted.

A stakeholder oriented organization is characterized by a more external view of their *raison d'etre* as an organization (*Heblich Hirschey et al., 2009*), which takes into account the various stakeholder groups and balances their particular requirements for the accomplishment of organizational objectives (*Ansoff, 1965; Clarke, 1998*). This is exemplified by the project management literature which historically emphasized the importance of stakeholders in and for project success (e.g. *Eskerod & Huemann, 2013 plus many others*). Thus it's possible to hypothesize:

H1.1. Stakeholder oriented governance of projects correlates positively with project success.

Similarly, the nature of the link between control orientation (behavior versus outcome) and project success is unclear from the literature. While the literature on project management maturity models (e.g. *Project Management Institute, OPM3®*, (*PMI, 2013c*)), and the literature on the governance of largescale investment projects e.g. *Klakegg et al. (2009)*, emphasize the importance of following processes for successful project implementation, other research shows a more diversified picture, such as that by *Crawford et al. (2008)* who showed the need for situational contingency of structures, or *Turner and Müller (2004)* showing that control through methodology must find the balance between being too process-focused (i.e. behavior control) or too *laissez-faire*, because both lead to project failure. All of these studies imply a correlation between control structure and success.

Given the general notion of the process orientation of project management and its maturity (*PMI, 2013c*), and the recent popularity of process-based approaches to project management, such as Agile/Scrum (*Schwaber, 2004*), it's possible to hypothesize:

H1.2. Behavior control in project governance correlates positively with project success.

Figure 1 shows the related research model with the two governance dimensions as on the left hand side and project success on the right.



Figure1. Research model

3. Research methodology

A survey design was chosen to collect quantitative data in a cross-sectional manner from a wide variety of individuals, in order to gain the widest coverage of the resulting theory.

3.1. Questionnaire development

Four sets of questions were included in the questionnaire were about 1) the last project; 2) governance paradigms and project success; 3) the respondents' demographic information. The governance paradigms were selected as they have been used successfully in several project governance related studies before and reflect the organization's governance positioning with regard to two continuums: (1) shareholder-stakeholder and (2) behavior–outcome. The project success dimensions were based on *Khan et al. (2013)*. Its five dimensions (project efficiency, organizational benefits, project impact, stakeholder satisfaction, and future potential), cover short- and long-term implications of project success. A five-point Likert scale was used with low values representing low levels of stakeholder orientation, outcome control, and success.

3.2. Data collection

We obtained 266 responses, of which 254 were usable for analysis. Responses came from 41 different countries. The average respondents' work experience was 22 years and the average project-related work experience was 15 years. An ANOVA test between the demographic regions showed no statistical differences ($p = 0.249$).

As for project information, approximately 48% of the projects were less than €1 million in cost. 96% of the projects were of either medium or high urgency. 42% were executed in matrix organizations and 21% in functional organizations.

3.3. Analysis methods

Data were normally distributed (skewness and kurtosis between of ± 2), thus eligible for the techniques used. Analysis was done in three steps:

1. Unrotated factor analysis on each of the three constructs (governance orientation, governance control, project success).
2. Varimax rotated factor analysis (principal component analysis) with eigenvalue of 1 was used to establish the factors representing each of the three constructs.
3. Regression analysis to test the correlation between the independent constructs (governance orientation, governance control) and the dependent construct (project success).

3.4. Validity and reliability

Content validity was achieved by using literature-based measurement dimensions. Construct validity was ensured quantitatively, through unrotated factor analyses. Convergent and discriminant validity were tested and achieved through item-to-item and item-to-total correlations above 0.3 and 0.5, respectively. Reliability can be assumed with all constructs showing Cronbach alpha values higher than 0.70.

4. Data analysis and results

Varimax rotated factor analysis was used to establish the three constructs. Here a KMO of 0.8 ($p < 0.001$) indicated the data's appropriateness for this analysis. All questionnaire items loaded on their respective factor and were of acceptable reliability (Cronbach alpha), see *Appendix A*.

4.1. Project success

The factor on project success comprises five sub-dimensions (project efficiency, organizational benefits, project impact, future potential, and stakeholder satisfaction). A second order factor analysis combined these sub-dimensions into a single factor for project success (KMO 0.930, $p < 0.001$) with high reliability (Cronbach's alpha 0.923).

4.2. Project governance

The questions on governance loaded on the two respective sub-dimensions (KMO 0.812, $p < 0.001$), which explained 53% of the variance in GOV orientation (shareholder–stakeholder) and GOV control (behavior–outcome). Both were reliable with Cronbach's of 0.743 and 0.802, respectively.

4.3. Correlation between project governance on project success

Appendix B shows the correlation matrix of the variables. Multi-variate regression analysis was done with project success as the dependent variable and GOV orientation (shareholder–stakeholder) and GOV control (behavior–outcome) as independent variables.

Appendix C shows the coefficient table. A significant model with an R-square and no issue with multicollinearity was obtained. The correlation between GOV orientation (shareholder–stakeholder) and project success supported *H1.1*. However GOV control (behavior–outcome) was not significantly correlated to project success at $p = 0.05$, which rejects *H1.2*.

