INTRODUCTION

Not-for-profit development projects, especially those financed with international development aid, play a vital role in the socioeconomic development process of developing countries. According to the United Nations Development Programme’s (UNDP’s) Human Development Report (2004), the 49 least developed countries in the world received US $55.15 billion in Official Development Assistance (ODA) in 2004; that is 8.9% of their total GDP.

The success of these projects determines the socioeconomic progress in the recipient countries but also the effectiveness of the contribution of the donor countries and agencies. Understanding the critical factors that influence project success enhances the ability of donors and implementing agencies to ensure desired outcomes. In addition, it helps them forecast the future status of the project, diagnose the problem areas, and prioritize their attention and scarce resources to ensure successful completion of the projects.

Critical success factors for business or profit-oriented projects such as construction projects, information technology projects, defense projects, and so on have received significant research interest in the last two decades based on the pioneering research by Pinto and Slevin (1987, 1989). However, little of this research pays adequate attention to international development projects that possess significant differentiating characteristics, especially the social and not-for-profit nature of the projects, the complex relationships of the stakeholders involved, and the intangibility of the developmental results. At the same time, the factors identified in the literature reviewed were mostly focused on either success of the project implementation or the overall success of the project and failed to explicitly list the factors relevant for the different life-cycle phases of the project. As a result, they cannot be used to progressively measure the project performance early in the project life to timely diagnose project problems.

The paper aims to contribute to the general project management body of knowledge by addressing the international development projects that take place in the developing countries. The majority of funding for these projects is from the Official Development Assistance provided by the OEDC member countries through multilateral or bilateral aid agencies and usually takes the form of concessionaire loans, grants, or technical assistance implemented through the governments of the recipient countries. Other sources of funding come from private philanthropic and nongovernment organizations (NGOs).

In this study, the authors take a new life-cycle-based approach in developing a conceptual model to assess and forecast project success that takes into account both the frameworks developed earlier for general projects and the specific characteristics and context of the international development projects. The paper presents a new conceptual model for not-for-profit international development projects that identifies different sets of success criteria and factors in the project life-cycle phases and then provides the dynamic linkages among these criteria and factors. The model can serve as a basis to evaluate the project status and to forecast the results progressively throughout the stages. Thus, it helps the project management team and the key stakeholders prioritize their attention and scarce development resources to ensure successful project completion.

Empirical data from a field survey conducted in selected Southeast Asian countries confirm the model’s validity and also illustrate important managerial implications.

KEYWORDS: project success criteria; critical success factors; international development projects; project life cycle
projects. For this purpose, first the project management literature on success factors and criteria is reviewed and then the key characteristics that differentiate the international development projects from others are described. An analysis of these characteristics leads to a dynamic model that identifies different success criteria and factors for the different phases of the project life cycle, and then links the success criteria of each phase with that of the subsequent phase.

The framework is tested empirically with a survey conducted with both ODA and international NGO projects in selected countries in Southeast Asia. Analysis of the data collected confirms the validity of the framework and also contributes new insights into managing these projects. The proposed framework provides the project stakeholders with a forecasting and diagnostic tool to evaluate progressively and objectively the project chance of success, and therefore to assist in improving the overall performance.

**Project Success Criteria and Factors: A Literature Review**

Defining criteria to measure project success has been recognized as a difficult and controversial task (Baccarini, 1999; Liu & Walker, 1998). Pinto and Mantel (1990) attempted to define the project success according to three different dimensions:

- The efficiency of the implementation process that is “an internally oriented measure of the performance of the project team, including such criteria as staying on schedule, on budget, meeting the technical goals of the project, and maintaining smooth working relationship within the team and parent organization.”
- The perceived quality of the project, which includes the project team’s perception of the value and usefulness of the project deliverables.
- The client’s satisfaction or an external performance measure of the project performance and its team.

Following this line of research, Andersen and Jessen (2000) emphasized the need for separating the task- and people-oriented aspects in evaluating the project results. They further divided the results into 10 elements to give a more comprehensive picture of the outcomes of a project. These dimensions include the traditional time, budget, and quality elements but also the usefulness of the products to the base organization, the appeal of the results to all stakeholders, the learning experience, the motivation for future work, knowledge acquisition, the way the final report is prepared and accepted, and how the project is closed (Andersen & Jessen, 2000).

