

ICT GOVERNANCE PRACTICES AND PROJECT SUCCESS

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ABSTRACT

Previous research reveals an increased organisational adoption of project and enterprise ICT governance practices to improve project results, yet ICT project outcome has continued to fall short of stakeholders' expectations. Hence justifying ICT investments in-view of current global economic outlook and conflicting priorities in organizations, will continue to be a laborious task unless this is addressed. This research focused on improving ICT project stakeholders' perception of the value return from ICT investment and projects through standard governance practices. Literature on the evolution of how ICT project stakeholder have assessed ICT project value and the influence of ICT governance and project standard practices adoption were explored. The result of survey data analysis showed a complementary relationship, hence a synergy if organizations would adopt and develop organizational capabilities for both project and ICT governance standards; to equal level of maturity. The results of this study also highlighted some levers, by which ICT professional can positively elevate project stakeholders' perception of the value return on ICT investments.

Keywords: Project governance, IT Project management, Project success

1. Introduction

Most projects fail (Marnewick, et al 2018). This disturbing trend has seen little improvement over the past decade and there is no sign that this trend is reversing. Much research has been done on the systems and processes of project management and it has come to the point where project managers have no excuse of knowing what to do to successfully complete projects. Perhaps the time has come to look outside of project management for a solution. Therefore, the objective and motivation for this paper is set out below.

Objective: To determine the levers by which project stakeholders assesses project outcome and ascertain if adoption of ICT and project governance standard practices can be employed to activate the levers in order to improve project outcome and stakeholders' perception.

Motivation: Business enterprise exist to create value for stakeholders, and any phenomena that militate against this critical objective of an ongoing concern portends risk to its continued existence. Stakeholder resources must be managed responsibly, and effective corporate governance is one way to ensure this (ISACA, 2012). Globally, stakeholder resources are increasingly being committed to projects and related investments. Gartner (2014) forecasting a \$3.8 trillion (USD) ICT spend by 2018, which is a 2.6% increase from the 2013. This spend will presumably deliver ICT solutions to organisations through implementing project activities, and the success (i.e. the value delivered by these investments) or the failure has major consequences for the world economy (Eloff et al., 2013).

ICT has become a business competitive enabling tool. It is one of the strategic asset that supports business operations, sustains, and fosters business growth (Weill & Ross, 2004; Williams, 2012).

Literature reveals that there is an increase in awareness of the value inherent in the implementation of best practices relating to corporate governance, ICT governance, and ICT project management. In spite of this, research shows poor organisational adherence to, and adoption of, good governance principles in project-related decisions, and there is also a general perception that ICT projects do not always meet stakeholder expectations, often returning little or no value for the investing organisation (Marnewick & Labuschagne, 2011; Peppard et al., 2007).

ICT investments are made through project activities and processes (Ward & Daniel, 2012; Chen, Nunamaker, Romano & Briggs, 2003) and lack of stakeholders' trust and confidence in funding projects could hamper organisations' access to this formidable tool of trade. Therefore, research targeted at improving ICT project results and stakeholder's confidence on its value will be a tremendous information resource for organisations; as knowledge in this area will foster continued stakeholder support for ICT investments.

A form of governance aspects is therefore proposed as a means, not to manage, but to guide and influence human behaviour in order to achieve a desired outcome.

2. Literature review

The purpose of this section is to review how project success is viewed by various stakeholders. This refers to how stakeholders assess project outcomes and what literature may shed light on in terms of governance aspects to achieve project success.

2.1 ICT Project Assessment Criteria by Stakeholder Group

Scholars have not yet reached consensus on the definition of project success, and it is clear that perceptions of success or failure are based on stakeholder views and assessments (Pinto et al., 2009; Bannerman, 2008; Jugdev, Müller, 2005). The outcomes of projects must be in resonance with stakeholder expectations in order for projects to be perceived as valuable or successful.

