How Do We Know If Our Project is Successful? – A Call to Reconceptualize Project Success

Completed Research

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Abstract

The concept of project success in Information Systems and Project Management research has been one of the key concepts in the field. However, after years of research, the field agrees only that the concept of success is critical to the field, and there is no agreed upon definition or operationalization. This paper undertakes a critical review of the literature related to project success in the IS and project management fields finding that each of the dominant perspectives has philosophical and practical inadequacies. It then proposes a set of propositions for developing a new conceptualization of project success.

Keywords

Project Success, IS Success, Morphogenetic Social Theory, Project Management

Introduction

What is project success? Despite years of examination of the concept, the literature has not produced a consensus definition of success and project success remains in conceptual ambiguity (Baccarini 1999; de Bakker et al. 2010; Gable et al. 2008; Ika 2009; Pinto and Slevin 1988; Rai et al. 2002). The only things that the literature seems to agree upon is that the concept of success is critical to IS research (Gable et al. 2008; Rai et al. 2002; Sabherwal et al. 2006) and that there is no agreed upon definition (Ika 2009; Rai et al. 2002) or ways to measure or assess the concept (Gable et al. 2008).

Different conceptualizations of success result in different perspectives of the status of a project. This kind of conceptual indecision can have significant impacts on both researcher and practitioners. For a researcher to consider a project a success when it is actually a failure will result in incorrect analysis of situations and drawing the wrong conclusions about success factors for projects, for example. For practitioners, this ambiguity can result misunderstanding of a situation and selection of the wrong approaches to managing their projects.

This paper attempts to begin a process of resolving this confusion. First, it performs a critical review of the various attempts to conceptualize project success from the Information Systems (IS) and Project Management literature. It finds various weaknesses in the existing conceptualizations, either in philosophical ability to examine situations or to properly classify empirical results as either as successes or failures. After doing so, it suggests five premises that a successful conceptualization must achieve.

Existing Conceptualizations of Project Success

The literature for this review was gathered following the guidance of Webster and Watson (2002). For this review, we sought to gather articles in both the project management and IS literature that conceptualized. We implemented Webster and Watson’s recommendations by beginning with the lists of articles cited in the review articles by Ika (2009) and Jugdev and Muller (2005). This gave us a good basis in the project management literature. We added additional articles by examining the papers referenced by those papers. We also performed two separate searches in Google Scholar. One for “Success” in the title, the other for “evaluation” in the title selecting those articles that seemed to deal with conceptualization of success or
evaluation criteria. For these searches we looked in the major project management journals: “Project Management Journal”, “International Journal of Project Management” and “International Journal of Information Technology Project Management” which are the major journals in the project management field. For the IS field, we searched in the journals provided by both the AIS senior scholars and the Academic Journal Guide produced by the Association for Business Schools (Cremer et al. 2015). These overlapping lists provide a large representative sample of the IS literature. Additionally, textbooks on project management were consulted for their treatment of project management success.

We then developed a classification of the different ways in which project success is conceptualized. This classification is an extension of that proposed by Ika (2009) and is summarized in table 1. Based on our analysis, we identified three broad classifications of approaches. Our labels signify the predominant approach to the conceptualization of success that distinguishes each category: the objectivist conceptualization, the subjectivist conceptualization and the non-representational conceptualization. The objectivist conceptualization has three sub-categories: adherence to planning, product success and contingent/situational conceptualizations. Below we discuss each of these different conceptualizations of project success.

**Objectivist Approaches**

The objectivist approaches have in common a view of success as an intrinsic characteristic of the project that can be evaluated by a set of objective success criteria. As the project is executed, this characteristic is developed and at the point of evaluation, may be discerned by the use of objective criteria which will identify, independent of the observer, whether the project was a success or failure. The criteria vary based on the approach but ontologically, they all view success as an objective characteristic of the project. Epistemologically, they hold that success is something that is available to empirical observation and we can, with proper refinement, have a clear view of it. Thus, by evaluating the criteria held to determine success based on the project characteristics, we can determine whether the project is successful. As we look at the three approaches illustrated in table 1, we see that while they hold this metaphysical position in common, they grow increasingly diverse in terms of the criteria used, moving from a “one size fits all” conceptualization of project management success to an “each project has different criteria” approach of the situational approaches.