Other authors (Baccarini, 1999; Cooke-Davies, 2002) have adopted the Logical Framework Methodology and observed the need to differentiate two different concepts of success for a project:

- Project management success is concerned with the traditional time, cost, and quality aspects at the completion of the project. The concept is process oriented and involves the satisfaction of the users and key stakeholders at the project completion.
- Project success is measured against the achievement of the project owner's strategic organizational objectives and goals, as well as the satisfaction of the users and key stakeholders’ needs where they relate to the project’s final product (Baccarini, 1999).

Diallo and Thuillier (2004) was the first important empirical research that is focused on the specific success criteria and factors of international development projects. These authors assessed the project success as perceived by seven groups of stakeholders: coordinators, task managers, supervisors, project team, steering committee, beneficiaries, and population at large. They also outlined a comprehensive set of evaluation criteria that includes satisfaction of beneficiaries with goods and services generated, conformation of the goods and services produced to the project documents, achievement of project objectives, completion of the project in time and within budget, receiving a high national profile, and receiving a good reputation among the principal donors.

Compared with the studies on project success criteria, a considerably larger body of knowledge has been accumulated on the generic and critical factors responsible for the project success or failure. Good reviews of the research conducted over the last four decades can be found in Pinto and Slevin (1987), Belassi and Tukel (1996), Westerveld (2003), Diallo and Thuillier (2004, 2005), and Fortune and White (2006). From the perspectives relevant to managing international development projects, the most prominent studies of the period suggest that these factors are closely interrelated, and at times overlapping, and can be grouped in three major categories: competency, motivation, and the enabling environment.

The competencies required for the project success can be related to the project manager and the team members, or the institutional competencies of the project team itself. The critical individual competencies—technical, interpersonal, and administrative—have been explicitly identified by most of the authors reviewed. For example, Martin (1974), Locke (1984), and Pinto and Slevin (1987) emphasized the need for carefully recruiting the right manager and personnel to ensure project success, while Cleland and King (1983) highlighted the role of effective training to build the capacities required. White and Fortune (2002) added the relevant project experiences to these competencies. The institutional competencies are commonly recognized as effective control and communication systems, good planning and scheduling, absence of bureaucracy, strong teamwork and leadership, lack of dysfunctional conflicts, etc. (Pinto & Slevin, 1989; White & Fortune, 2002; Westerveld, 2003).
Success Criteria and Factors for International Development Projects

Without the willingness to perform and dedication to the project success by the manager and the team members, competencies are useless. Motivation factors recognized in the literature include clear understanding of the project goals, objectives, and mission (Anderson & Jessen, 2000; Belassi & Tukel, 1996; Martin, 1974; White & Fortune, 2002). This understanding should be supplemented by the commitments to the project success by all the project team. Cooke-Davies (2002) emphasizes the clear assignment of responsibilities as a way of accomplishing this commitment. Andersen and Jessen (2000) refer to clear terms of references for the project. Many studies (for example, Sayles & Chandler, 1971, White & Fortune, 2002) recommend an effective monitoring and control system to reinforce the motivation of the project team. These factors, and the compatibility of the interests of the individuals with those of the project, are even more important for international development projects, where the relationships of the project team and the other stakeholders are much more complex (Kwak, 2002; Youker, 1999). Communication and trust factors are found empirically by Diallo and Thuillier (2005) as critical to the success of international development projects in sub-Saharan Africa.

A project environment mostly refers to the relationship to external conditions and stakeholders, such as funding agencies, implementing agencies, agencies of recipient governments and target beneficiaries. An enabling environment provides adequate support from key stakeholders, adequate resources, and creates favorable conditions with support from management and compatible rules and regulations. Early research identified top management support and adequate allocation of resources as key environmental factors (Cleland & King, 1983; Martin, 1974; Pinto & Slevin, 1987). Belassi and Tukel (1996) described explicitly the factors related to external environment, such as political, economical and social situations, technical conditions and competitors. Other external factors included adequate resources, facility, finance and information (Baker, Murphy, & Fisher, 1983; Pinto & Slevin, 1987; Sayles & Chandler, 1971; White & Fortune, 2002; Westerveld, 2003).