Assessing and addressing stakeholder expectations is, however, a complex exercise because stakeholders for any given project do not hold the same viewpoint on the subject (Lim & Mohamed, 1999; Ireland, 1992, Erasmus et al, 2014). Stakeholder perspectives of what success means also change as projects and products progress through their lifecycles. Bannerman (2008) addresses this complexity by grouping stakeholders using the stages of project and product lifecycles (i.e. investment phases), and assesses stakeholder expectations and criteria for measuring success at each stage. The model is depicted in Figure 1:

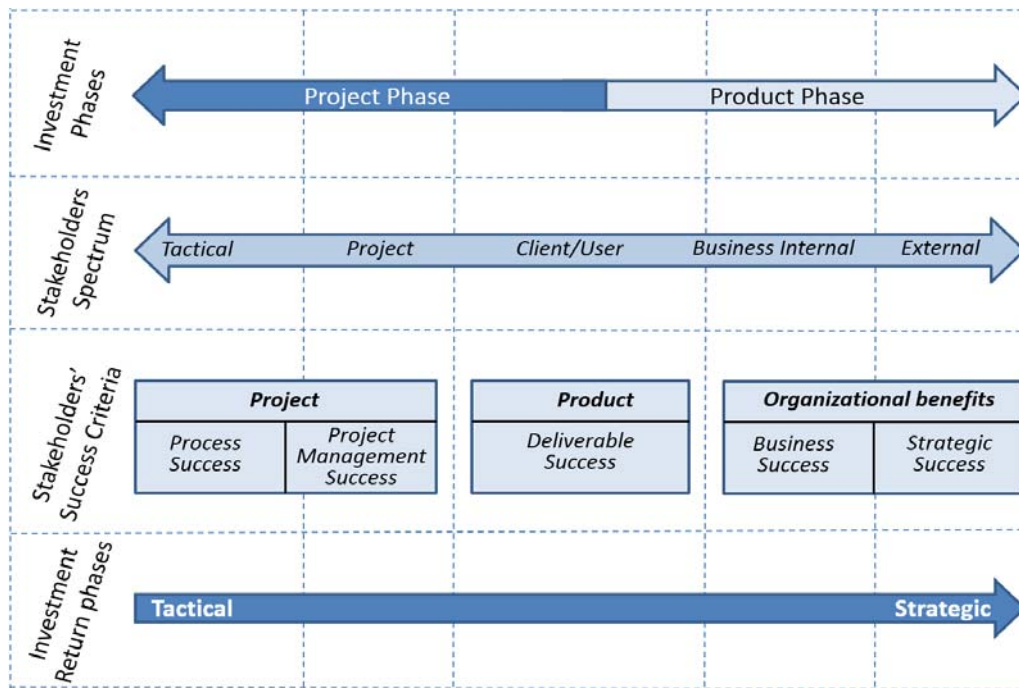


Figure 1:ICT project levels of success (Bannerman, 2008)

In this figure, Bannerman conveys the notion that project success is defined differently, depending on the viewpoint of the stakeholder. The implication is that a project may fail hopelessly in terms of the triple constraint yet provide value significant enough to the business or the customer to be accepted as successful in the end as a product.

This provides an approach to interpret project success on various levels where even a project failure in cost may not influence the fact that the product is delivered successfully. The converse may be true as well. The views from literature on how stakeholders view project success was used as a basis for the questionnaire.

2.2 ICT Governance, ICT Project Governance and Project Success

Published literature and research work that attempts to associate and interrelate the practices of ICT governance, project governance, project management and project success were reviewed. Farzana and Ashly (2013) study results affirmed that project management has a positive impact on project success as do Munns & Bjeirmi, 1996; Bryde, 2008; Mir & Pinnington, 2014). Dev, Merlin and Yussel (2009) performed a quantitative study of ICT project management and ICT project governance and discovered a close relationship between project governance and project management processes. They also noted that the presence of good project management practices does not mean good project governance is adhered to.

Rodríguez and Juiz (2014) link the implementation/adoption of good ICT governance practices with contributing factors that enable implementation/adherence to good project governance practices. These included effective stakeholder management and formalised project management approaches. Their research relates real cases where project, programme and portfolio governance have been expressed as subsets of ICT governance frameworks. They later asserted that, it is difficult to consider governing IT projects, programmes and portfolios outside of the general scope of ICT governance.

