Title: Reconciling views of project success: a multiple stakeholder model

Abstract – This paper presents a new model encompassing all the important critical attributes to measure project success across different stakeholder groups. The study investigates the possibility that project failure is a result of the interpretations of the criteria and factors used for success by multiple stakeholder groups. Unique projects must have their outcome parameters monitored and controlled to minimize the chances of failure and the likely major financial and managerial ramifications for the organization. Early testing of the model supports its use to increase the shared, multiple stakeholder perception of project success leading to more informed decision making and motivation of employees.

Keywords: managing stakeholders; project success; project success perception; multiple stakeholders.

Overview

Models to measure the success of projects have not developed significantly since that of Pinto and Slevin (1987) with the consequent perception of different stakeholders that many projects fail. Analysis of project success in the literature (Davis, 2014, 2016, 2017) identified that stakeholder view was not considered and that data collection and analysis used either quantitative or qualitative techniques. This paper reveals that using both techniques identified different dimensions that influence project success, but these were not given the same importance by different stakeholder groups. A model for project success was designed to reflect these differences and tested with a focus group; the results suggested that further testing of the model would show its applicability in different project settings.

Introduction

The literature states that the origins of project management are from multiple foundations such as operations research (Turner et al., 2010), management schools, management science and organizational theory (Kwak and Anbari, 2009). There is some consensus that it originated from a Taylorian model focusing on an organizations structure (Brech, 1953; Fayol, 1949; Gulick and Urwick, 1937; Mooney and Reiley, 1939; Taylor, 1911). However, the focus has been on technical aspects such as time, cost and quality (Barnes, 1969) which anticipate that sequences are linear and negates the unique and human aspects of projects calling for specific tools for each project (Turner, 1999, 2014a, 2014b, Turner et al., 2010, Wateridge, 1995). These human aspects are considered important as stakeholder perceptions influence if a project outcome is a success or failure (Dalcher and Drevin, 2003; Morris, 1997; Turner et al., 2009; Turner and Zolin, 2012).

To date there is no single model that will mitigate the risk of failure as a Standish Group (2015) report evidenced that 19% of project fail and 52% were challenged. Previous work by the author found that the most popular measurement method to assess perception of project success was the 'diagnostic behavioral instrument' of Pinto and Slevin (1987), but this did not consider those views of stakeholders other than the project manager, which are considered important (Corus and Ozanne, 2012; Davis, 2014, 2016, 2017; Miller and Merrilees, 2013; Scandelius and Cohen, 2016; Turner and Zolin, 2012). Other authors have provided models for assessing other sole stakeholder view (McKenna and Baume, 2015; Metcalfe and Sastrowardoyo, 2013), but none have examined multiple different stakeholder perceptions of project success. A survey was developed based on the recognized gaps in their instrument and the results showed that the perceptions of different stakeholders are significant to the final project judgment.

This paper presents a multiple stakeholder model, based on empirical data, to assess differing views of project success. The purpose is to achieve a greater understanding of how project success dimensions can be measured, to facilitate a shared stakeholder view to increase project success rate. The study sought to answer three questions:

Question 1: What are the parameters and methods used to assess and analyze project success, and do they meet the needs of modern project management?

Question 2: Which stakeholders are influential in the determination of project success, and do they recognize the same success dimensions for a project?

Question 3: If the stakeholders do not share the same success dimensions, how can their views be reconciled throughout the project lifecycle?

Answering these questions allows the construction of a multiple stakeholder model to judge project success. The model comprises three stages: 1) the use of key questions covering three new dimensions that are answered anonymously by each stakeholder group involved in the project, 2) collation of the results by a neutral administrator, and 3) implementation of the findings by the project manager to devise the dimensions used for success that can be altered to meet changing priorities throughout the project lifecycle.

Methods

Systematic literature review

The first study question was answered through a systematic literature review that used a keyword search using Web of Science combined with data analysis using Bibexcel and NVivo. A subsequent coding framework was developed and thematic charts created to construct themes for further consideration. The techniques used to select the literature for review were based on well-established web-based search engines. Further, the papers were systematically identified,

selected, and subjected to an inductive thematic analysis that minimized human bias. The methodology has been published as part of a preliminary work that reviewed key literature on the development of project success and identified that Senior Management (SM), Project Core Team (PCT), and Project Recipient (PR) stakeholders did not use the same dimensions when defining project success. The advantage of this approach is that every article used to collate the evidence is recorded and categorized and can be instantly retrieved, as the only human intervention is naming the categories and allocating specific sections of the articles to them. Moreover, it is a much quicker method than those conventionally used. It was concluded from the systematic literature review that there was a case for empirical research, which could provide further support for the use of multiple stakeholders to judge project success and explore dimensions for success that had not previously been used. Pinto and Slevin's (1987) 'diagnostic behavioral instrument' was identified as the most frequently used to measure perceptions of project success. Identified limitations in the instrument were identified to investigate 'benefit to the stakeholder group', 'client/customer specific issues', and 'time, cost, and quality' themes and warranted further investigation. The selection of stakeholders: SM, PCT, and PR was based on those that were involved throughout the project lifecycle to ensure that measurements were taken at each stage. The need for a different model to judge project success was clearly indicated. This model should reflect the views of multiple stakeholders since the extant literature indicates this has not been the subject of systematic study (Davis, 2014, 2016, 2017). The model would be applicable to any project because the literature review was inclusive for all project types and industry sectors.