As pointed out by Pinto and Slevin (1987), the critical success factors vary according to different types of projects. Thus, the results obtained for industrial and business projects, or even for general projects, may not always be applicable to not-for-profit projects that can be very different from those found in industry or the private sector. However, except for the seminal studies of Diallo and Thuillier (2004, 2005), none of the researches on project critical success factors addressed this important group of projects. (See Fortune and White [2006].) The current research follows up the studies by Diallo and Thuillier (2004, 2005) of international development projects by taking into consideration specific critical success factors and criteria for each of the life-cycle phases of these projects.

Characteristics of International Development Projects

Development projects form a special type of projects that provide socioeconomic assistance to the developing countries, or to some specially designated group of target beneficiaries. These projects differ from industrial or commercial projects in several important ways, the understanding of which has strong impacts on how the projects can be managed and evaluated.

The objectives of development projects, by definition, concern poverty alleviation and living standards improvement, environment protection, basic human rights protection, assistance for victims of natural or people-caused disasters, capacity building and development of basic physical and social infrastructures. These humanitarian and social objectives are usually much less tangible, with deliverables less visible and measurable, compared with infrastructure and industrial projects commonly found in the private sector. Even for projects involving development of physical infrastructure and facilities, the ultimate “soft” goals of serving sustainable social and economic development always have a priority in the project evaluation by key stakeholders. The intangibility of project objectives and deliverables raises a special challenge in managing and evaluating development projects that require adaptation of the existing project management body of knowledge and adopting new tools and concepts to define, monitor and measure the extent that the development projects achieve these objectives. Neglecting this important aspect of development projects usually leads to the tendency of measuring only resource mobilization and efforts, rather than results. The consequence is the inefficient use of development funds and long-term lack of accountability. As project interventions cannot be continued forever, most projects also have an ultimate goal to produce positive and significant changes that will be sustained after the external assistance comes to an end. This sustainability requirement adds a new level to the intangibility of the development outcomes.

Another characteristic of most international development projects is the complex web of the many stakeholders involved (Youker, 1999). Industrial and commercial projects usually have two key stakeholders—the client, who pays for the project, and as a result, gets the benefits from its deliverables, and the contractor, or implementing unit, who gets paid for managing the project and as a result, gets the benefits from its deliverables, and the contractor, or implementing unit, who gets paid for managing the project to achieve the desired results. International development projects, in contrast, commonly involve three separate key stakeholders, namely the funding agency who pays for but does not use directly the project outputs, the implementing unit, and the target beneficiaries who actually benefit from the project outputs but most commonly do...
not pay for the projects. The role separation of these three key stakeholders has several important implications. First, financial accountability by the project management team is often considered as important as its responsibility to complete the projects within the time, cost and quality. This is even more important since these projects are implemented in developing countries where cases of high-level corruption often take place. Second, because of the common developmental, cultural and knowledge gap between donors and the target recipients, the likely mismatch between the real needs and capacity of the target groups and the understanding and development policies of the funding agencies may result in poor project design, a precursor of failure in the implementation. Third, complicating the financial accountability are the efforts by the funding agencies and the governments of the recipient countries to establish rules and procedures to regulate the disbursement and utilization of the development funds. Set with similar intention, but by different institutions with different organizational cultures and traditions, these various rules and procedures often contradict each other, raising special and unnecessary difficulties during project implementation.

The lack of market pressures in appraising and implementing development projects, combined with the intangibility of their objectives, often makes these projects the target of political manipulations. Individual politicians and political parties may push for infeasible projects, or may oppose good projects for their own political gains. In extreme cases, some donor countries may use development funding to nurture a political alliance with the leaders of the recipient countries, or simply to buy a good conscience (Pallage & Robe, 1998). As a consequence, the real interests of different stakeholders in these projects may be different from the stated objectives in the project document, creating a special dilemma for the implementation.

The challenges faced by international development projects convince us of the need to refine the existing evaluation frameworks used in industry to allow the managers and stakeholders of these projects to assess the project performance in a more objective and consistent manner. This may be achieved by considering project life cycle, and then evaluating the success of each phase based on the outputs produced by the activities of the phase. These partial successes can then be integrated into an assessment of the overall success of the whole project.

The life cycle of most projects can be broken into sequential phases that are generally differentiated by the technical work being carried out, the key actors involved, the deliverables to be generated and the ways these are controlled and approved (Project Management Institute [PMI], 2004). Although the number and names of the life-cycle phases and the precise boundary points may vary largely from one project to another, international development projects go through a typical life cycle including four relatively distinct stages. Table 1 summarizes the most common scope of the work to be carried out, the end products to be delivered and the parties involved in these four life-cycle phases.