References to ICT governance in this research are based on COBIT 5, the ITGI framework and the ISO/IEC 38500 standard. The COBIT 5 process model stated in APO05 – Manage Portfolio, and BAI01 – Manage Programs and Projects, directly links ICT governance as an enabler of portfolio and project management within organisations.

By way of summary, ICT governance standards and practices work in tandem with Project Governance standards and practices. These mechanisms have specific relations in which they interact with one another. These complex relationships are described through the literature and can be summarised here in the following figure:

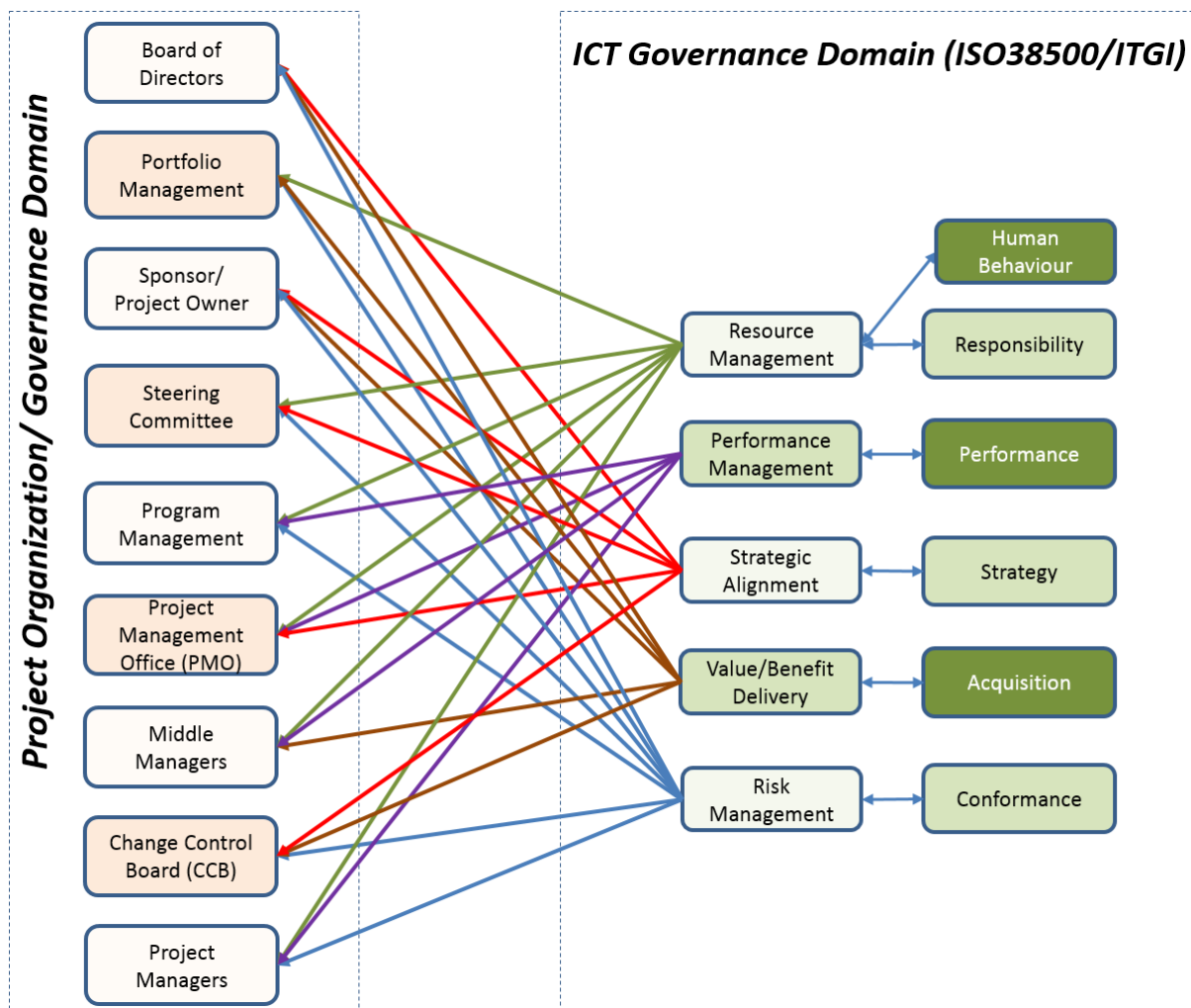


Figure 2: Theoretical construct – mapping project governance entities and ICT governance practices