Interviews

Pilot interviews with industry experts were structured to pre-test the interview stage of the study to increase the likelihood of the success of the interviews in guiding development of the survey. Developing a study plan in this way extends the results from the systematic literature review. It also ensured that practicing stakeholders in project management agreed that the ten themes identified from the systematic literature review were relevant to project success. Interviews for the next stage would reflect their comments and ensure as much as possible that the interview results would provide further evidence to answer study question two. The results from the pilot interviews confirmed that all ten themes were relevant and believed to impact project success, which were used for the stakeholder interviews. It could be argued that there should have been a greater number of interviews in the pilot study to test the feasibility of the proposed interviews and possibly with each stakeholder group being represented. However, the experience of the industry experts was judged to overcome this aspect and provided credibility regarding their ability to critique the findings. The decision was taken to use the information to inform the next interview stage comprising 24 interviews and eight stakeholders from each group.

The results from the 24 stakeholder interviews highlighted the disparity between different stakeholder groups, supporting the premise that project success did not mean the same to each group. For example, the interview analysis revealed that there were eight sub-themes that were common to all three stakeholder groups. There were only two sub-themes in common between PCT and PR and between SM and PR and none in common with just SM and PCT. The PR noted the importance of change and testing a new system, where SM and PCT did not. The PCT recognized a need for support from senior management, whereas SM and PR did not. This

indicated that there were few themes in agreement between the stakeholder groups, which were indicated in the literature findings.

It was strongly suggested by the literature (Corus and Ozanne, 2012; Miller and Merrilees, 2013; Scandelius and Cohen, 2016; Turner, 2014a, 2014b; Turner et al., 2009; Turner and Zolin, 2012) and interviews that project failure was related to the project groups selected to judge success, usually involving only one stakeholder group. Hence, it was reasonable to infer that more than one stakeholder group should be used throughout the project cycle and not different stakeholder groups for each project stage. Further, staff who were determined to make a project succeed were far more likely to engage with the project and ensure successful delivery.

The conclusions from the interviews were that three dimensions, 'time, cost, and quality', 'accountability', and 'benefit to the stakeholder group' were revealed as 'new' to judge project success. It is believed that the structure of the interview questions based on the systematic literature review promoted their discovery. This was a different approach to that used by Pinto and Slevin (1987) in that it used two methods, a systematic literature review and structured interviews, to identify the dimensions, rather than one that relied on written questioning of practicing project managers.

It would have been interesting to look at the data in terms of project complexity or sector to see whether these factors influenced the opinions of stakeholders. For example, megaprojects involving multiple teams and very large infrastructure investments influence issues such as accountability (Bruzeliusa et al., 2002). However, this was beyond the scope of the study.

The interview methodology resulted in a qualitative assessment of success parameters, which was judged to be sufficiently robust to inform the structure and content of the survey. The survey

was distributed to larger numbers of each stakeholder group and designed to quantitatively confirm the most appropriate success dimensions to ensure project success.

Survey parameters

The survey provided quantitative evidence to answer study question two from the three selected stakeholder groups. Surveys are the most frequently used method to evaluate project success in the literature (Belassi and Tukel, 1996; Kerzner, 1987; Müller and Turner, 2007a, 2007b; Tishler et al., 1996; Toor and Ogunlana, 2010; Tukel and Rom, 2001; Turner et al., 2009; Wateridge, 1998) and was the method employed by Pinto and Slevin (1987). Like their 'diagnostic behavioral instrument', the survey employed in the study used a series of dimensions that gave the stakeholder group the option of agreeing or disagreeing with the dimension using a seven-point Likert scale. However, the dimensions used in the survey were not used by Pinto and Slevin (1987), and it was distributed to three stakeholder groups, which yielded new data to evaluate project success.

The construction of the survey was arguably the most important part of the study, since it underpins the design of the multiple stakeholder model to predict project success. It was also the only research carried out in the study that yielded quantitative data. Pinto and Prescott (1990) and Pinto et al. (2009) tested their scale items using Cronbach's alpha and received 0.87 and 0.86, which is above the acceptable level of 0.7 according to Pallant (2010, 2013). This study returned 0.90 and is therefore akin to the results from testing Pinto and Slevin's (1987) instrument. Therefore, it can be concluded that the results from the survey are representative of the sample.

The median and mode measurements were calculated and used to measure the central tendency of the results. This was justified because the survey results were used only to identify which interview statements were the most relevant from those indicated by the interview data.

