Project management in the international development industry

The project coordinator's perspective

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Abstract

Purpose – The purpose of this paper is to analyze the empirical relationship between project management (PM) efforts (the extent to which national project coordinators (NPCs) – the project managers in the aid industry sector – make use of available PM tools), project success, and success criteria.

Design/methodology/approach – Data were collected by way of questionnaires delivered by mail to 600 recipients in 26 different countries in Africa.

Findings – The research results suggest that project success is insensitive to the level of project planning efforts but a significant correlation does exist between the use of monitoring and evaluation tools and project "profile," a success criterion which is an early pointer of project long-term impact.

Research limitations/implications – This paper contributes to PM research by exploring the relationship between the use of PM tools and project success in the non-traditional PM – although project oriented – aid industry sector. The paper highlights self-perceptions of NPCs and should not be interpreted in other ways.

Practical implications – This paper highlights the importance of PM tools in practice. Further, it suggests that NPCs (who are in fact only involved in project execution) put a lot of effort into monitoring and evaluation. In so doing, they strive to ensure project performance and accountability throughout project lifecycle, and this contributes to project "profile."

Originality/value – This is the first study that offers insights into the relationship between PM efforts and project success in the aid industry sector. The paper calls for further research on PM practices in the aid industry sector where projects remain important instruments for aid delivery.

Keywords Project management, Project planning, International co-operation, Development agencies, Africa

Paper type Research paper

1. Introduction

"Failing to plan is planning to fail." This is perhaps one of the most popular saying among project management (PM) practitioners and it is hard not to concur with this management philosophy (McNeil and Hartley, 1986). For that matter, project planning remains a key factor of project success. For example, Project Management Institute

(PMI) strongly advocates the contribution of project planning to project success (Murphy *et al.*, 1974). Despite the claim made by certain authors, that project planning is not a guarantee against project failure, and that too much planning can curtail creativity, many believe and have evidence to support their claim, that a minimum level of planning is required (Andersen, 1996; Bart, 1993). As Dvir *et al.* (2003, p. 89) put it: "In fact, although planning does not guarantee project success, lack of planning will probably guarantee failure."

It comes as no surprise that the empirical relationship between project planning and project success is under close scrutiny by some authors. As far as Dvir *et al.* (2003) are concerned and at least for research and development (R&D) projects, the relationship between the investment in project planning and the degree of success achieved is clear. If a minimum level of project planning is required, "there is no correlation between the implementation of planning procedures in the project and the various success dimensions" (p. 94). They also suggest that any question as to what kinds of tools are used is of no importance (p. 95). Such research results are intriguing and evidence seems to be against the popular belief that project planning is closely related to project success.

There is a rising wave of criticism related to the research on PM in general and on project success in particular. Some question the widespread assumption that a universal theory can be applied to all types of projects. Others more recently suggest that there is much to do for the growth of PM literature in non-traditional areas and for the determination of industry-specific issues and challenges (Carden and Egan, 2008). Echoing those opinions, it is reasonable to find out if the research results by Dvir *et al.* (2003) may also apply to international development projects (IDPs), considering their singularity. Of course, little attention has been paid to IDPs as far as PM literature is concerned and empirical research specifically dedicated to such projects is scarce (Diallo and Thuillier, 2004; Themistocleous and Wearne, 2000; Khang and Moe, 2008). In that regard, the best effort from PMI, if not the sole, although not perfect (Steinfort and Walker, 2007) was dedicated to aid relief projects: the PMI (2005) post-disaster rebuild methodology. Yet, projects remain important instruments and vehicles for international development assistance (Cernea, 1998; Crawford and Bryce, 2003; GTZ, 2003). Project approach with specific PM units and specific loan agreement for each project is still relevant in countries where institutional capacity is minimal (Tacconi and Tisdell, 1992, p. 268; Lavergne and Alba, 2003, pp. 6 and 16). For instance, nearly 100 percent of the operations of the International Development Association, which is the part of the World Bank that lends money from the "haves" of the world (richest countries) to help the "have-not" (poorest countries) on the most favourable terms possible, consist of projects.

This paper challenges the results by Dvir *et al.* (2003) and examines the empirical relationship between PM efforts, project success, and project success criteria as perceived by African IDPs' coordinators (national project coordinators (NPCs)). More specifically, it aims to reveal to what extent NPCs make use of available tools, techniques, and methods and to measure the strength of the relationship between the use of PM tools, techniques, and methods on the one hand and project success on the other hand.

This paper is organized as follows. We begin with the specificity of international development PM and a review of the relevant literature, followed by a description of the research methodology. We then present the project success and PM tools variables. The following section contains the analysis of statistical correlations between the

former and the latter variables. We conclude with a discussion of the study's findings, their implications for IDP coordinators and suggestions for further research on the relationship between PM and project success.

2. International development PM

The aid industry sector is definitely a project-oriented business. As a consequence, project proliferation in aid recipient countries is now considered by many actors to be a challenge. For example, the number of project commitments from all donors totalled nearly 30,000 projects in 2003 (Roodman, 2006), and this is still true today, many of which are small and not-for-profit development projects and a few others are very big infrastructure projects (see Appendix 1, Table AI, for the characteristics of the projects in this study's sample). But one question remains to be answered. Are IDPs so different from other projects that they require a particular analysis of project success factors and especially the relationship between PM efforts and project success?