These mechanisms need to be related to project success in order to establish their influence using 2 propositions and 2 Hypotheses which will be discussed in the next section. In conclusion, the general view of scholars is that standard practices and governance principles provide good control mechanisms for the management of enterprise ICT investments and project environments in order to foster strategic alignment and ensure value delivery (ISACA, 2009; Weill & Ross, 2004; Williams, 2012; Too et al., 2014). Most organisations have also come to realise the value inherent in the adoption of these standard governance practices; however, non-adherence to standard practices still poses a great challenge for most organisations (Marnewick & Labuschagne, 2011).

There is yet little literature or published research work that focussed on understanding the relationships of the standard governance practices of ICT and project management. What is important is to note that they relate to improving project outcomes and stakeholders perception of ICT projects and investment.

3. Research Design and Methodology

The quantitative method was best suited to the topic under study, hence a survey strategy, with a Likert-scale was employed for this research. Closed-ended questionnaire was used as the measuring instrument to enhance the quality of data with structured responses. Surveys/questionnaires elicit broad but thorough considerations of phenomena. The current population of project stakeholders is incalculable. Therefore, a calculated sample size is inscrutable. A convenience sample approach was used to obtain 121 responses from IT managers and project professionals. The questionnaire was distributed electronically, therefore the total number of people approached is unknown.

3.1 Data Collection and Analysis

The questionnaire was designed to collect data that assisted to analyse the following research questions:

1. What parameters or criteria do ICT investors/stakeholders use or identify as important for evaluating/assessing project outcomes?
2. What degree of influence do ICT and project governance standards practices have on the criteria stakeholders use to assess project outcomes?

Data collected from the survey was used to rank the variables/criteria in order of importance to stakeholder ICT project outcomes assessments, subsequent to which the relationships between the parameters of the standard practices and project outcomes assessment criteria were explored.

3.2 Propositions and hypothesis

To explore the relationships between the interacting components of project outcomes assessment criteria and standard practices, the following headline proposition were therefore forwarded:

- ICT project outcomes and stakeholder perceptions are improved when:
 - the project process is successful; project management is successful;
 - the product is successful; the project contributes to business success and organisational strategic success.

These dimensions of success are highlighted through the adoption of standard practices of ICT governance, project management governance and project management; i.e. process success, project management success, product success, business success, and strategic success are enhanced with the adoption of standard ICT and project governance practices.

The headline proposition was broken down further into sub-propositions to assist in the analysis of extant relationships, and to enable testing of the influence of the adoption and implementation of governance and management standard practices on project outcomes assessment criteria. The propositions and their derived testing hypotheses are summarised as follows:

Proposition 1: ICT projects are deemed successful by stakeholders when:

- The project process is successful; Project management is successful;
- The project product is successful; The business is successful, by the virtue of executing the project; and
- The organisation experiences strategic success from project outcomes

The following hypotheses were formulated for testing the proposition.

Hypothesis 1A (H_{1A}):

Successful ICT project processes and project management enhances better ICT project outcomes and stakeholder perceptions of the value returned from ICT investments; i.e. ICT project process and project management successes are strongly correlated with ICT project outcomes.

Hypothesis 1B (H_{1B}):

ICT investments and projects are deemed successful if their outcomes enable an organisation with new or enhanced capabilities which deliver value and extend both the business and strategic goals of the investing organisation; i.e. stakeholder ICT project outcomes perceptions and organisational benefits are strongly correlated.

Proposition 2: The adoption of standard ICT governance and project governance practices positively enables ICT project outcomes assessment criteria; i.e. process success, project management success, product success, business success and strategic success.

Hypothesis 2A: (H_{2A})

- The adoption of ICT governance enables:
- Project process success; Project management success;
- Project product /success; Business success, by the virtue of executing the project; and
- Organisational strategic success by virtue of executing the project.

Hypothesis 2B: (H_{2B})

- The adoption of project governance enables:
- Project process success; Project management success;
- Project product success; Business successful, by the virtue of executing the project; and Organisational strategic success, by virtue of executing the project.