A pilot survey was distributed to three industry experts and four academics who were subsequently interviewed. This helped to devise both clear, standardized questions and the survey structure, resulting in increased consistency/confirmability, as noted by Saunders et al. (2012). The pilot survey included questions from Pinto and Slevin's (1987) instrument, in addition to those arising from the interviews and systematic literature review and for this reason was too long and risked non-completion (Ghauri and Grønhaug, 2010). Since the original strategy was to confirm the findings of Pinto and Slevin (1987) and show how using different stakeholder groups might change the results, the risk had to be mitigated. Based on the results from the systematic literature review and the interviews that revealed different dimensions that might influence project success, the decision was taken to exclude questions relating to the work of Pinto and Slevin (1987). Results from the survey could then be used either alone or in conjunction with Pinto and Slevin's instrument. Distributing Pinto and Slevin's questions in a separate survey might have been a better approach to confirm that the interpretation of their questions had not changed over time. However, the pilot survey indicated that it would be advisable to test the new dimensions to enhance Pinto and Slevin's, and this was not the case. Moreover, there was a limit to the amount of time that respondents could be requested to complete questionnaires by the organizations taking part.

Results from the pilot enabled the development of the final survey format and required the sample size to be devised. Any study involving surveys is limited by the sample size and the clarity of the questions. Tabachnick and Fidell (2007, cited in Pallant, 2010) stated that a sample

size of at least 300 is ideal, but 150 is adequate when conducting a survey. However, Nunnally (1978, cited in Pallant, 2010) noted a ten to one ratio for every question; this was further confirmed by Hair et al. (2010). There were eight questions in the survey (with two additional background questions) for analysis in total, meaning that a desirable response size is 80 (Hair et al., 2010). Three hundred copies of the survey were distributed, which should have been sufficient to have a reasonable certainty that the results could be confirmed by independent researchers. The survey returned 143 responses, giving a 48% response rate.

Survey analysis

A surprising result from the survey was that the results did not agree with those from the systematic literature review. This could be explained by the different time periods for each analysis, indicating that there might have been a change in the parameters that today's project stakeholders use compared with those used by project stakeholders in the past. Alternatively, it could simply be that results identified in the literature were confined to either one stakeholder group or a single project type. The main difference was the importance of a new dimension, 'accountability', which was revealed by the interviews, the survey, and later work with practicing project experts. All the stakeholders considered it important to define the roles and responsibilities of each group, since this provided a mechanism to track progress at any project stage. A clear understanding of accountability by all stakeholders prevents confusion about who is responsible for specific actions, sets standards, and helps teamwork between the groups to achieve their common goal. The use of this dimension, not considered before in the context of project success or failure, might make a major difference if included in success judgments. Cost, time, quality, and scope dimensions were recognized by all groups as important, but they had few views in common (three statements in common for cost and time and two for quality and

scope), again indicating that ensuring that each stakeholder group had the same view might positively influence the overall outcome of a project. There was limited agreement among all three groups, and the fact that only about a third of all the statements were shared among the stakeholder groups is clear evidence that there are differences of opinion between groups, which showed that stakeholders do not share the same views when evaluating projects (study question two). Results from the empirical work indicate the limitations of relying on a single stakeholder group and led to the formulation of a multiple stakeholder model, which could increase the likelihood of all stakeholders agreeing on the parameters that constitute the success of a project.

Results and Discussion

Multiple stakeholder model – initial development

A trial multiple stakeholder model was constructed for organizational use. The aim was to help identify and manage expectations and monitor possible changing priorities of different stakeholders of success dimensions throughout the project. The model was designed so that it would be as independent of sector, size, and complexity as possible, making it equally applicable to all projects. To fulfill this purpose, the interviewees answered the questions using both their current and previous experience, ensuring that their comments covered a broad spectrum of project types and sectors (including service and or finance, organization and business, ICT or high tech, delivery projects as services, manufacturing and business performance improvement). Although the sample size is small, the results show that the collective experience of the interviewees was not restricted to a single area.

A similar strategy was used with the survey respondents, who had a varied experience of different project types, including business improvement, IS/IT, logistics, new product development, and organizational change. The survey was distributed to four different industry

sectors (food service wholesale distributor, consulting, financial services, and insurance). However, the previous experience of respondents was also collated, which again increased the applicability of the responses across sectors. Examples of industries recorded include; armed forces, aviation, broadcast and media, construction, education, energy industries, health, hospitality, manufacturing, pharmaceutical, retail and transport sector.

Thirty-one dimension statements from the survey were extracted to develop the trial model. This was on the basis that all three groups had different views (different scores on the rating scales), the individual groups strongly agreed with the statement and therefore considered them important (rated 7 on the scale), and the individual groups disagreed with the statement and therefore had a strong opinion against them (rated 1 to 3 on the scale). 14 out of 31 of these statements were recognized by a single stakeholder group and over half of them (eight) were those of SM, the remaining six by the PR, and none by the PCT. This indicates that there is a distinct difference between the views of the SM and PR groups and that the PCT is more likely to share the views of both. The extracted statements were used to create the trial multiple stakeholder model. It allows each stakeholder to state whether they agree or disagree with the statement and provides an opportunity for discussion where there are different responses.