**The Proposed Life-Cycle-Based Framework**

Measuring the success of international development projects commonly involves a high degree of subjective judgments, due to the intangibility of their objectives. In this research, more objective success criteria are developed by adopting the Logical Framework Approach (LFA), a general methodology commonly used by the development community to design, plan, manage and communicate their projects (Coleman, 1987; Gasper, 2000; Wiggins & Shields, 1995). The LFA deconstructs a development project into a hierarchy of five components: inputs, activities, and three levels of the project results—outputs (or deliverables), objectives (or purposes, or outcomes) and goals (or impacts). Following Baccarini’s approach (1999), the success of a project is defined at two levels: the project management success, and the project success.

Project management success, being process oriented, should be assessed by the input, activity and output elements of the LFA, and can be progressively evaluated in the different stages of the project. It can be broken down into success of project life-cycle phases, and then measured by evaluating the quality of the end products generated and the achievement of the results intended for each of these phases. For example, the conceptualizing phase of an international development project should generally be considered as successful if in this early stage the following conditions exist:

- Correct target beneficiaries have been identified and their relevant needs have been assessed to match the development priorities of the donors;
- An appropriate implementing agency has been identified and notified that is capable and willing to carry out the proposed project;
- Initial awareness and support of all key parties concerned have been adequately raised in order to ensure the project proposal enters the next planning phase.

The success of the last phase, based on the smooth closing of the project office and all due transactions, and acceptance of the end deliverables and the project final reports by the key stakeholders, is the culmination of the success of all the previous phases and constitutes the overall project management success.

Project success, on the other hand, reflects the effective use of the project’s final products and the sustainable achievement of the project purpose.
### Table 1: Life-cycle phases of international development projects.

<table>
<thead>
<tr>
<th>Life-Cycle Phases</th>
<th>Key Activities</th>
<th>Key Players</th>
<th>End Products</th>
</tr>
</thead>
</table>
| **Conceptualizing** | • Identify the potential target beneficiaries and assess their development needs.  
• Align the development priorities of donors, the capacities of potential implementing agencies, and the development needs.  
• Develop and evaluate project alternatives.  
• Generate interest and support of key stakeholders. | • Funding agencies (or their representative)  
• Consultants  
• Implementing agencies  
• Representatives of target beneficiaries and local governments | • Needs assessment report  
• Project proposal or concept paper |
| **Planning** | • Develop the project scope and LOGFRAME.  
• Estimate resources required.  
• Mobilize support and commitment.  
• Plan for project schedule and organization setup.  
• Negotiate for final approval. | • Funding agency (representative)  
• Government (representative)  
• Consultants  
• Implementing agencies | • Project documents including  
• Project scope and LOGFRAME  
• Budget  
• Organizational setup  
• Schedule  
• Risk management plan  
• Project agreement with resource and support commitment |
| **Implementing** | • Set up project management team.  
• Review and revise project plan and kick off the project.  
• Carry out the project activities as planned.  
• Control the project budget and expenses.  
• Monitor, evaluate, and report project progress and performance.  
• Manage relationships with stakeholders. | • Project management team  
• Subcontractors, suppliers, partners  
• Target beneficiaries | • Resources mobilized  
• Activities carried out  
• Outputs produced and delivered  
• Inception report and M&E reports |
| **Closing/completing** | • Final test the project outputs.  
• Complete the project final report.  
• Settle all financial transactions with subcontractors, suppliers, consultants, etc.  
• Hand over the project output and asset.  
• Bring into public notice the project results and lessons.  
• Dissolve or transform the project team. | • Project management team  
• Funding agency (representative)  
• Government (representative)  
• Implementing agencies | • Project completion report  
• Final settlement of all pending financial dues  
• Project outputs and assets transferred  
• Dissolution or transformation of the project team into an ongoing operation |
and long-term goals. It should be evaluated at the end of the project by a different set of criteria that are based essentially on the development impacts, the sustainability and the acceptance of the project achievements by the stakeholders and the development community in general.