The first objectivist approach, adherence to planning (ATP) is the received view of project success: that of project management success or the so-called “iron triangle”. If a project meets the criteria of being completed on time, on budget, and meeting the requirements, it is considered successful. The second approach, product success, evaluates the project in terms of the success of the product or service as implemented. Examples include the Delone and McLean IS Success Model (DeLone and McLean 1992; Delone and McLean 2003) and the Slevin and Pinto (1986) Project Implementation Profile. Instead of focusing strictly on the project performance, the emphasis here is on the “net benefits” of the project. Did the benefits provided by the project exceed the cost and if so, did they do so by a sufficient quantity to be considered a success? Often assessed by means of cost-benefit analysis, this approach is widely used for projects in which existing processes or products are to be improved. The third approach, the situational or contingent approach eschews an attempt to establish a universal set of success criteria for all projects. In this approach criteria that are specific to the project itself are identified and assessed. Success is viewed as multi-dimensional construct in which criteria change based on such factors as the time of evaluation and
### How Do We Know If Our Project is Successful?

<table>
<thead>
<tr>
<th>Approach</th>
<th>Objectivist</th>
<th>Subjectivist</th>
<th>Non-representational</th>
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<tr>
<td>Concept</td>
<td>Objective characteristic of the project</td>
<td>Politically determined social construction</td>
<td>Relational Effect of a Network of Actants, the result of an &quot;agential cut&quot;</td>
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<td>Sub-category</td>
<td>Adherence to Planning</td>
<td>Product Success</td>
<td>Contingent / Situational</td>
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<td>Criteria</td>
<td>Adherence to Planning</td>
<td>“Net Benefits”</td>
<td>Criteria varies on project characteristics and environment</td>
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<td>Methodological</td>
<td>Compare to planning</td>
<td>Cost-Benefit Analysis</td>
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<td>Approach</td>
<td>Multiple</td>
<td>Analysis of Agential interactions</td>
<td>Description of the interactions that lead to the description of the project/IS as a success or failure</td>
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<td>Issues</td>
<td>One size fits all</td>
<td>One size fits all</td>
<td>Agential focus</td>
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<td>Not determinative of success</td>
<td>Can't determine until after benefits realized</td>
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Table 1: Summary of the Various Approaches to Conceptualizing Success
the technological nature of the project (Shenhar et al. 2001; Shenhar and Levy 1997). It often represents an integration of the other two objectivist approaches (Bannerman and Thorogood 2012). Project Management International in the 6th of their PMBOK Guide describes a contingent objectivist measure of success. They advocate that a project manager should work with stakeholders to determine what success looks like for this project and how it will be measured (Project.Management.Institute 2017, p. 34).

**Empirical Assessment.** The use of ATP has been shown to be inadequate to assess project success. A number of projects have been recognized to have violated these criteria and have been considered successes instead of failures and vice versa (Pinto and Slevin 1988). For example, Ika (2009) cites Shenhar, Dvir, Guth, Lechler, Panatakul, and Poli, (2005) in reference to the second generation of the Ford Taurus car. This project was completed on time in 1995 but was not considered to be successful in the marketplace. There are also projects that could be considered failed projects in terms of ATP but were considered successful: The Thames Barrier, the Fulmar, the Concorde (Munns and Bjeirmi 1996), North Sea Oil projects (de Wit 1988), the Sydney Opera House (Lim and Mohamed 1999), and the first generation of the Ford Taurus car (Shenhar et al. 2005).

Similarly, product success has also had its issues. Cost-benefit analysis focuses only on “hard” benefits, those dealing with money which makes them easy to compute. However, benefits are often qualitative or intangible and thus are not susceptible to CBA analysis (Symons 1991). Larson, et al. (2011) has indicated that this kind of analysis works well for mandatory and operational projects but strategic projects, those focused on preparing the company for the future, can’t be evaluated on financial terms until well into the future when it is too late.

The situational approach is also problematic. While this conceptualization is an advance over those of project management success and product success in that it incorporates both of those views and adds the component of time to the analysis, it does not acknowledge the social and political effects on evaluating success. Political factors could result in a distortion of the reading of these objective factors.

In summary, the objectivist approaches are inadequate in that they assume that all stakeholders will agree on the same set of success criteria which they often don’t. They also do not consider political or process issues that may result in varying assessments of the project.