Results of industry experts

The trial multiple stakeholder model was sent to eight industry experts on 10 December 2015 for feedback. They were asked to consider the model in the context of how they would be used in the expert's respective organizations and offer suggestions for improvement. Feedback included the following:

- The model used the loaded ideological language of project management, and some of the answers may not be obvious. For example, if one asks about ‘commitment to quality’, one does not expect to be told about ‘commitment to mediocrity’.
- There is a danger that responses will simply be platitudinous, reflecting the position of the respondent in the hierarchy. A researcher would need to take respondents away from ‘the scene of the crime’ into ‘the real world’ and elicit some honest thinking. It is also important to ask why the stakeholders responded in the way they did.
- The customer must be involved, too. A common mistake is to introduce changes without involving the customers, who are then unable to utilize the new system.
- Open and honest communications are key.
- The key aspect is measurement and the ability to quantify the actions. Constant review and readjustment of the tasks, activities, and goals are needed. Key performance indicators (KPIs) should be created for each grouping. Preference is always for a small number of KPIs/metrics that focus on the key issues. Financial measures alone should not be used. A balanced picture of business performance, internal and external enablers and drivers, and staff and customer issues should be measured. Measures should be quantitative and simple. Constant assessment of project performance against the measurements/benefits should be done.

Taking on board the feedback, instructions will accompany the model to suggest that it is completed anonymously without consultation with other stakeholders. The stakeholder would be asked how they are involved in the current project to determine whether they are SM, PCT, or PR. This would allow the stakeholders to provide their honest thoughts, which would be collected anonymously and then used to facilitate open discussions on points of agreement and

disagreement. This would eradicate issues associated with blame and conflict. An extra column has been added to ask why the stakeholders responded in the way they did to determine the reasons for the answers and make the open discussions more focused and productive.

The other main feedback point was to have KPIs so that each discussion area has a measurable outcome. Parker (2014) offered the KPIs which could be numbered so that the model could be adapted to ask which KPI the stakeholder considers important to each dimension. These KPIs could accompany the model, and stakeholders would be asked to write the corresponding KPI and number that they consider important. For example, EP2 is 'Revenue per Employee' (Parker, 2014). The adapted trial model was sent for feedback to the industry experts, and an extract from a completed example is provided in Table 1.

INSERT TABLE 1 HERE

Table 1: Extract of completed trial multiple stakeholder model – mapped to KPIs

Focus group to establish practicality of use

After the initial feedback was collated, a focus group was employed with the eight industry experts on 21 December 2015 to ascertain potential barriers to implementation for the model and develop an adapted model based on the feedback. The literature suggests an ideal focus group size of six to eight (Ritchie and Lewis, 2010), six to ten (Morgan, 1998), and six to 12 (Bryman and Bell, 2015). Focus groups facilitate the in-depth exploration of a specific theme to gauge people's responses to each other's views, building a view of the group interaction (Bryman and Bell, 2015). Disadvantages cited in the literature include a lack of applicability compared to methods such as experiments and surveys and lack of consistency/confirmability with interpretation of transcripts, and in-depth interviews are preferable to focus groups, as it is easier

to probe issues further (Ritchie and Lewis, 2010). As this method was used after in-depth interviews and a survey, the issues are minimized.

The focus group was asked to examine the trial multiple stakeholder model and create a model (Table 2), which they believed would be beneficial in their organizations to facilitate discussion. The main discussion point on the day was to take stakeholders' feelings into account. It was felt that a project could be meeting all the major milestones, such as being on time or to cost, but if the stakeholders were unhappy or disillusioned, then the project would fail at some point. The resulting multiple stakeholder model (Table 2) is intended to manage the expectations of different stakeholders throughout the project by identifying success dimensions at each stage for each group. This is a completely new approach, and although it is recognized that the process is time consuming, the knowledge that organizations will gain should enable consistent successful project delivery.

INSERT TABLE 2 HERE

Table 2: Multiple stakeholder model

The multiple stakeholder model was sent to six participants (two members from each stakeholder group) to see how it would be answered in practice. The participants were all working on the same project and in the initiation project phase. This allowed key issues from each group to be highlighted and used for further discussion. The collated results from the stakeholder groups highlighted that, within the same project, there are differences of opinion. For example, discussion points to come out of the results are as follows:

- Both SM1 and SM2 believe that they are ultimately accountable for the project meeting its objectives.
- SM2 believes that he/she is not kept informed of problems.

- SM2 acknowledges the risks but puts the responsibility onto the PCT.
- SM2 wants to be kept more informed.
- SM2 believes that the reward is not enough.
- SM2 realized that he/she does not know about the team morale and would check this.
- PCT2 does not trust the project sponsor.
- PCT1 takes accountability. PCT2 puts it onto the sponsor.
- PCT2 does not have belief in the sponsor.
- PCT2 is having resource issues.
- PR1 feels engaged and PR2 feels uninvolved, e.g., they do not know who the sponsor is.
- Both PR1 and PR2 do not know whether the project's objectives are aligned with the organization's strategy.
- Both PR1 and PR2 feel that there are morale problems with the PCT.

The results show the disparity in stakeholder views and indicate that the model will be a successful instrument to create a focus on what success dimensions the organization needs to concentrate on throughout the project for each stakeholder group. This provides organizations with the knowledge necessary to structure and reconcile different stakeholder views to ensure that all stakeholder groups are in agreement and ultimately aid in successful project delivery.