As indicated by the research reviewed, the conditions required to ensure the project management success in each life-cycle phase involves the competencies and commitment of the concerned parties in carrying out the scope of the work of the phase, and other external enabling environmental conditions for the conduct of these activities. As these conditions could be extensive, the authors focus on the most common factors, based on their own experiences and field interviews with the project stakeholders. In addition, since the end products of one project life-cycle phase serve as inputs for the subsequent one, the success in each phase provides favorable preconditions for the implementation of the remaining part of the project. The success criteria for one phase are conceptualized as part of the success factors for the subsequent phase.

Table 2 summarizes these criteria for the life-cycle phases of international development projects. Figure 1 provides a comprehensive representation of our proposed framework that incorporates the identified criteria and factors for both project management success and project success into a dynamic structure linking the life-cycle phases of the international development projects.

Empirical Validation

Survey Design

In order to validate the model, a survey was conducted with internal and external stakeholders of both Official Development Assistance (ODA) projects and international non-governmental organizations (INGO) in Vietnam and Myanmar. The choice of these two countries was based on the authors’ access to the international development projects in these countries but can also be justified by the total volume of assistance aid involved (US $1,894.6 million in 2004, or 29.53% of total ODA disbursed for the 11 countries in South-East Asia), with Vietnam being the largest recipient of ODA in South-East Asia (US $1,768.8 million in 2004) and Myanmar, one of the smallest. A 53-item questionnaire was used where the respondents were asked to evaluate the success of their project using different approaches, and then assess the critical success factors both on their perceived importance and on the extent of their presence in the project.

The overall success of the projects is first evaluated using the perceived judgment by the various key stakeholders, such as manager and team members, funding and implementing agencies, target beneficiaries and general public (questions Q6–Q12). Afterward, the respondents also evaluate the overall success of their project based on more specific criteria identified in the model, such as visible impact on target beneficiaries, built capacity, reputation, sustainability of project results, and chance of being extended as result of success (questions Q30–Q34). These two sets of criteria correspond to the two dimensions of project success: the perceived satisfaction by key stakeholders, and the quality of overall intended results. The respondents are also asked to evaluate the partial project management success of each life-cycle phase the project has gone through. The criteria used include the quality of the outputs produced by the phases as well as the acceptance of these outputs by the key stakeholders (questions Q13–Q28). The traditional criteria of targets, time and costs are included in the success assessment in the implementing phase, which is consistent with the common approach in the literature (Belassi & Tükel, 1996; Diallo & Thuillier, 2004; Pinto & Slevin, 1987).

For each phase of the project, the respondents are asked to rate their perception of the importance of the success factors listed for the phase (questions Q135–Q153). For the same factors, the respondents are also asked to assess the extent these factors are—or have been—actually present in their project (questions Q35–Q53). By regressing the project success measures to the scores provided for these later questions, the actual impacts of these factors on the success of the phases as well as the overall success can be evaluated.1 Thus, both the subjective judgment and a more objective assessment of the relative importance of the factors on the project success are obtained and compared.

Over 1,000 questionnaires were distributed to the project managers and staff members, officials at donor agencies, government agencies and INGOs in visits to their offices, and in workshops attended by them. Of the 374 returned questionnaires, after discarding responses with missing data, 368 were usable. A preliminary analysis of the data collected reveals a broad and relatively balanced representation of the different sectors and types of stakeholders in the sample: In Vietnam (296 responses) the respondents come mostly from agriculture, environmental, energy, social development, and capacity building-reform-governance categories, while the respondents in Myanmar (72 responses) represent the INGO's working with social development,

1Although one may argue that statistical analysis of Likert scale data is not rigorously tractable with classical multiple regression (see, for example, Diallo & Thuillier, 2004, 2005), this study follows the common "pragmatist" approach in business research of treating Likert scale data as interval or "quasi-interval" measurements (Cooper & Schindler, 2001, p. 234; Hofstede, 2001, p. 50; Pedhazur & Schmelkin, 1991, p. 28). Regression analysis was also commonly used in critical success factor research (for example, Andersen and Jessen, 2000; Pinto & Slevin, 1989). In this study, to check the results of regression analysis, multinomial regression analysis was performed on the same data following the approach taken by Diallo and Thuillier (2004, 2005), with essentially consistent results. We report here the classical regression results that are straightforward and easier to interpret.
health-nutrition-population, and capacity building-reform-governance projects. In terms of responsibility, 28% of the respondents are project managers, coordinators or directors; 47% are project team members; and the remainder are representing external stakeholders (donors, local authorities and target beneficiaries). Reliability analysis for the questionnaire yields high Cronbach’s alpha values, ranging from 0.89 to 0.95 for the items covering overall success, partial success, and the success factors’ presence and importance.