Hypotheses H_{1A} and H_{1B} postulate a relationship between project assessment criteria across project/product lifecycle and stakeholders’ perceptions of project outcomes; while hypotheses H_{2A} and H_{2B} postulate a relationship between project assessment criteria and ICT standard governance practices. Graphically, these hypotheses can be rendered in this manner in order to determine their impact on “project success”:

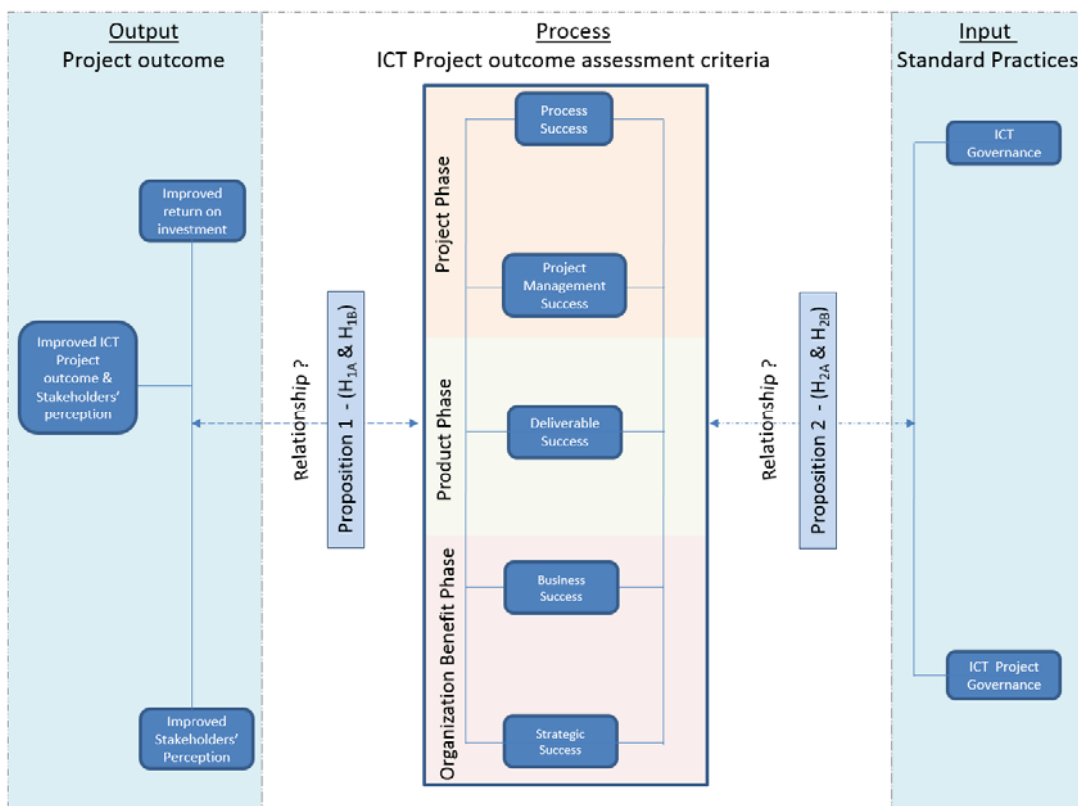


Figure 3: Theoretical systems view of the relationships between project inputs (standard practices), processes (project outcomes assessment criteria) and outputs (improved project outcomes and stakeholder perceptions)

4. General Result Discussion

The following section analyses some of the results obtained and attempts to interpret and derive a model for understanding stakeholder perceptions in the context of project success.

4.1 Analysis on Project Outcomes Assessment Criteria

The first group of study responses related to questions concerning the importance of various project outcomes assessment criteria on the way stakeholders measured project success in organisations. This was targeted to address research question 1. The feedback was statistically analysed in order to understand the degree of importance of the assessment criteria on ICT project outcomes.

The mean value of the grouped variables (factors) was extracted using computerised statistical software IBM SPSS and presented in Table 1 below.