Table 3 contains an extract of the stakeholders' answers, categorized as 'yes', 'no', or 'undecided', to aid in comparing the results. This clearly highlights that there were no dimension statements with common agreement in any of the statements. For example, the statement 'there is consistent consensus on how to judge the project's success' had two SM respondents in agreement, but only one PCT and one PR respondent. The remaining PCT and PR stakeholders were undecided and answered no in their responses. There were 12 statements where at least one

from each of the three groups agreed and 12 statements whereby one group disagreed with the other two. This creates a clear basis for discussion to rectify miscommunication when working on a project.

INSERT TABLE 3 HERE

Table 3: Extract of summarized multiple stakeholder model results

Conclusions

The results demonstrate supporting evidence that the proposed multiple stakeholder model requires input from all stakeholders to determine the final success dimensions to judge their project more effectively. It could be argued that this flatter approach dilutes strong leadership, which has been claimed to be essential to project success (Basu, 2014; Turner and Müller, 2005) and could delay the start of a project and hence the final deadline. However, the proposed model allows for the collation and negotiation of stakeholder views by the project manager and the increased likelihood of success, justifying the additional time taken using a qualitative approach.

No model will find general acceptance unless it is widely applicable within the field of project management. While there is no rigorous testing of this model, the study attempts to ensure that the model would be applicable to a wider range of project types by not omitting any of the study papers from the systematic literature review on the basis of project type. Further, the study collated the experiences of interviewees over a broad range of projects, making it more likely that aspects of different organizations and project types were included.

Support for the claim of applicability of the model is provided by the selection and analysis of the interviewees and respondents for the survey, which shows their depth and range of experience in project management. The model was reviewed by eight industry experts for their applicability to projects taking place in their organizations. Applicability is important for any

proposed model (Noble and Smith, 2015) and agreement within this group about modifications to the model gives some evidence to support the broader applicability to a wider range of project types. This approach is well established to determine applicability and was used by Pinto and Slevin (1988) to ensure that their measurement scale was applicable to a 'wide range of measures of project success' and to different types of projects, although the number involved in their study was larger (409 projects). Further work to address this aspect, such as analysis of industry sectors to reveal similarities and differences, would be required to completely justify the indication (Turner and Zolin, 2012).

Comparison of Pinto and Slevin's (1987) instrument to the multiple stakeholder model created in the current study shows that the new model is potentially appropriate for use with a wider range of stakeholder groups by using different dimensions to judge success. Both Pinto and Slevin's (1987) instrument and the new model use a survey to gather data and statistical analysis, but the new model is to be used to facilitate two-way communication and is supported by additional qualitative data that are used to explore the feelings of stakeholder groups. It is suggested in the literature that canvassing multiple stakeholders' opinions is important for decision making (Turner and Zolin, 2012) and that doing this will lead to employee motivation, the ability to priorities resources, and a productive organizational culture.

This study is consistent with the major findings from the systematic literature review, whereby stakeholders have different perceptions of success criteria and factors (Guadix et al., 2016; Rodríguez-Segura et al., 2016; Scandelius and Cohen, 2016; Turner and Zolin, 2012), and these influence whether a project is perceived as a success or failure (Davis, 2014, 2016, 2017; Qureshi et al., 2009; Serrador and Turner, 2015; Turner et al., 2009; Turner and Zolin, 2012). The definition of project success from this study goes beyond the technical definitions offered by

the reviewed literature. This aids in better understanding, conceptualizing, and diagnosing the manner in which a project can be judged a success. Furthermore, the study addressed a gap that the reviewed literature demonstrated was lacking in that empirical research comparing multiple stakeholder groups taking account of differing points of view to improve mutual understanding was rare (Turner et al., 2009; Turner, 2014a, 2014b).

Academic and practical implications

A new multiple stakeholder theoretical model that has stakeholder opinion at its center is proposed in which previously unconsidered dimensions are used to judge project success that evolved from the views of experts and practitioners. The model relies on anonymity, which avoids conflict between stakeholders but allows their personal view to be put forward and considered for the best project outcome. The collation of these views by a neutral person will permit agreement of the success dimensions to be used for specific projects. Hence, the model will use dimensions that all stakeholders recognize as key to project success rather than dimensions elicited from a single stakeholder group, justifying the claim that it will be stakeholder centered. This process, in turn, will enhance the dynamic engagement of stakeholders and the ability to respond to possible changing priorities of different stakeholders by altering success dimensions. It is believed that this is the first study whereby a model will be developed which incorporates individual views of the appropriateness of success dimensions to their roles.

However, it would not apply to a portfolio of entrepreneurial projects which rely on effectuation, based on the logic of control rather than causal logic based on prediction. Moreover, in these projects the stakeholders may well be investors in the project adding another layer of uncertainty especially if decision making between them has not been established at the

start (Savrasvathy et al., 2014). An uncertainty project plan has been proposed by Paju (2014) which identifies elements of uncertainty and estimates both their probability and importance in terms of the project goal allowing a portfolio of uncertain projects to be developed but keeping the outcomes and execution open until regarded as a success. As uncertainty is removed a more causal approach would be used.