**Analysis of Findings**

Overall, the respondents have a very positive judgment of the success of their projects (with average score above 4.0 over a scale of 5; see Table 3). They are also confident that other key stakeholders assess their projects as equally successful. This general optimistic assessment of success reflects the impact of social desirability of development projects over perceptions of their success. The only exception here is the judgment of how the general public perceives the projects (average score of 3.83, significantly lower than the others).

**Table 2: Success criteria and factors for international development projects.**
I. Conceptualizing SCfSs
- Need assessment report
- Project concept paper
- Clear understanding of project environment
- Competencies of project designers
- Effective consultation with primary stakeholders
- Adequate resources and competencies available to support the project plan
- Competencies of project planners
- Effective consultation with key stakeholders
- Addressing relevant needs of the right target group of beneficiaries
- Identifying the right implementing agency capable and willing to deliver
- Matching policy priorities and raising the interests of key stakeholders

II. Planning SCfSs
- Final project document
- Project agreement
- Compatibility of development priorities of the key stakeholders
- Consistent support of stakeholders
- Commitment to project goals and objectives
- Competencies of project management team
- Effective consultation with key stakeholders

III. Implementing SCfSs
- Resources mobilized
- Activities carried out
- Outputs produced
- Short term work plans and M&E reports
- Adequate provisions for project closing
- Competencies of project manager
- Effective consultation with key stakeholders

IV. Closing/Completing SCfSs
- Financial settlements
- Project completion report
- Project assets transferred
- Project team dissolved
- Adequate provisions for project closing
- Competencies of project manager
- Effective consultation with key stakeholders

Overall Project Success
- Project is sustained by local institutional capacity
- Project's impacts on beneficiaries are visible
- Project has good reputation in donor's community
- Project is recognized to have meaningful and significant contributions to the development of the country
- Project is extended into another phase

Project Success
- Policy supports of donors and recipient government
- Adequate institutional competencies
- Strong ownership and institutional commitments

Figure 1: Project life-cycle-based framework for international development projects management.
Success Criteria and Factors for International Development Projects

This lack of confidence in the public perception suggests some possible external communication problems that will emerge again in a later analysis. A factor analysis performed on the success judgments of key stakeholders (questions Q7–Q12) indicates that the measurements of the success perception of the project may be simplified by grouping the respondents around three clusters: the management team, the agencies (both from recipients and donor governments), and the target group, including the general public. The score of the groups could then be calculated by averaging the scores of the variables within the groups. However, in this study, scores of all the variables are simply averaged to obtain the overall subjective judgment of the project success. This average is found to correlate highly with the overall success scores evaluated using more specific and objective criteria, with Pearson coefficients ranging from 0.488 to 0.576. (See Table 4.) The highest correlation (0.576 between the average success judgment and the Q34) also indicates that the sustainability of project results has larger bearing on the perceived success judgment than other success criteria.

Table 3: Project success assessment, by stakeholders and at life-cycle phases.

<table>
<thead>
<tr>
<th>Success Judgment by Stakeholders</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q6 overall success perceived by the respondent</td>
<td>4.02</td>
<td>0.752</td>
</tr>
<tr>
<td>Q7 success as perceived by manager</td>
<td>4.07</td>
<td>0.710</td>
</tr>
<tr>
<td>Q8 success as perceived by implementing agency</td>
<td>4.08</td>
<td>0.738</td>
</tr>
<tr>
<td>Q9 success as perceived by funding agency</td>
<td>4.08</td>
<td>0.717</td>
</tr>
<tr>
<td>Q10 success as perceived by team members</td>
<td>4.07</td>
<td>0.755</td>
</tr>
<tr>
<td>Q11 success as perceived by target beneficiaries</td>
<td>4.05</td>
<td>0.771</td>
</tr>
<tr>
<td>Q12 success as perceived by general public</td>
<td>3.83</td>
<td>0.925</td>
</tr>
</tbody>
</table>