Factor	Assessment Criteria Group/Factor Labels	Group Mean
Factor 4	Project management importance to ICT project outcomes assessment.	5.00
Factor 5	Business success importance to ICT project outcomes assessment.	5.00
Factor 2	Strategic success importance to ICT project outcomes assessment.	4.75
Factor 1	Process success importance to ICT project outcomes assessment.	4.25
Factor 3	Product success importance to ICT project outcomes assessment.	4.00

Table 1: Stakeholder views on project outcomes in organisations

The closer to 5 was the returned mean value, therefore, the greater was the number of respondents that deemed the criteria as “very important”. This result clearly indicated that all criteria were important to how stakeholders assessed ICT project outcomes. Also important to note was that project management success was one of the top-ranking criteria, which supported the reality that the dimension of quadruple constraints (budget, schedule, quality and scope) was still a strong consideration when assessing project success or failure. These criteria, along with the criteria for business success, measured how well projects were delivered in the immediate to short term; although other futuristic dimensions equally play an important role.

The second group of responses dealt with questions related to how organisations had performed to each of the project outcomes assessment criteria. This addresses research question 2. The mean value of the grouped variables (factors) was extracted and presented in Table 2 below.

Factor	Assessment Criteria Group/Factor Labels	Group Mean
Factor 3	Organisational performance in delivering on product success.	3.00
Factor 4	Organisational performance in delivering on project management success.	3.00
Factor 1	Organisational performance in delivering on process success.	3.00
Factor 2	Organisational performance in delivering on strategic and business success.	2.71

Table 2: Perceptions of organisational performance in project success criteria

The study results indicated that the influence of organisational performance on the criteria stakeholders used in measuring the outcomes of ICT projects ranged from average to poor. Of interest to note was that delivery on strategic success and business success ranked poorly, which indicated that ICT projects had made little contribution to organisational strategic and business success. This result supported the phenomenon, observed by Marnewick and Labuschagne (2011) that a general perception that ICT projects did not always meet stakeholder expectations, and often returned little or no value to investing organisations.

The third group of responses related to questions that examined whether or not adherence to project governance practices in organisations elicited project outcomes assessment criteria success. This was aimed to address research question 2 as well. The project outcomes assessment criteria ranking results in Table 3 indicated that respondents were of the opinion that ICT governance standard practices enabled organisations to deliver on the various criteria stakeholders used in measuring the outcomes of ICT projects to a moderate or large extent.

Factor	Assessment Criteria Group/Factor Label	Group Mean
Factor 1	ICT governance practices promote strategic success.	4.0
Factor 6	ICT governance practices promote business success.	4.0
Factor 3	ICT governance practices promote product success	3.75
Factor 2	ICT governance practices promote process success.	3.57

Factor	Assessment Criteria Group/Factor Label	Group Mean
Factor 4	ICT governance practices promote project management success.	3.25

Table 3: Perceptions on the effect of adherence to project governance principles on project success

It also indicated that ICT governance enabled organisations to deliver on attaining strategic and business success.

The study results in Table 4 indicated that respondents opined that project governance standard practices enabled organisations to deliver on the various criteria stakeholders used in measuring the outcomes of ICT projects from a moderate to a large extent.

Factor	Assessment Criteria Group/Factor Label	Group Mean
Factor 2	Project governance practices promote process success	4.00
Factor 4	Project governance practices promote project management success.	4.00
Factor 3	Project governance practices promote product success.	3.75
Factor 1	Project governance practices promote strategic success.	3.50
Factor 5	Project governance practices promote business success.	3.33

Table 4: Perceived influence of project governance practices on project success

Project governance was considered to enable organisations to deliver on attaining process and project management success to a large extent.

4.2 Towards a model for stakeholder perceptions and project success

Recall the main research proposition. ICT project outcomes and stakeholder perceptions are improved if: the project process is successful; project management is successful; the product is successful; the project contributes to business and organisational strategic success; and the dimensions of success are enhanced with the adoption of standard practices of ICT governance, project management governance and project management. The overall results of the research, is summarised in a model in figure:

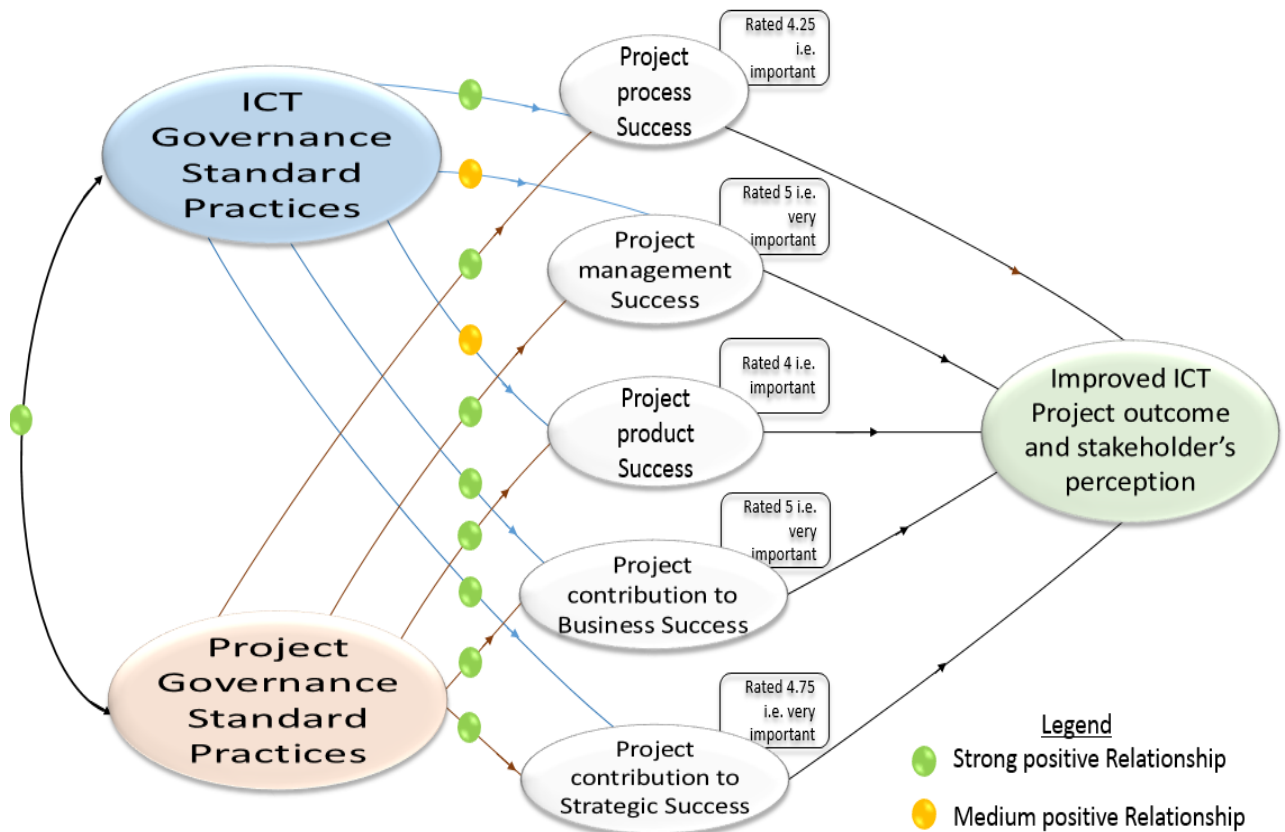


Figure 4: Proposed model of the relationships between standard practices and ICT project outcomes stakeholder assessment criteria

Aligned ICT governance and Project governance practices have a notable influence in the various forms of project success and in turn influences the overall ICT project outcome and stakeholder perception of project outcomes. The research propositions are summarised to provide further insight.

Research proposition:

Proposition 1: ICT projects are deemed successful by stakeholders if the following apply:

- The project process is successful;
- The project management is successful;
- The project product is successful;
- The business is successful by the virtue of executing the project;
- The organisation experiences strategic success by virtue of executing the project; i.e. improving the success of ICT project outcomes assessment criteria translates to ICT project success and improved stakeholder perceptions.

Generally, respondents opined that the listed criteria were important to the way in which ICT project successes were assessed, which was supported by the data analysis results as conducted for this study. The phenomena relating to poor stakeholder perceptions and failed expectations regarding the value of ICT projects, observed by Marnewick and Labuschagne (2011), was justified by the outcome of the data analysis. The general poor performance of organisations to the listed assessment criteria influenced overall stakeholder perceptions of ICT project outcomes; which result validated Hypotheses 1A and 1B of this study.