**Subjectivist Approaches**

While the objectivist views of success were founded in the characteristics of the project and/or the environment, the subjectivist approach views success as being something wholly extrinsic to the project and founded in the socially constructed opinions of the stakeholders and subject to a dialogic and political process.

Many different approaches have been taken to assess success in subjective terms. Fincham (2002) views success and failure not as polar end points but rather themes in a set of narratives about projects. These narratives are used to make sense of the events surrounding a project and can be used to implicate, absolve, credit or discredit participants and approaches so as to create the established organizational knowledge about the project. Myers (1995) suggests that dialectical hermeneutics be used as an approach to examine IS implementation. Based in in the critical hermeneutics of Gadamer and Ricoeur, in this view, the organization is understood as a “text analogue.” The aim of the analysis is to iterate from a theory of the implementation to the data and back again until the motives and actions of the participants make sense. In this manner, we understand how the situation came to be in all of its contradictions and unintended results. By using this approach, Myers argues that the issues related to trying to assess success and failure based on objective categories are resolved and that allowance is made for changes in the status over time. Wilson and Howcroft (2005) argue that existing approaches to the evaluation of technology follow the assumption of rationality in the process. This assumption ignores the fact that the evaluation of technology takes place with a socio-political context. Applying a Social Shaping of Technology approach to a case study of an implementation of a system, they saw that evaluation is in fact not an objective process but rather a politically laden interaction of relevant social groups. Evaluations are in reality efforts by one group to establish their narrative of the project as the “legitimate” version of events surrounding the project.

From a subjectivist standpoint, the methods of evaluation are not objective attempts to measure the project but rather are tools to gain support and move their narrative toward acceptance by the organization. Activities such as cost-benefit analysis and other seemingly neutral methods are used to legitimize their
narratives and enroll supporters and marginalize those who are opposed to their position (Wilson and Howcraft 2005). These methods may appear to be sound or flawed based on the point of view of the participants (Symons 1991).

**Empirical Evaluation.** The subjectivist views as expressed by Myers (1995), Fincham (2002), and Wilson and Howcraft (2005), focus on analyzing the actions of the social agencies, but they tend to deprecate or ignore the effects of existing social structures. They largely focus on the actions of people without regard to the surrounding environment or for the effects of the technological artifact. Fincham (2002)’s analysis, for example, focuses on the people interaction with the development project being portrayed as an issue around which the different actors told stories but which did not play a role in the interaction which created those stories. While there was some discussion of the culture of evaluation, it is couched in the idea of narrative rather than of culture. For Fincham, everything is a narrative.

Additionally, what is missing in these approaches is a whole series of macro- and meso- concepts that are linked to ontology as described by Stones (2001). These concepts to which Stones refers are concepts that allow us to categorize and analyze the empirical data. The subjectivist approaches reviewed so far, seems to lack these as portrayed in the articles referenced. They seem only to sensitize us to the concepts of narrative or hermeneutics or interacting agencies but do not provide for us a mechanism and mid-range concepts by and with which to structure the analysis of the situation.

**Non-Representational Approaches**

Recently, Cecez-Kecmanovic, Kautz and Abrashall (2014) have suggested another approach to conceptualizing success based on the concepts of socio-materiality. The socio-material perspective on IS success is, as they put it, a *non-representational* approach. The previous conceptualizations discussed attempt to provide a representation of the state of the project as a success or a failure. The socio-material view, rather than attempting to discern the essential nature of things, focuses on the processes of how they came to be seen as particular things with properties and boundaries. Thus, it does not attempt to provide a representation of success or failure but rather attempts to describe the interactions of things that arrived at the current state.

Dispensing with such concepts as structure and agency, they argue that the world is composed of networks of actants. In this relational ontology, the actants, humans, technologies and anything else, are all considered level things that have no properties or boundaries in and of themselves. These are gained through the socio-material interactions (or *intra-actions*, as they, following Barad (2003), put it) that form them. Their properties are *relational effects*. These relational effects are, as they say quoting Law, “outcomes rather than explanatory resources.” (ibid, p. 566). Thus for them things are “dynamic configurations of actors engaged in and performed by socio-material practices.” (ibid, p. 566). These configurations are constantly shifting and changing, networks are constantly being reconfigured so that “things” are in a constant state of flux and thus are *indeterminate*. The appearance of essential characteristics is said to be found in the notion of the *agential cut*, a temporary local stabilization performed by other actors that temporarily makes the objects perceived to be stable and real. In other words, what reality is to us, is our performance in stabilizing a network that creates what we call reality. It is only “our” reality and thus local to us and not generalizable to the world at large and not necessary the same for others as “their” reality. Therefore, IS success and indeed the idea of the information system itself are agential cuts of the swirling intra-action of networks in the world. They are created by those performing the assessment and thus “have no independent existence outside of those relations and actor-networks” (ibid, p. 567). Therefore, different interactions will enact different networks which will create different realities in which the notion of success or failure will be different and indeed the conceptualization of the information system will be different.