This question raises the problem of the specificity of IDPs. The answer to such a question is straightforward: their environment is undoubtedly unique. Project managers or coordinators (NPCs) in the aid industry sector have to deal with complexity, resistance to change, competing agendas of a large number of stakeholders, and diverse and even contradictory expectations that render compromises very difficult to reach (Cernea, 1998; Crawford and Bryce, 2003; GTZ, 2003; Khang and Moe, 2008; Diallo and Thuillier, 2004, 2005).

In addition to this singular socio-economical, ecological, and political environment, IDPs' goals and objectives, by their very nature, are delicate since most of them deal with human development, social transformation, and poverty reduction (Cernea, 1998; Crawford and Bryce, 2003; Khang and Moe, 2008; Diallo and Thuillier, 2004, 2005). Indeed, IDPs may address education, health and nutrition, water sewage and sanitation, environment, infrastructures, judicial, or institutional reforms.

Much has been published about PM in the construction field, the manufacturing and the R&D in industrialized countries, notably on PM tools and techniques. However, due to the very nature of IDPs (in comparison with the traditional sectors where PM is used), little attention has been paid to IDPs as far as PM literature is concerned (Themistocleous and Wearne, 2000).

Furthermore, current PM best practices seem to be applicable to IDPs although there is a lack of knowledge on the antecedents of such application of PM practices (Steinfort and Walker, 2008). As a consequence, we view the aid industry sector not as a traditionally non-PM area, which it might appear to be in a first approach, but rather a non-traditional PM although project-oriented industry sector where the use of PM tools, for example, is specific and non-traditional.

3. Literature review

3.1 The importance of tools and techniques in PM

Defining PM is not an easy task. Turner (1994) defines PM as the art and science of transforming vision into reality. Although there are a lot of definitions, the PMI one is the most known: the application of knowledge, skills, tools, and techniques to bring about the successful completion of specific project goals and objectives. As such, it involves planning, organizing, monitoring, and controlling the project and requires its own tools and techniques (Belassi and Tukel, 1996). There is no doubt that PM in

general and PM tools and techniques, in particular, play an important role in project success (Munns and Bjeirmi, 1996). For some time, project planning has been the favourite subject for many scholars since they strongly believe that better project planning would lead to better PM and thus to project success (McNeil and Hartley, 1986; Belassi and Tukel, 1996; Dvir and Lechler, 2004). In fact, a project, by essence, has not been done before. With the preparation of formal design and planning documents (be it at the initiation or the planning level), the project manager can solidify the project in the minds of its stakeholders and provides them with the opportunity for adjustment before any work is done and throughout project implementation (Mingus, 2002, p. 31; Dvir *et al.*, 2003). Analysis, design reviews, reports, communication, quality, time, and cost schedules are, therefore, essential (Thomsett, 2002, pp. 175, 189, 211; Venkatraman and Venkatraman, 1995; Dvir and Lechler, 2004). Project mission, schedule, budget, scope, plan or scope changes, goal changes, progress measurement, quality of project monitoring, and reporting are well-known factors in project success and failure (Slevin and Pinto, 1986; Dvir and Lechler, 2004). So far, the overwhelming majority of PM scholars seem to encourage project managers to do more planning and monitoring if they wish to succeed (Dvir and Lechler, 2004). In addition, more and more companies recognize the benefits of using PM tools, techniques, methodologies and processes in a shifting, complex and unpredictable environment for change management effectiveness purposes (Clarke, 1999). Furthermore, it is a PM reality that using PM tools and techniques can significantly help the project to succeed although it does not guarantee its success (Mingus, 2002, pp. 3-4).

Tools and techniques are concrete and specific means that PM practitioners use to apply rules, principles, and skills "to do the job," "to execute a process" or metaphorically speaking "to execute the recipe," and "to play the partition" (Besner and Hobbs, 2004). Numerous PM tools, techniques, methods, and processes have been developed and disseminated through books, journals, and professional bodies (White and Fortune, 2002). But which tools do practitioners actually use in their day-to-day PM? What kind of tools do project managers have in their toolbox to get things done?

The use of PM tools and techniques is an integral part of the PM process and the PM practice, especially in the planning and execution phases. Specific PM tools and techniques are required for specific phases of the project lifecycle. If we consider the conventional PMI project lifecycle, one could distinguish between initiation tools, planning tools, execution (and monitoring, controlling, and reporting) tools, and closing (evaluation) tools. During the initiation phase, project formal design preparation tools such as the logical framework (or "logframe" (LF)), the project charter/project proposal, needs and market assessment tools, problem analysis tools, option analysis tools are recurrent and critical.

Although no effort should be spared at the initiation phase, it is indeed at the planning and implementation phases, where the project managers enter the fray, at least in the orthodoxy of conventional PM, that the use of PM tools reaches its peak. Project planning and implementation phases are known to be tools-intensive. In fact, Pinto and Prescott (1990) have shown that PM key success factors are either project planning ones or project implementation ones. Unsurprisingly, "the tools of the trade" (Fox and Spence, 1998) are more often planning tools since they are the first, the most known and the most used in PM. Since the emergence of the PM discipline in the 1950s and the 1960s, project scheduling, budgeting, and planning techniques such as critical

path method (CPM) and program evaluation and review technique (PERT) have been at the cornerstone of PM (Belassi and Tukel, 1996; Dvir and Lechler, 2004). In particular, detailed network schedule approaches and computational models are extensively used for aerospace, defence, and construction projects. But neither PERT approach nor the detailed networks are used for other types of projects and at the top level of truly excellent organizations like Hewlett-Packard. Whiteboards, post-it notes, and milestone planning are used instead with some PM software (in this latter case, especially at the task level) (Dvir and Lechler, 2004).