An earlier (Küpper and Aachen, 2009) study showed that non predictive control measures based on effectuation could more accurately predict the success of highly innovative exploratory research and development (R&D) projects whereas causation was more appropriate for those with an exploitative focus. They suggested that analyzing a project for the degree of innovation might aid decision making and the type of model used to judge success. Pre project analysis of this kind might impact on the success of the proposed model since it would not support projects with a high innovation content.

The proposed model which takes account of stakeholder view at different stages gives a more flexible approach to project management allowing organizations to be more precise in their choice of dimensions to judge project success at different stages. Implementing the changes, demonstrates to stakeholders that their views are valued and leads to a more productive organizational culture through their enhanced motivation and ultimately agreed successful project delivery.

Currently, there is no recorded model within the project management literature that is stakeholder centered. The model will allow the proven differing views from multiple stakeholders, as shown in the interview results, to be included when formulating KPIs to ensure that success dimensions are met. Early testing data suggests that use throughout the project lifecycle will increase the consensus of project success as opposed to failure.

Future Research

Future research investigations are suggested to refine the proposed multiple stakeholder model and confirm its broader applicability. This includes an extension of the systematic literature review to encompass a wider context of issues affecting project success, such as the emerging conceptualizations of projects as networks, power relations, globalization, instability, corporate social responsibility, and changing forms of work organization. Also, testing the applicability of the model to specific project types. This might be resolved by conducting a survey with stakeholders of more project types to see whether there are variations in the perception of success with project type. Lastly, further testing of the model at different stages of a project lifecycle is suggested to provide evidence of changing stakeholder views and possible reasons that it changes; e.g., when their involvement became more peripheral, their interest is decreased, resulting in disengagement and motivation to meet success dimensions.

References

Barnes, M., 1969. 'Email dated 14/12/2005 and interview Jan. 2006. Quoted in Weaver, Patrick, 2007. "The origins of modern project management"', In Fourth Annual PMI College of Scheduling Conference, pp. 15–18.

Basu, R., 2014. Managing quality in projects: an empirical study. Int. J. Proj. Manag. 32, 178–187.

Belassi, W., Tukel, O.I., 1996. A new framework for determining critical success/failure factors in projects. Int. J. Proj. Manag. 14 (3), 141–151.

Brech, E.F.L., 1953. The principles and practice of management. Longman's, London.

Bruzeliusa, N., Flyvbjergb, B. and Rothengatterc, W., 2002. Big decisions, big risks. Improving accountability in mega projects. Transport Policy. 9 (1), 143-154.

Bryman, A. and Bell, E., 2015. Business research methods. Fourth ed. Oxford University Press, New York.

Corus, C. and Ozanne, J. L., 2012. Stakeholder engagement: Building participatory and deliberative spaces in subsistence markets. J. Bus. Res. 65 (12), 1728-1735.

Dalcher, D., Drevin, L., 2003. Learning from information systems failures by using narrative and ante-narrative methods. Proceedings of SAICSIT.

Davis, K., 2017. An empirical investigation into different stakeholder groups perception of project success groups. Int. J. Proj. Manag. 35 (4), 604-617.

Davis, K., 2016. Identifying an appropriate measurement method for the perception of project success of different stakeholder groups. Int. J. Proj. Manag. 34 (3), 480–493.

Davis, K., 2014. Different stakeholder groups and their perceptions of project success. Int. J. Proj. Manag. 32 (2), 189–201.

Fayol, H., 1949. General and industrial management. Pitman, London.

Ghauri, P., Grønhaug, K., 2010. Research Methods in Business Studies. Fourth ed. Pearson Education Limited, Harlow.

Guadix, J., Carrillo-Castrillo, J., Onieva, L. and Navascués, J., 2016. Success variables in science and technology parks. J. Bus. Res. 69 (11), 4870-4875.

Gulick, L., Urwick, L., 1937. Papers on the science of administration. Institute of Public Administration, Columbia University, New York.

Hair, F. J., Black, C. W., Babin, J. B. and Anderson, R. E. (2010) Multivariate data analysis. Seventh ed. Pearson Prentice Hall, New Jersey.

Kerzner, H., 1987. In search of excellence in project management. J. Syst. Manag. 38 (2), 30–40.

Küpper, D., Aachen, R., 2009. Effectuation in the Context of R&D Projects: Characteristics and Impact on Project Performance. Academy of Management Proceedings, Aug 2009.

Kwak, Y., Anbari, F., 2009. Analyzing project management research: perspectives from top management journals. Int. J. Proj. Manag. 27 (5), 435–446.

McKenna, A., Baume, G., 2015. Complex project conceptualization and the linguistic turn; the case of a small Australian construction company. Int. J. Proj. Manag. 33 (7), 1476–1478.

Metcalfe, M., Sastrowardoyo, S., 2013. Complex project conceptualisation and argument mapping. Int. J. Proj. Manag. 31 (8), 1129–1138.

Miller, D. and Merrilees, B., 2013. Rebuilding community corporate brands: A total stakeholder involvement approach. J. Bus. Res, 66 (2), 172-179.