Proposition 2: The adoption of standards enables ICT project outcomes assessment criteria: The adoption of standard ICT and project governance practices enhances ICT stakeholder project outcomes assessment criteria; i.e. process success, project management success, product success, business success, and strategic success.

The study results as presented also indicated that ICT governance enabled organisations to deliver ICT projects that promoted both strategic and business success largely. Other project outcomes assessment criteria (i.e. product success; process success; and project management success) to a moderate extent, which supported the views of various scholars, such as Weill and Ross (2004), Calder (2008), ISACA (2009), Williams (2012), and Too and Weaver. (2014), who maintain that effective ICT governance practices elicit ICT and business strategic alignment. This result sustained the validity of Hypothesis 2A, which is that ICT governance adoption promotes:

- Project process success;
- Project management success;
- Project product success;
- Business success by the virtue of executing the project; and
- Organisational strategic success by virtue of executing the project.

The study results also indicated that project governance practices enabled organisation to deliver on project management and process success to a large extent, which supports the views of various scholars, such as Müller (2009), Rodríguez and Juiz (2014), Munns and Bjeirmi (1996), Bryde (2008), as well as Mir and Pinnington (2014), who maintain that project, programme and portfolio governance enhances and ensures effective project management and processes.

This result validated Hypothesis 2B, which is that ICT project governance practices adoption enables:

- Project process success
- Project management success;
- Project product success;
- Business success by the virtue of executing the project; and
- Organisational strategic success by virtue of executing the project.

The relationship between organisational standard practices maturity and how they influenced ICT project outcomes assessment criteria delivery was explored, which was to further check the validity of Hypotheses 2A and 2B. The results presented focused on the relationships between the organisational maturity level of standard practices and each of the stakeholder ICT project outcomes assessment criteria.

The correlation analysis results corroborated the existence of positive relationships between organisational standard practices maturity and all ICT stakeholder project outcomes assessment criteria. This result validated Hypotheses 2A and 2B, which are that project and ICT governance standard practices adoption success on all five levels as discussed.

An interesting observation of a strong correlation between the organisational maturity levels of standard practices of project and ICT governance, where a strong overlap was also indicated, which meant that these standard practices were complementary. Organisations will derive better results if both sets of standard practices are adopted and strengthened with the same level of attention from management. This result corroborates the views of Marnewick and Labuschagne (2011) and Bernroider et al. (2011), who maintain that ICT projects should, by extension, be guided by ICT governance.

5. Key Findings and Recommendations

Business and strategic successes are critical ICT project outcomes assessment criteria for both internal and external business stakeholders, and are futuristic measures that are key to organisational sustainability and investor confidence. Hence, the assessment of ICT projects from the dimensions of business and strategic success, is deemed very important for stakeholders. The study results, however, indicated that organisations failed to deliver on these criteria, which could be because of the tendency for project stakeholders at tactical, project and user/client phases to be short-term focused.

Recommendation: ICT project stakeholders at various levels must be managed in such a way as to motivate them to be more focused on delivering ICT projects in order to derive both short-term and future value from ICT investments.

ICT governance and project standard practices were found to be very complementary, as shown by the study analysis results, and a great overlap was found to exist between these two standard practices. The complementary nature of this relationship meant that adopting one of the standards without equally strengthening the other could lead to adoption paralysis; i.e. a situation where the standard, though adopted, does not translate to or guide management decisions and principles.

Recommendation: To improve organisational performance for the various project outcomes assessment criteria, the adoption of, and adherence to, both standards must gain equal focus and be equally strengthened.

Conclusion: This study established the fact that great opportunities and synergies exist in ensuring that both project and ICT governance standards are entrenched within organisations. The adoption of one without the other, however, will not deliver desired results, since the two standard practices are complementary, and should be operated in tandem.

Future studies are required to determine which specific ICT governance practise are required to shore up performance of ICT project. The literature already exists to inform project managers what the key success factors for projects are. It is therefore the researcher's view that a multi-disciplinary approach is required to inject new knowledge in the project management discipline in order to achieve elusive project success.

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