Paraphrasing the Eisenhower historical dictum: "Plans are nothing, planning is everything," Dvir and Lechler (2004) suggest that "while plans are nothing, changing plans are everything." Therefore, during the implementation phase, the project managers may have to update project plans with project planning tools or embrace plan-changes or goal changes activities. Also, monitoring, controlling, and reporting tools such as earned value have shown to be critical for the success of large scope projects but irrelevant for projects of moderated size or inapplicable in other sectors (Fleming and Koppelman, 2004, 2006). Evaluation tools (e.g. project stakeholders' satisfaction surveys) remain somewhat underdeveloped and not frequently used in PM practice.

White and Fortune (2002) attempt to determine the extent to which those involved in PM actually make use of the methods and techniques that are available, and how effective these are perceived to be. They report that most respondents use only a small number of tools, techniques, and methods; PM software and Gantt charts are most frequently used. Similarly to Fox and Spence (1998), they argue that there are more drawbacks to the use of PM software than with other tools since the link between the tool and the requirements of the task is far from being adequate. In their "reality check" study of 70 PM tools and techniques, Besner and Hobbs (2004) demonstrate that practitioners, regardless of the project's characteristics and context, almost invariably use some PM tools and techniques, the bulk of which have different levels of usage according to the type of project.

Contextual influences seem to play their part in PM and in project planning and implementation in particular. In addition to the type of project and the phase of the project lifecycle, it has been shown that strategic importance of the project, level of experience of the project team, personnel constraints within the implementing organization, occurrence of technological breakthrough, technology uncertainty, the mono- or multi-project situation, the number of parallel projects, the mono- or multi-implementers situation, or the number of project stakeholders, the business or industry sector, affect PM and the usage of PM tools and techniques (Dvir *et al.*, 1998; Dvir and Lechler, 2004).

Finally, for the critical aspects of projects such as – quality, risk, and communication management – very few effective tools and techniques are available, except the project management body of knowledge (PMBOK) project stakeholders' analysis. Other tools and techniques are, therefore, welcomed for a quality project planning and an efficient project implementation (Globerson and Zwikael, 2002).

3.2 The importance of tools and techniques in IDPM
3.2.1 The IDPM cycle: the World Bank cycle from Baum (1970, 1978) to now. Given the specific nature of IDPs, one could refer to the World Bank experience considering its leading role in identification and preparation of such projects. Project analysis is

prevalent in international development project management (IDPM) practice and as such it requires specific tools and techniques:

> The function of project analysis is not to replace judgment. Rather, it is to provide one more tool (a very effective one, we hope) by which judgment can be sharpened and the likelihood of error reduced (Gittinger, 1984, p. 7).

Although the concept of IDP has different meanings, the following definition is instructive:

> A project is a planned complex of actions and investments, at a selected location, that are designed to meet output, capacity, or transformation goals, in a given period of time, using specified techniques (Johnson, 1984, p. 112).

Such a definition emphasises the IDPM procedures, tools, and techniques rather than the IDPM process and holds that project planning is the fundamental activity since there is a need for a systematic way of "getting the job done" (Analoui, 1989). This is epitomised by the prescriptive approach, most concerned with "what should be done" rather than a descriptive approach "what does happen," which is the mechanistically orientated underlying philosophy at the basis of all the IDPs' models, cycles, or sequences (Baum, 1970, 1978; Rondinelli, 1977; Development Project Management Center, 1979; Goodman and Love, 1980; MacArthur, 1986; Johnson, 1984; Analoui, 1989). In fact, the common ancestry of the latter can be traced back to the Baum (1970, 1978) cycle, and beyond to the almost inherent practice of logical procedures by professionals in such fields as engineering, architecture, and economics (Johnson, 1984).

Also, IDPM practitioners and field consultants who outline the project cycles were often associated with the financial, economic, or engineering aspects of the IDPs (Johnson, 1984; Analoui, 1989; Gittinger, 1984; Cernea, 1998). There was in fact an attempt to generalize procedures over a range of different types of projects without sufficient considerations of organizational structure or managerial responsibility and control (Johnson, 1984).

As a result, the traditional IDP cycle, a natural sequence in the way IDPs are planned and carried out, a paradigm grounded in the engineering tradition, process, and contentwise, was put in place, with an orderly progression from identification to preparation, appraisal, negotiation, and board approval, implementation and evaluation, that has made a lot to the professionalization of the IDPM (Baum, 1978; Picciotto and Weaving, 1994). A kind of "one-size-fits-all" approach similar to the PMI approach is prevalent in IDPM practice:

> No two projects are alike; each has its own peculiar history, and lending has to be tailored to its circumstances. On the other hand, each project passes through a cycle, that with some variations, is common to all (Baum, 1970, p. 3, Baum, 1978, p. 12).