**Empirical Evaluation.** Within this view there is no ability to explain phenomena thus rendering it problematic for research purposes. In fact, it seems that they specifically eschew explanation. It holds that there are multiple realities which are equally ultimate and therefore multiple competing realities of the IS, success and failure (ibid, p. 582). Examining each different reality would yield different analyses each of which is only temporary and local and which could be contradictory. In fact, each explanation itself is an agential cut and depending upon the network that performs it, could be different and contradictory explanations. Given each of these different realities and explanations, we have no criteria for selection between them. Existing in a leveled reality of equal things, any criteria that could be established would
simply be an agential cut performed by the network that created it and therefore not to be privileged about that made by any other network. There again is therefore no possibility of developing an explanation.

**Summary of the Literature**

In summary, there are significant problems in the existing views. The objectivist approaches all encounter difficulties in dealing with the social and political aspects of evaluation of a project. In general, they assume that the characteristics of the project determine success or failure, they don’t account for political or social effects on the determination of success. The subjectivist views, while handling the social and political impacts lack the tools and methodology to make an adequate explanation. Finally, the non-representational view lacks the capability to explain, predict or prescribe. It is therefore also problematic for the assessment of success.

Can any of these views be rehabilitated so as to be adequate? Various proposals have been made to improve ATP by adding additional criteria such as customer satisfaction (Pinto and Slevin 1988), however adding additional criteria only moves it in the direction of the situational conceptualization. For the project success view, Seddon, Gable, Saberwal and associates have added additional considerations which allows more of the consideration of the various stakeholders also moving it in the direction of the situational view. The situational view, itself, like all the objectivist views, because it holds that success is an intrinsic characteristic of a project cannot resolve the problem of the social and political aspects of the evaluation process which are external to the project. The socio-material approach’s inability to explain, predict, or prescribe are due to it meta-theoretical base in agential realism (Leonardi 2013). Leonardi made a proposal to repair it by substitution of critical realism for agential realism as the meta-theoretical underlayment which resolves the problem but makes the socio-material approach shade into a subjective approach and would be subsumed into the approach advocated in this paper.

**Reconceptualizing Project Success**

In the review just completed, we have seen that for the most part, success has been seen as an objective, easily measured characteristic of a project mostly adherence to planning, or success of the ultimate product or when conforming to a situationally determined set of criteria. This conceptualization has turned to be problematic when applied in practice. A minority viewpoint as been that it is a subjective construction. However, these subjective approaches are underdeveloped and lack the tools and concepts need to develop a good conceptualization of success. What is clear is that we need to become more engaged with the social and political aspects of projects and how success is determined in organizations. In this section, we want to discuss some potential directions to address the conceptualization of project success. In order to move forward on this important topic, we must come to some resolution to the conceptual chaos that currently envelops the notion or project success. Until we do so, we will have continuing issues in making sense of studies in which this notion is critical.

As we saw in examining the subjective approaches, this conceptualization may take many forms. However, we suggest that any theorizing about project success needs to consider the following five premises:

1) Project Success is not a natural, neutral, easily accessible characteristic of projects. The failure of the objective approaches to provide a proper assessment leads to the rejection of the idea that success is easily available and measurable. Even in the contingent approaches, the objective approaches fail in that the assessment criteria may not be identical across the organization or may change in different parts of the organization over the course of a project or over time or based on changes in the players in the organization. Social actions play a role in developing the status of the project.

2) Project Success is a subjective but real representation made of the project and its status. In contrast to the socio-material approach which seeks to make the determination of success simply a local construction held by a particular actor or a set of actors, it would seem that the project success is a real determination about the status of the project. It may be a subjective construction but that construction has a real existence that is trans-subjective.