Subsequently an exploratory analysis was done to analyze the nature of the relationship between GOV orientation and project success. The five dimensions of project success (project efficiency, organizational benefits, project impact, future potential, and stakeholder satisfaction) were regressed as dependent variables against GOV orientation as independent variable. The results showed that GOV orientation (shareholder–stakeholder) was positively and significantly correlated with all five success dimensions.

5. Conclusions

This study's results indicate the importance of understanding the governance orientation of the organization governing projects and the potential enabling effect of a stakeholder-orientation in project governance for project success. *Yazici (2009)* found that culture impacts project success; organizations that are more stakeholder-participative, cohesive, and have shared values and commitment are most likely to achieve project success.

Stakeholder-oriented organizations that have shared values suggest stewardship relationships are in place. However, this can only occur when the necessary situational factors and structures are present, including individuals with the appropriate psychological profiles (*Toivonen & Toivonen, 2014*). When there is a change of culture in the organization due to external pressures, for example, a push for short-term benefits, where management trust turns into excessive control will lead to agency tendencies (*Clases et al., 2003*). Determining the appropriate governance structures should take into consideration the implications resulting from agency and stewardship perspectives towards governance and the implications can be developed in the future.

Вопросы для размышления

1. В чем состоит цель исследования и научная проблема статьи? Прокомментируйте выбранную авторами методологию исследования.

2. Насколько, на Ваш взгляд, обоснованно выдвинуты гипотезы исследования? Прокомментируйте, были ли они подтверждены или опровергнуты, и почему. Сформулируйте собственную точку зрения на предложенные в статье гипотезы.

3. Какие инструменты статистического анализа были использованы в статье? С какой целью авторы использовали показатели p -value, альфа Кронбаха, мультиколлинеарность, R -квадрат и другие?

4. Насколько обоснованно, на Ваш взгляд, авторы статьи проецируют методологию исследования корпоративного управления на проектное (в контексте взаимосвязи с факторами успеха проектов)?

5. Какие теории менеджмента авторы используют для нахождения решения поставленной в статье научной проблемы, и почему? Обоснуйте ответ.

6. Прокомментируйте полученные в статье результаты. Достигнута ли цель исследования, и можно ли на основании полученных результатов разработать рекомендации для менеджеров и теоретиков проектного менеджмента?

Appendix A. Scale descriptives

Measure	N	Mean	Standard deviation	Range	Original number of dimensions	Scale reliability (alpha)	Skewness	Kurtosis
Governance								
Shareholder–stakeholder	246	2.87	4.05	4.46	2	0.741	0.419	–0.462
Behavior–outcome	246	2.98	4.75	4.51	2	0.802	–0.203	–0.617
Project success – dimensions (SA01 to SA05)	246	3.81	3.37	4.88	5	0.923	–0.720	0.552
SA01 Project efficiency	246	3.56	0.78	3.63	1	0.913	–0.471	–0.061
SA02 Organizational benefits	246	3.82	0.71	3.20	1	0.898	–0.563	0.062
SA03 Project impact	246	3.95	0.79	3.75	1	0.899	–0.985	1.192
SA04 Future potential	246	3.71	0.84	3.75	1	0.911	–0.743	0.372
SA05 Stakeholder satisfaction	246	4.01	0.73	3.50	1	0.906	–0.774	0.649

Appendix B. Correlation matrix

	Project success (5 combined dimensions) – DV	SA01 Project efficiency (Dimension 1) – DV	SA02 Organizational benefits (Dimension 2) – DV	SA03 Project impact (Dimension 3) – DV	SA04 Future potential (Dimension 4) – DV	SA05 Stakeholder satisfaction (Dimension 5) – DV	GOV control governance “behavior” → outcome orientation” IV	GOV corp GOV corporate Governance (shareholder → stakeholder) orientation IV
Project success (5 combined dimensions) – DV	1.000							
SA01 Project efficiency (Dimension 1) – DV	.845****	1.000						
SA02 Organizational benefits (Dimension 2) – DV	.902****	.689****	1.000					
SA03 Project impact (Dimension 3) – DV	.899****	.717****	.763****	1.000				
SA04 Future potential (Dimension 4) – DV	.861****	.627****	.778****	.696****	1.000			
SA05 Stakeholder satisfaction (Dimension 5) – DV	.873****	.680****	.716****	.755****	.676****	1.000		
GOV control governance “behavior” → outcome orientation” IV	.007	.006	.015	.015	-.011	-.003	1.000	
GOV corp GOV corporate Governance (shareholder → stakeholder) orientation IV	.250****	.237****	.236****	.204****	.258****	.162**	.000	1.000

*p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.005; ****p ≤ 0.001

Appendix C. Coefficients table

Coefficients										
Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	Correlations			Collinearity statistics	
	B	Std. Error	beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	5,115E-16	,062		,000	1000					
	,007	,062	,007	,111	,912	,007	,007	,007	1000	1000
	,250	,062	,250	4024	,000	,250	,250	,250	1000	1000

a. Dependent variable: Project success REGR factor score 1 for analysis 1