As the emphasis was mostly on the point of view of the donors, little attention was paid to IDP implementation which was the sole responsibility of the borrowers. The role of the project manager was therefore peripheral and the role of the World Bank was to "supervise the project as it is implemented" (Baum, 1978, p. 9) (Figure 1). As a consequence, financial, economic, and technical feasibility tools were the most important and the most used in project analysis (Gittinger, 1984). The term project would then refer to an investment activity in which financial resources are expected to create assets which produces benefits over an extended period of time; and assessing if it had succeeded or was likely to succeed
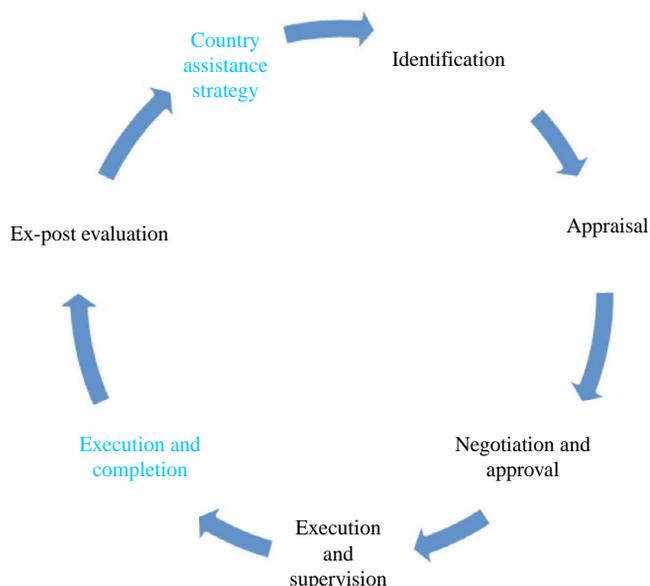
Note: New phases added to Baum's (1978) cycle in colour

Figure 1.
The World Bank cycle

was critical (Gittinger, 1984; Hubbard, 2000). Although particularly well suited to the trickle-down theory to development and to the view of the World Bank as a mostly financial institution and therefore to public investment projects typical of the 1950s and 1960s, it has been rejected to be ill-adapted to the "increasingly complex and uncertain environments" in which IDPM now takes place. Picciotto and Weaving (1994) even then proposed listening, piloting, demonstrating, and mainstreaming to make up the new "learning" cycle for the more international development-oriented World Bank and its process projects for which experimentation, learning, and participation have been important since the 1980s (Bond and Hulme, 1999). Despite this rejection of the traditional IDP cycle, the Baum cycle continues to resist over time and with the advent of Millennium Development Goals, the "new aid architecture and its Poverty Reduction Strategy Papers (PRSPs)" (Hugé and Hens, 2007), the "new aid management orthodoxy" (Hubbard, 2005), and the rise of the programme approach (World Bank, 1998; European Commission, 2007), only the "country assistance strategy phase" and the "implementation and completion" phase has been added at the top and the middle of the cycle (www.worldbank.org). Not surprisingly, the use of tools and techniques is still prevalent in such IDP settings (Gittinger, 1984; Johnson, 1984).

3.2.2 Project identification and planning tools. Table I presents the "tools of the trade" in IDPM. At the country assistance phase, PRSPs have become a cornerstone of development since 1999. The PRSP approach, with its five pillars (country ownership, comprehensiveness, results-orientation, partnership, and a long-term horizon) embodies the "new aid architecture" and the "new aid management orthodoxy" (Hugé and Hens, 2007; Hubbard, 2005). The PRSPs have been presented by the World Bank as being comprehensive development results-oriented frameworks, despite critics of "PRSPs as a theatre," or as a distraction for civil society (Hugé and Hens, 2007).

Table I.
International
development PM tools

Planning tools	Execution tools	Performance measurement tools

Project design tools (from identification to appraisal)
  PRSPs
  CBA (eco CBA, fin. CBA, and social CBA): NPV, IRR, sensitivity, and risk
  Technical targets
  Participatory approaches tools: AIC, SA, GA, etc.
	Implementation: replanning (update, plan, and goal-changes)
	  Traditional operational and structural planning tools (CPM, PERT, MSP, LF, WBS, CHART, etc.)
	  Participatory approaches tools: BA, SCC, etc.
		Ex post evaluation
		
		  CBA
		  Logframe
		  RBM and performance measurement
		  PMIS/PM&E
		  Technical targets
		  Other heuristic tools: "potential impact"; cost-effectiveness; with/without; and before/after analysis

Project planning tools
 	
  Logframe
  RBM
  Other heuristic tools: "potential approach" (Hubbard, 2000)
  Participatory approaches tools: ZOPP, TeamUp, PRA, SARAR, etc.
	Monitoring tools
	
	  Logframe
	  RBM
	  PMIS/PM&E
	  Budget monitoring
	  Monitoring of disbursements
	  Performance indicators
		Impact/sustainability evaluation tools
		  Few tools apart from the above
		  Scoring techniques (Jennings, 1985)

Five broad approaches or categories of tools and techniques at the identification, the preparation, the appraisal, the approval, and the evaluation phases of the project cycle have evolved: economic cost-benefit analysis (CBA) (economic analysis), private or financial CBA (financial analysis), social CBA, technical targets (for physical measures or indicators relevant to project purpose) (Gittinger, 1984; Hubbard, 2000), and participatory approaches tools.