Mooney, J.D., Reiley, A.C., 1939. The principles of organization. Harper, New York.

Morgan, D. L. (1998) Planning focus groups. Sage, Thousand Oaks CA.

Morris, P.W.G., 1997. The management of projects. Second ed. Thomas Telford, London.

Müller, R., Turner, R., 2007a. The influence of project managers on project success criteria and project success by type of project. Eur. Manag. J. 25 (4), 298–309.

Müller, R., Turner, J.R., 2007b. Matching the project manager's leadership style to project type. Int. J. Proj. Manag. 25, 21–32.

Noble, H., Smith, J., 2015. Issues of validity and reliability in qualitative research. Evid. Based Nurs. 18 (2), 34–35.

Paju, S., 2014. Managing Uncertainty in Innovative Projects: An Alternative for Causal Project Plans. The Proceedings of the XXV ISPIM Conference – Innovation for Sustainable Economy and Society, Dublin, Ireland on 8-11 June 2014.

Pallant, J. (2013) SPSS survival manual. Fifth ed. Open University Press, England.

Pallant, J. (2010) SPSS survival manual: A step by step guide to data analysis using SPSS for Windows. Fourth ed. Open University Press, Maidenhead.

Parker, J. (2014) Measuring project success using business KPIs. Available at: http://www.projecttimes.com/articles/measuring-project-success-using-business-kpis.html (Accessed: 12/16).

Pinto, J.K., Prescott, J.E., 1990. Planning and tactical factors in project implementation success. J. Manag. Stud. 27 (3), 305–328.

Pinto, J.K., Slevin, D.P., 1987. Critical factors in successful project implementation. IEEE Trans. Eng. Manag. 34 (1), 22–28.

Pinto, J.K., Slevin, D.P., 1988. Project success: Definitions and measurement techniques. Proj. Manag. J. 19 (1), 67–73.

Pinto, J. K., Slevin, D. P. and English, B., 2009. Trust in projects: An empirical assessment of owner/contractor relationships. Int. J. Proj. Manag. 27, 638–648.

Qureshi, T. M., Warraich, A. S. and Hijazi, S. T., 2009. Significance of project management performance assessment (PMPA) model. Int. J. Proj. Manag. 27, 378-388.

Ritchie, J. and Lewis, J., 2010. Qualitative research practice: A guide for social science students and researchers. Third ed. Sage, London.

Rodríguez-Segura, E., Isabel Ortiz-Marcos, I., Romero, J. J. and Tafur-Segura, T., 2016. Critical success factors in large projects in the aerospace and defense sectors. J. Bus. Res. 69 (11), 5419-5425.

Sarasvathy, S., Kumar, K., York, J. G., Bhagavatula, S., 2014. An Effectual Approach to International Entrepreneurship: Overlaps, Challenges, and Provocative Possibilities. Entrepreneurship Theory and Practice. Jan 2014, 71-93.

Saunders, M., Lewis, P. and Thornhill, A., 2012. Research methods for business students. Sixth ed. Financial Times/Prentice Hall, Harlow.

Scandelius, C. and Cohen, G., 2016. Achieving collaboration with diverse stakeholders—The role of strategic ambiguity in CSR communication. J. Bus. Res. 69 (9), 3487-3499.

Serrador, P., Turner, R., 2015. The relationship between project success and project efficiency. Proj. Manag. J. 46 (1), 30–39.

Standish Group., 2015. CHAOS summary 2015. The Standish Group International, Boston.

Taylor, F.W., 1911. The principles of scientific management. Harper Bros, New York.

Tishler, A., Dvir, D., Shenhar, A., Lipovetsky, S., 1996. Identifying critical success factors in defense development projects: a multivariate analysis. Technol. Forecast. Soc. Chang. 51, 151–171.

Toor, S., Ogunlana, S.O., 2010. Beyond the 'iron triangle': stakeholder perception of key performance indicators (KPIs) for large-scale public sector development projects. Int. J. Proj. Manag. 28, 228–236.

Tukel, O.I., Rom, W.O., 2001. An empirical investigation of project evaluation criteria. Int. J. Oper. Prod. Man. 21 (3), 400–416.

Turner, J. R. and Müller, R., 2005. The project manager's leadership style as a success factor on projects: A review. Proj. Manag. J. 36 (2), 49-61.

Turner, J.R., Zolin, R., 2012. Forecasting success on large projects: developing reliable scales to predict multiple perspectives by multiple stakeholders over multiple time frames. Proj. Manag. J. 43 (5), 87–99.

Turner, R., Huemann, M., Anbari, F. and Bredillet, C. 2010. Perspectives on projects. Routledge, New York.

Turner, J.R., Zolin, R., Remington, K., 2009. Modelling success on complex projects: multiple perspectives over multiple time frames. In: Gemuenden, H.-G. (Ed.), The Proceedings of IRNOP9, the 9th Conference of The International Research Network of Organizing by Projects, Berlin, June. Technical University of Berlin, Berlin.

Turner, J.R., 1999. The handbook of project-based management: improving the processes for achieving strategic objectives. second ed. McGraw-Hill Publishing Co., London.