3) Project Success is the result of a power laden subjectively executed process. The process of determining the status of a project is as the subjective approaches suggest a dialectical interaction
of individuals and social agencies. In this process, the one with the best negotiating position will be the one that ultimately has the largest amount of influence on what the organization believes about the status of the project. This can be as the result of a direct negotiation about the status of the project, of determining the criteria to be used or selecting and interpreting the data to be considered.

4) Project Success assessments vary based on who is doing the assessment, when the assessment is done and what the environment is in which the assessment is being done. The same project when viewed by different sets of actors or by the same actors at different times may result in different determinations of project status. The same project may be viewed as a success at implementation but may be viewed as a failure after different management decisions are made that violate the assumptions with which the system was designed (Larsen and Myers 1999).

5) Project Success assessment will change because of change of players, environment, or time even after the initial assessment is made. The determination of project success is not a once for all time settlement. Any change in the composition of the actors and environment may result in a change in status (Larsen and Myers 1999).

Our first premise requires a shift in thinking from the use of objective measures and attempted measurements toward an explicit investigation into how social interaction and the environment shape the determination of project success. We cannot assume now that simply measuring how well we conform to the budget, schedule or specifications or whether we have achieved cost justification (net benefits). We must investigate how the various social actors have worked together to arrive at this decision. The determination of the success or failure of a project requires then an analysis of the interaction of the actors and the various bargains and compromises involved. It will be a matter of then of determining the dominant opinion that obtains in the organization.

Our second premise prevents us from going to extremes in subjective analysis. It calls us to remember that each project concerns a real system involving real people and real social actors. These real agencies do interact and power is used to create and gain acceptance for a perspective on the status of the project. Research must investigate who these agencies are, their motivations and resources, their role in the negotiation for the determination of project status.

The third premise calls us to investigate this process thoroughly. How did the agencies interact? How did their motivation change during the process? Did the agencies merge or splinter? How was power employed in negotiation process? The success factors stream which seeks to investigate what things that project managers did or what project or environmental characters were that contributed to the success of a project will need to consider this interaction. How did the project manager guide or react to this interaction in a way that contributed to the creation of a perception that the project was successful? The analysis of the process by which success is determined in organization can go a long way toward providing actionable advice to practitioners as to how to best manage their projects to achieve success.

The fourth and fifth premises tell us about the mutability of the project success determination. If the context of the original decision is changed, then there may be a change in the determination of the status. In this case, longitudinal studies may be important. These types of studies would document the changes in actors, environment, system, perceptions over time resulting in changes in status of the project. This especially includes studies of the IT artifact itself. When do changes in the ITA change the essential nature of the ITA and therefore make it a different system? This caution about the mutability of the success determination will help practitioners to understand that they need to be constantly about the business of managing the perception of their projects to ensure they are perceived to be successful.

Conclusion

The concept of project success is a critical concept in IS research but one which the field has had little success in obtaining a consensus on how it is to be conceptualized and measured or assessed. In this paper, we reviewed the literature defining project success. We saw that the objectivist views due to their conception of success as an intrinsic characteristic of a project, could not account for political or social impacts on the determination of success. The situational view while making allowances for different stages, which had different success criteria, also could not account for the change in perception of the projects. These
deficiencies were ascribed to the lack of recognition of the social and political context in which these evaluations are made. The subjectivist views, while recognizing the social and political impact, lacked the tools to provide an explanation as to why the project was considered a success or a failure. Finally, the non-representational view given its inability to explain, predict or prescribe is unable to address either of the situations. All of the existing views seem to have issues in resolving any of the conceptual confusion.

To move the work of conceptualization of this important construct forward, this paper suggested five different premises that seem to be required for any reconceptualization of project success. These premises involve a rejection of the objectivist approach given that they most clearly lack the ability to consider the social interaction involved in determining the success or failure of a project. It seems clear that the tools and measures of the objective approaches are used as part of the rationale created by some actors in advocating for their perspective of the project. It is also necessary to understand the power laden interactions between the social actors to understand how the determination of success or failure is made. Finally, depending upon the actors making the evaluation, the time in which it was done and changes in the personnel or organization the assessment of the project may change.

As IS researchers, we need to consider these premises in our theorization about success and in how we seek to determine project success or failure within other research. We have been over thirty years in struggling with this issue. Clearly, it will be difficult and disruptive to make the transition away from objectivist notions but only if this is done can we begin to make progress toward an effective conceptualization of project success.

REFERENCES