The social, economic, or financial CBA are conducted with tools and techniques such as discounted cash-flow, net present value, internal rate of return (IRR), sensitivity analysis, and risk analysis (Youker, 1989). The full CBAs, whether economic or social, are generally carried out for large-scale infrastructure or agricultural projects, typical projects of the 1950s, the 1960s, and the 1970s. The financial analysis is typically used for private business investments with no substantial social or environmental or external impacts. Technical targets are the widely used measures of performance, especially in the cases of public investment projects and process projects, of the 1980s and more, for which experimentation, learning, and participation are important (Hubbard, 2000; Bond and Hulme, 1999).

Participatory approaches tools include workshop-based and community-based methods for collaborative decision-making methods for stakeholder consultation and methods for incorporating participation and social analysis in project design. Also called "action-planning workshops", the workshop-based methods are used to bring stakeholders together for project design purposes. AppreciationInfluenceControl (AIC, a technique that encourages stakeholders to consider social, political and cultural factors in project analysis) and GTZ project planning techniques such as Objectives-Oriented Project Planning (ZOPP) and TeamUp (which emphasises team

building with a computer software package PC/TeamUP) are such methods. Community-based methods include techniques such as participatory rural appraisal (PRA), a label given to a family of participatory tools that aim at involving local people in project appraisal, analysis, and planning and self-esteem, associative strength, resourcefulness, action planning, and responsibility (SARAR), which is specifically geared to the training of local trainers and facilitators. Methods of stakeholder consultation include techniques that focus on listening and consultation among stakeholders such as beneficiary assessment (BA), a systematic investigation of project stakeholders especially poor or hard-to-reach beneficiaries' perceptions or "voice" and systematic client consultation (SCC) particularly useful for communication purposes with project staff, direct and indirect stakeholders. Methods for social analysis include social assessment (SA), a systematic investigation of social processes and factors that affect project impacts and results and gender analysis (GA), which refers to the understanding and documenting of the differences in gender roles, activities, needs, and opportunities in a specific context (World Bank, 1996).

Baum (1970, p. 7) has warned against the misconception that the overall project preparation effort varies directly with the project size and suggested that there is an inverse relationship between the overall project planning effort in the preparation and appraisal phases and project total cost probably because of lack of PM capacity. It is in that preparation, appraisal and approval process that the project proposal document is written with such tools as the LF, a classic IDPM tool that can facilitate the planning process particularly for process projects (Cracknell, 1988; Hubbard, 2001; Steinfort and Walker, 2007, 2008). The LF stresses a convenient overview of project objectives and the importance of higher-level justifications, external conditions, and the information needs of monitoring and evaluation required for the transformation process of inputs into outputs (Baccarini, 1999; Gasper, 2000; Steinfort and Walker, 2007, 2008; Earle, 2003; Crawford and Bryce, 2003). The LF can be traced back to USAID since early 1970s and to classical Greece with Aristotle hierarchical doctrine of "four causes" which are from the bottom to top: the material, the formal, the efficient, and the final (Bell, 2000). LF has been criticised for falling short to deliver its promises. As its origins are in corporate and military contexts marked by strong central authority and control, around a clear and dominant orientation (financial profit or military victory or survival), it has proven difficult to impose the same sort of clarity and a shared vision in a public process project; also the politically driven accountability-oriented nature of the LF can block learning and adaptation (Gasper, 2000). LF, therefore, is yet to be a universal strategic planning, management, monitoring, and evaluation tool with the emphasis of aid agencies often on completion of the LF as part of paperwork in project preparation instead of using it as a result of a good planning rather abusing the method (Hubbard, 2000). LFs have also failed to account for the "local picture, context or culture" (Earle, 2003) and for the limited time frame of projects (Crawford and Bryce, 2003).

Another tool that is currently used in IDPM is the results-based management (RBM) which emerges with the new public management or public administration policy implementation literature (for the emergence of RBM, see Minogue *et al.*, 1998 and for a good review of the theory-practice issue in implementation research, see O'Toole, 1986, 2004; Barrett, 2004). For some authors, RBM and performance management are the same concepts (Hulme, 2007, p. 2; Steinfort and Walker, 2007, 2008); for others, the

latter is part of the former (Binnendijk, 2000, p. 12). RBM can be regarded as a broad strategic management tool that emphasises accountability-for-results and managing-for-results (Binnendijk, 2000, p. 9). The problem with RBM is that it is currently too much accountability-for-results oriented and little managing-for-results oriented and there is a need to address the limitations of RBM and associated tools like the LF.