Turner, J.R., 2014a. Gower handbook of project management. Fifth ed. Gower Publishing Ltd.

Turner, J.R., 2014b. The handbook of project-based management. McGraw-Hill, Berkshire.

Wateridge, J., 1998. 'How can IS/IT projects be measured for success?'. Int.

J. Proj. Manag. 16 (1), 59–63.

Wateridge, J., 1995. IT projects: a basis for success. Int. J. Proj. Manag. 13 (3), 169–172.

Table 1: Extract of completed trial multiple stakeholder model – mapped to KPIs

Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)

Dimension	KPIs	Survey Statement	Agree/ Disagree	Why?
Accountability	EP2	There is a clear person responsible for setting accountability on a project.	Disagree	The project manager tried setting the accountability, but SM keeps contradicting him.
		Accountability, roles, and responsibilities are clearly defined, acknowledged, traceable, and transparent.	Disagree	It is not clear whether I go to the project manager or senior manager for this information.
		I clearly understand what I am responsible/accountable for and my role when working on a project.	Agree	I have a defined role, but I don't know how this fits with everyone else.
SM Involvement	EP2	Senior management are engaged and committed to the project.	Disagree	It depends on what is in it for them.
		Senior management are detached from the project.	Agree	It depends on what is in it for them. If they don't get anything out of it, they don't care.
		Senior management are always accountable when they initiate the project.	Disagree	When this project started going wrong, the senior manager passed it onto someone else to sidestep it looking bad on them. Now it's going well, they have suddenly appeared again.

Table 2: Multiple stakeholder model

You are to complete this anonymously, as it will be used for an open discussion. Whether your project is meeting all the set goals or not, complete the following on how you feel working on the project and how each question would affect you personally. For the project you are considering, please indicate your role on the project:

- Senior management (for example, board, director, executive, executive management, investor, project executive, portfolio director, programme director, owner, senior management, sponsor, top management, or project sponsor)
- Project core team (for example, project leader, project manager, project personnel, project team leader, project team, or team member)
- Project recipient (for example, client, consumer, customer, or end user, someone who will use or have used the final output of a project, such as a new computer system)

Dimensions	Statement	Answer
LEADERSHIP	There is consistent consensus on how to judge the project's success.	
	I trust the project's sponsor and leadership team to create the conditions for the project's success.	
	I am confident that the project will be successful.	
	During the good and bad times ahead, I trust the project's leaders to listen to me and keep me informed.	
	I am motivated to make this project a success and to go the 'extra mile' when necessary.	
	When something goes wrong, I am blamed.	
	Senior leaders have taken ownership of the project's risks and accepted ultimate accountability for its outcome.	
	This project's stakeholders have been correctly identified, prioritized, and engaged.	
	I agree with the way the status of the project is being reported.	
	Leaders react effectively to changes in the project's status and circumstances.	
ORGANIZATION	The owning organization is responsive to the project's customer needs and expectations.	
	The organization has the capability to successfully execute a project of this type and complexity.	
	The project's objectives are aligned with the organization's strategy.	
	The project's objectives are realistic given current and foreseeable operational pressures and constraints.	
	The organization's processes and systems adequately support the project's reasonable needs.	
	HR's performance management and reward/recognition processes ensure that the success of the project is good for me.	
	I trust the project's management team and associated line managers to collaborate to resolve inevitable problems and setbacks.	
	Third-party groups and suppliers are engaged and ready to support the project's success.	
TEAM	The project team has a common sense of purpose and is focused on the project's objectives.	
	The project team have been fully consulted during the definition, planning, and estimating of this project.	
	The project team are trusted and empowered to get the job done.	

	Morale is generally high across the project team.
	The project team is energized and working effectively.
PROJECT MANAGEMENT ESSENTIALS	An independent expert has reviewed the way the project is organized, planned, monitored, and controlled. Corrective and improvement action is taken as a result.

Table 3: Extract of summarized multiple stakeholder model results

Dimensions	Statement	SM1	SM2	PCT 1	PCT 2	PR1	PR2	Summary
LEADERSHIP	The project's stakeholders have been correctly identified, prioritized and engaged.	Y	Y	Y	U	N	N	SM = Y PCT = Y/U PR = N
	I agree with the way the status of the project is being reported.	Y	N	Y	Y	Y	N	SM = Y/N PCT = Y PR =Y/N
	Leaders react effectively to changes in the project's status and circumstances.	Y	U	Y	N	Y	U	SM = Y/U PCT = U/N PR =Y/U
ORGANIZATION	The owning organization is responsive to the project's customer needs and expectations.	Y	U	Y	N	N	N	SM = Y/U PCT = Y/N PR = N
	The organization has the capability to successfully execute a project of the type and complexity.	Y	Y	Y	U	Y	Y	SM = Y PCT = Y/U PR = Y
	The project's objectives are aligned with the organization's strategy.	Y	Y	Y	U	U	U	SM = Y PCT = Y/U PR = U
	The project's objectives are realistic given current and foreseeable operational pressures and constraints.	Y	Y	Y	N	Y	U	SM = Y PCT = Y/N PR = Y/U

Y = Yes
N = No
U = Undecided