Table 4: Correlation of success judgment and criteria-based assessment.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Average success judgment</td>
<td>4.06</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Q30 visible impact</td>
<td>4.21</td>
<td>0.706</td>
<td>0.516</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Q31 institutional capacity</td>
<td>3.99</td>
<td>0.872</td>
<td>0.521</td>
<td>0.483</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Q32 good reputation</td>
<td>4.04</td>
<td>0.763</td>
<td>0.530</td>
<td>0.440</td>
<td>0.484</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Q33 good change for extension</td>
<td>4.01</td>
<td>0.861</td>
<td>0.488</td>
<td>0.404</td>
<td>0.469</td>
<td>0.518</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6 Q34 sustained outcomes</td>
<td>4.07</td>
<td>0.812</td>
<td>0.576</td>
<td>0.553</td>
<td>0.586</td>
<td>0.515</td>
<td>0.564</td>
<td>1</td>
</tr>
</tbody>
</table>
of the implementation phase. As Table 3 indicates, this phase has an average score (3.93) that is significantly lower than the average success scores of the other life-cycle phases. Also, most projects seem to have schedule problems, as the mean score for the schedule criterion (Q21 at 3.72) is significantly lower than all the other mean scores. The finding confirms the common perception of the development community that the implementation phase is when projects exhibit most problems. It is not surprising that after the implementation phase, the closing phase is less successful than the early stages of the project life cycle.

The success factors for the life-cycle phases and for the overall project success are first ranked according to their perceived importance to the project. The respondents all agree that the factors listed in our proposed model are indeed important to the success of their projects: With a scale from 1 to 4, all the mean scores of the factors exceed 3.4. (See Table 5.) Unlike the success criteria, the data do not indicate statistically significant differences among the impacts of these factors in the different life-cycle phases. Consistently throughout the life cycle of the projects, the competency factor was considered by the respondents as most important. Although in different phases, this factor refers to the capacity to perform assigned functions of different players (designers in the first phase, planners in the second phase, project manager and team in the last two phases), all respondents indicate that the predominant influence in each of these phases is the capability of the internal active stakeholders of the projects. This is further highlighted by the relatively low impact of effective consultations with other stakeholders: lowest in the initiation and closing phases, second lowest in the planning phase and third out of six factors in the implementation phase.

Table 5 only summarizes the perception of the respondents on the importance of the factors listed in the model. In order to verify if these perceptions truly reflect the real impacts of the factors on the partial and overall success of the projects, the respondents were also asked to evaluate the extent to which these factors were present in their project at the corresponding phases. For each phase, regression analysis with the average success score of the phase as dependent variable and the presence of the factors in the phase as independent

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<thead>
<tr>
<th>Importance of CSFs</th>
<th>Mean</th>
<th>SD</th>
<th>Rank (overall)</th>
<th>Rank (within a phase)</th>
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</thead>
<tbody>
<tr>
<td><strong>Conceptualizing phase</strong></td>
<td></td>
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<tr>
<td>Q135 understanding of environment</td>
<td>3.71</td>
<td>0.480</td>
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<td>Q136 effective consultations</td>
<td>3.47</td>
<td>0.590</td>
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<td>Q137 competency of project designers</td>
<td>3.71</td>
<td>0.484</td>
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<td><strong>Planning phase</strong></td>
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<td>Q138 compatible development priorities</td>
<td>3.45</td>
<td>0.578</td>
<td>18</td>
<td>4</td>
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<td>Q139 adequate resources</td>
<td>3.61</td>
<td>0.552</td>
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<td>Q140 effective consultations with planning</td>
<td>3.48</td>
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<td>3.64</td>
<td>0.536</td>
<td>5</td>
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<td><strong>Implementing phase</strong></td>
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<td>Q142 adequate supports</td>
<td>3.63</td>
<td>0.506</td>
<td>6</td>
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<td>Q143 high motivation and interest</td>
<td>3.57</td>
<td>0.572</td>
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<td>Q144 adequate knowledge and skills</td>
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<td>Q145 adequate resources and support</td>
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<td>Q146 compatible rules and procedures</td>
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<td>Q147 effective consultations during implement</td>
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<td>Q148 adequate provisions in project plan</td>
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<td><strong>Overall project success</strong></td>
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<td>Q153 strong ownership of project</td>
<td>3.58</td>
<td>0.557</td>
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</table>

Table 5: Perceived importance of critical success factors.
Success Criteria and Factors for International Development Projects

variables can help determine the impacts of these factors on the success of the phase. By taking into this analysis the average success score of the previous phase as additional independent variable, the hypothesis that the success of each phase also has influence over the success of the subsequent phase can be tested.