3.2.3 *Project implementation and monitoring tools.* Youker (1989) has broken the project lifecycle into three major phases. This is very instructive for purposes of comparison with the PMI project cycle: "planning" (pre-identification, identification, preparation, and approval); "executive" (redefinition, mobilization and actual implementation, and monitoring); and ongoing operations (evaluation). It is indeed in that "executive" phase that implementation planning is actually done (planning, scheduling, control, and supervision) and institutional arrangements such as project organization and PM are decided upon. Once the project plan is approved at the preparation and appraisal phases, a project manager, often a local civil servant with expertise in the sector, is appointed, called a project coordinator or a national (field) project coordinator (NPC), who will be in charge of the actual implementation of the project. The role of the NPC is not to create a project plan in first place like in the conventional PM but to update, to refine or to redefine the project and therefore to respond intelligently to project plan- or goal-changes. In other words, the NPC's job is to "reshape or replan parts of the project or perhaps the entire project," then to implement and complete it (Gittinger, 1984, p. 16). The NPC is not a project planner *per se*, but a project replanner and implementer. In fact, projects are subject to (formal or informal, desirable or undesirable, and avoidable or unavoidable) plan, scope, or goal-changes and to delays and cost overruns during implementation; and it is up to the NPC to manage the "mini-project cycle" of implementation for time, cost and quality (Gittinger, 1984, pp. 17-20; Youker, 1989). Flexible project planning, PM structure, selecting a right project team, strong PM, implementation approach, and last but not least compliance with guidance, rules, and procedures, especially in procurement of goods and services with which the authors of this paper have some experience, have been shown to be critical success factors for IDPs at the implementation phase (Gittinger, 1984, p. 16; Khan *et al.*, 2000; Khang and Moe, 2008). In that respect, the NPC will have to use traditional PM design and planning tools such as the LF and the scheduling tools but "detailed planning" is not his or her responsibility. This is already done at the preparation and appraisal phases of the project. The NPC is also a strong project monitored. In fact, IDPs are subject to stringent project monitoring and reporting requirements as well as bureaucratic procedures from the agencies for the funding of the IDPs. Project ongoing monitoring and evaluation information systems (PMIS) are extensively used throughout the aid industry sector and tools like the RBM and its associated LF are also used despite their limitations (Crawford and Bryce, 2003; Gasper, 2000; Cracknell, 1988; Binnendijk, 2000; Earle, 2003; Rakodi, 1982). To the bulk of monitoring tools, one could add participatory monitoring and evaluation (PM&E) tool, which contrarily to the conventional PMIS, is neither a tool of control by PM and donor agencies nor an end but rather a management process/tool that involves multiple stakeholders or target groups in the observation and evaluation of project activities and that enhances the learning of all actors (Bayer and Waters-Bayer, 2002).

3.2.4 Project performance measurement, evaluation and governance tools. Although CBAs, formerly dominant are given less of a role, except in engineering IDPs in stable environments, and much progress has been made with regard to IDP planning and management such as the LF, little progress has been made with regard to performance assessment, project governance, and evaluation tools (Hubbard, 2000; Binnendijk, 2000). Apart from the technical targets, tools such as cost effectiveness analysis (efficiency assessment) that indicate whether physical targets are unrealistically low compared to the resources used; with/without analysis (impact assessment) that rely on picturing the counterfactual scenario without the project to broadly assess the likely contribution of the IDP to its goal and quick and dirty techniques like the "potential impact" approach are being used in practice (Hubbard, 2000). The balanced scorecard approach, for example, can also be used for the purpose of understanding the organization or project overall approach during evaluation (Ramage and Armstrong, 2005). Performance management techniques (similar to RBM and evaluation tools), seem to be gaining momentum right now at the detriment of evaluation tools (Binnendijk, 2000, pp. 7-8; Steinfort and Walker, 2007, 2008). In fact, although the first evaluation system was put in place in 1970 (Baum, 1978; Cracknell, 1988), the first impact assessment of the World Bank IDPs took place in 1984, and there is still little known today with regard to impact and sustainability assessment (Stockmann, 1997; Gibson, 2006).

In this research, we choose the descriptive approach towards the NPC role and to analyze the perceptions of African NPCs concerning the extent to which they make use of tools, techniques, and available methods. Furthermore, we measure the strength of the relationship between this use of IDPM tools, techniques and methods and project success.

Before coming to the empirical part of the research, let us comment the literature about project success and IDP success.

3.3 Project success and success measures in PM literature

"There are few topics in the field of project management that are frequently discussed and yet so rarely agreed upon as the notion of project success." This quote by Pinto and Slevin (1988, p. 67) is still true 20 years later. Project success is project efficiency, and effectiveness. But project success remains an ambiguous, inclusive, and multidimensional concept and its definition and measurement are bound to a specific context (Ika, 2009). It is common to look for a simplistic formula, which is unequivocal and readily accessible (Dvir *et al.*, 1998). This formula is usually the triangle of time, cost, and quality, which in the aid industry sector are the clients' terms of reference. However, projects have often been delivered within time, cost, and quality standards, only to be considered failures some time later. Also, other projects that exceeded time or cost constraints were considered successful. This paradox leads de Wit (1988) to suggest that one should distinguish between project success and PM success. The confusion between project success and PM success is tied to the time scale and the measurability of PM objectives (Ika, 2009; Munns and Bjeirmi, 1996). In fact, the issue of project success is often referred to at the end of the PM process when the project objectives have yet to be accomplished.

In addition to its conceptual ambiguity, project success is a matter of perception and divergence of perspectives. That is what leads Baker *et al.* (1974/1988) to the contention

that there is no "absolute" success but only "perceived" success. They also point out that the way we evaluate success probably changes over time; a project may be perceived successful at its launch and turns into a catastrophe some time after. Project success becomes therefore a subjective evaluation that reflects the specific needs and agenda of each stakeholder (Baccarini, 1999). Project success means different things to different stakeholders at different times. The point of view is not the same for all the stakeholders (Lim and Mohamed, 1999). A project may be perceived as a success by the client but as a failure by the management, if they hold differing perspectives on the project results (Belassi and Tukel, 1996). This frequently happens in the case of IDPs. The donor agency or the government of the underprivileged country may very well view the project as a success while the beneficiaries have a slightly different view of project outcomes. Project success and failure are not, by their very nature, opposite notions; they are neither a "black and white" issue to borrow the expression from Baccarini (1999).

From the square of time, cost, quality, and satisfaction proposed by Baker *et al.* (1974/1988) project success becomes a hexagon of time, cost, quality, and achievement of strategic objectives of the client organization that initiated the project, satisfaction of final users, and satisfaction of other stakeholders (Baccarini, 1999; Shenhar *et al.*, 1997; Ika, 2009).

Ideally, the project would result in a win-win situation for everybody, but reality is rather cruel and when we appreciate project success, it is reasonable to wonder whether we are looking at the forest or at the trees (Lim and Mohamed, 1999). The project manager must perceive the relative importance of the project stakeholders and know which ones should be satisfied at the end of the project.

3.4 Project success and success measures in IDPM literature

IDP success is a challenging concept. The term project success is not even in the "glossary of key terms in evaluation and results based management" of the Development Assistance Committee (DAC) of Organisation for Economic Co-operation and Development (OECD, 2002). Instead, the DAC speaks of effectiveness. In the aid industry sector, project success is referred to as efficiency and effectiveness. For the English Department for International Development (2002), for example, project success is about organizational effectiveness (quality of process, policies, deliverables, outputs or intermediate outcomes, and operational efficacy) and development effectiveness (development outcomes such as long-term impacts, which the project efforts aim for and should contribute to).

The DAC has five criteria for measuring project success: relevance, efficiency, effectiveness, impact, and sustainability (OECD, 2002). Relevance refers to the extent to which the project is suited to the priorities of the target group, recipient, and donor. Impact refers to the positive and negative changes produced by the project, directly or indirectly, be they intended or unintended. Sustainability is concerned with whether the benefits of the project are likely to continue after donor funding has been withdrawn.

Although PM literature on IDPs is somewhat scarce, the question of project success is at the core of the work by Diallo and Thuillier (2004) who suggest a ten-dimension basis to analyze the perceptions of African development project coordinators (NPCs) regarding project success. A factor analysis (principal component analysis) by Diallo

and Thuillier (2004) suggests three macro-dimensions (hereafter criteria) of project success, two of which, are statistically significant in explaining project success: the PM success and the project "profile" (which may be considered as an early pointer of the third criterion: project impact, a criterion which is not statistically significant). This study will explore their research results to analyze the relationship between PM efforts (the extent to which tools and techniques are used), project success, and project success criteria.

4. Research methodology

This research examines the empirical relationship between PM efforts (the extent to which project coordinators make use of available tools, techniques, and methods), project success, and project success criteria as perceived by African IDP coordinators (a project coordinator or NPC is often a civil servant, a director or a project manager, appointed by the government who manages a team of national collaborators). Regarding the methodology, we analyze statistically the survey and data collected by Diallo and Thuillier (2004), at least for the measures of project success and for the items on IDPM concepts, tools, and techniques.

In the research, we rely on the sole judgment of the coordinators. Therefore, our results depend heavily on the quality of their mental model (Bakken, 2008). The information that refers to this subjective judgment is rated on a Likert scale from 1 to 5 (i.e. from strongly disagree to strongly agree for project success measures and from never to always regarding the extent to which IDPM tools and techniques are used).

Perception versus reality is an important issue in science in general and in project success research in particular (Kleinschmidt and Cooper, 1995). The significance of perceptions is reflected by this assertion of Likert and Likert (1976, p. 165 quoted by Linberg, 1999, p. 182):

> People act on the basis of what they perceive the situation to be, whether the perceptions are accurate or grossly inaccurate. Since behavior is based on perceptions, the existence of each of them is a fact to be considered. Similarly, the frustrations, attitudes, loyalties, and hostilities felt by each member and the information and misinformation possessed by each particular course of action under consideration.

Perceptions, by their very nature, are ontological, biased, and idiosyncratic (Liu and Walker, 1998). As a consequence, authors are left with the choice between studies of self-perceptions and self versus others' perceptions. There is a number of management authors including PM ones that make the latter choice (i.e. Fowler and Walsh, 1998; Keil *et al.*, 2002; Gareth and Martin, 2003; and Khang and Moe, 2008, for the particular case of IDPs).

However, many others including us, purposely resort to studies of self-perceptions. Examples of such studies are numerous: project managers perceptions about their ability to influence motivation (Schmid and Adams, 2008); software developer perceptions of their project failure (Linberg, 1999); chief information officers' perceptions of their project critical success factors (Nah *et al.*, 2003); administrative science faculty members' perceptions of their research misconduct (Cossette, 2004); and professionals' perceptions of their self-managing activities (Uhl-Bien and Graen, 1998).