The results, summarized in Table 6, once again reconfirm the success factors developed in the model. Of the 16 factors listed for the life-cycle phases, 10 have significant or moderately significant impacts on the partial project management success scores, and no factor has a significant negative beta coefficient in the regression model. The analysis also confirms the dynamic linkages of the partial project management success of the successive phases: in each life-cycle phase, the influence of the success of the preceding phase is always significant and, in fact, far exceeds that of other success factors listed in the model.

However, the most surprising observation from Table 6 is that the consultation factors (Q36, Q40, Q47, and Q49) turn out to have more influence on the project management success than most other factors, contrasting the findings from Table 5. The only exception is in the planning phase, where external supports and resources are slightly more important. This observation is further emphasized by the lack of statistical significance of the competency factor in all phases. In other words, despite the conventional wisdom that the competence of the project designers, planners and the project management team is most related to success, the empirical evidence shows that effective consultations are far more important in influencing the project success, at least for the international development projects. The misplacement of attention on internal competency, rather than on external communication and participation, provides some explanations to the lack of confidence shown by the respondents in their rating of how the public may assess success of their projects (Q12, Table 3).

This finding may also have far reaching practical implications:

- In order to improve the project performance, the advocates of the participatory approach, which involves the stakeholders in the active participation in the design, planning, implementing,
monitoring and evaluating development projects, now have empirical support;

- The focus of capacity building efforts by donors, local governments and many implementing agencies on training seems to be not well placed. This study would indicate that more efforts should be made in bringing the stakeholders together for the training activities to be effective and have impacts on project performance.

Conclusions

In this paper, a new framework is developed based on the previous empirical and conceptual research on critical success factors of projects, and adapted with special consideration on the characteristics and context of the international development projects. The key distinction here is the recognition of the different sets of success criteria and conditions for the different stages of the project life cycle. For each phase of the project, the explicit list of the success criteria is developed based on analysis of the results typically expected at the end of the phase to provide a result-based framework to evaluate the project management performance. Meeting these success criteria requires favorable internal and external conditions that include the high quality inputs from the preceding phase as well as other factors that are derived from an understanding of the activities required for, and the parties involved in, the phases. The dynamic linkages between the criteria and factors in successive phases provide a more solid conceptual foundation to evaluate the project’s current and future status, because the different activities, players, deliverables and environments at the various project phases necessitate different conditions for success.

By focusing on international development projects, the proposed framework helps fill the knowledge gap in the studies of this important project management application area. The context of international development projects, with its characteristics and inherent project logic, allows for a clear picture of the key project players involved and their roles in the different phases of the project, and a better understanding of the conditions required in ensuring project management and project success.

The framework may have important practical implications. It emphasizes the need to “start right” development projects: the success of the early phases have strong impacts on later stages. Separating the success criteria and conditions by life-cycle phases also allows for more specific descriptions of the conditions to be evaluated. For example, the competency factor commonly recognized in most research can now be broken down into different sets of skills and knowledge required by the project designers, planners or implementation team manager and members at different stages of the project. Project management performance can now be evaluated in each of the phases, and the framework presents a practical monitoring and evaluating tool that can be used very early in the project life cycle, and thus facilitate timely corrective actions. Because the framework supports the whole project life cycle, this instrument can be useful to the project manager during the implementation, but also to the designers, planners and external reviewers who are involved with the project at earlier stages. The evaluation of the critical success factors at each stage will help forecast the future status and predict project results. More important from a practical standpoint, the results clarify the weak areas needing special attention and support for successful completion. On the other hand, the vast diversity of international development projects creates some limits on the practical application of the model: the success criteria and factors may need to be further adapted and refined for specific categories of IDP projects.

The analysis based on the proposed framework and a field survey with ODA and INGO projects confirms the validity of the model. It also illustrates the value of the model in providing practical insights on success and failure conditions of these projects. Empirical data emphasize the importance of effective consultancy and participation of the stakeholders in all life-cycle phases. Although the survey was conducted only in two selected countries in South-East Asia, it is believed that the findings, supported by the general conceptual framework, will have practical implications in managing international development projects in other developing countries.

References


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