Although some authors have questioned the validity of such research design results, others do not share this criticism. For example, after a meta-analysis investigating 581 field studies and analyzing 42,934 correlations, Crampton and

Wagner (1994) conclude that the "same source bias" or the "self-perceptions' bias" poses a relatively small risk to research results. Given that NPCs are in a good position to observe the relationship between PM efforts and project success, their perceptions are clearly of value, although potentially biased:

> We must also posit a determining influence, if we accept the idea that people decide, act, interpret, plan, etc. on the basis of the representations they have of reality, rather than on what reality truly or "objectively" is (Cossette, 2004, p. 231).

Nevertheless, in the research, some important precautions have been taken to reduce the self-perception bias. The overall assessment of project success has to be made on the first page of the questionnaire. Only respondents who skim through the entire questionnaire before answering any question will know about the subsequent success items that are available on different pages. Also, in the preamble, we ask them to bear in mind that they are not the ones who are being judged but rather they are asked to sincerely judge the overall perceived performance of their project.

It is noteworthy to recall that 600 questionnaires in French and in English were mailed to project managers, coordinators, and directors in 26 countries, most of them south of Sahara (out of which 350 are francophone and 250 are anglophone). Note that most of Central Africa is under political turmoil and projects are suspended *sine die* or even closed. Morocco and Tunisia, under "sector-wide approach" were excluded from the mailing and no questionnaire was sent to South-Africa, Nigeria, or Lybia. A response rate of about 15 percent (93 answers) was obtained and judged acceptable considering the difficult conditions in which this kind of survey had been done. The response rates are, respectively, 65 and 35 percent for francophone and anglophone countries, which is consistent with the initial repartition in the mailing:

> Setym International, a Montreal-based organization involved in project management training for IDP managers mentions that approximately one out of five project coordinator addresses in its African database requires yearly update for changes in postal box number, project moving, etc. While our effective response rate is obviously unknown, we may therefore expect it to near the 20% level (Diallo and Thuillier, 2004, p. 23).

Actually, this rather modest response rate is of the same magnitude as what other researchers obtained under similar mailing conditions (Au and Tse, 2001; Bellizi and Hasty, 2002; Cupach and Carson, 2002; Daniel *et al.*, 2002; Valentine and Barnett, 2002).

Questions such as non-respondent bias, fair representation of respondent countries in the questionnaire, project types or sectors, either "hard" or "soft," project maturity, and social desirability have been addressed by Diallo and Thuillier (2004). Roughly, 12 percent of the projects in the sample are considered more or less a failure by their coordinator, which is possibly below the real failure rate for IDPs in Sub-Saharan Africa. Although this could suggest a non-respondent bias, tests for potential links between project success and time to respond to the questionnaire, show no significance.

According to the geographical distribution of the respondent countries, one can say that they are fairly represented and there is no significant geographical bias that can distort potential generalization of research findings. All projects in the research are IDPs funded by multilateral institutions with common characteristics such as finality, objectives, processes, and guidelines.

However, as the number of respondents is 93 and the number of sectors is 12, an analysis of success and success criteria, sector-by-sector, has not been significant.

All projects in the sample are under an ongoing implementation with a five-year mean and three-year standard deviation. As a result, generalisation of findings to the overall population of projects and project coordinators in Sub-Saharan Africa seems reasonable.

Considering that Diallo and Thuillier (2004) performed internal consistency and reliability tests on project success dimensions, we focus here on the questionnaire statements that refer to the application of IDPM tools. In fact, the Cronbach alpha for the complete sample is 0.80, 0.76 and 0.67, respectively, for sub-samples with seven or three statements only. Considering the very few number of statements in the last sub-sample, a Cronbach alpha of 0.67 is considered acceptable (Morgan and Griego, 1998).

Finally, the statistical strategy is simple and straightforward. Construct validation for the IDPM tools using the extraction technique maximum likelihood and the χ^2-test were done. A factor analysis, more precisely principal component analysis, of IDPM tools and a correlation analysis of project success measures and PM efforts were undertaken.

5. Study variables

Project success is measured along 11 criteria that were applied and validated in previous research by Diallo and Thuillier (2004). Table II describes the responses to the project success measure, the ten success items and the average composite measures (PM success; project "profile"; and project impact).

Let us note that project profile is a success criterion which is somewhat difficult to understand. In fact, it captures the reputation of the project amongst its principal

Success measures	n	Min.	Max.	Mean	SD
Overall success (my project is a success)	89	1.00	5.00	4.19	0.81
PM success	89	1.33	5.00	3.69	0.88
The initially identified objectives were attained	89	1.00	5.00	3.81	0.90
The project operated on time	89	1.00	5.00	3.21	1.29
The project operated within budget	89	1.00	5.00	4.06	0.99
Project "profile"	89	1.75	5.00	4.12	0.69
The goods and services produced by the project conform to those described in the project documents	89	2.00	5.00	4.25	0.74
The project achieved a high national profile	89	1.00	5.00	4.19	0.95
The project had a good reputation among the principal donors	89	1.00	5.00	4.08	0.88
The project has a good chance of being extended with additional funding	89	1.00	5.00	3.97	1.10
Project impact	89	2.00	5.00	4.16	0.64
The beneficiaries are satisfied by the goods or services generated	89	1.00	5.00	4.09	0.82
The project had a visible impact on the beneficiaries	89	2.00	5.00	4.26	0.75
The project built institutional capacity within the country	89	2.00	5.00	4.12	0.82
Valid n (listwise)	89				

Table II.
Descriptive statistics for "project success measures" items and the average composite project success scores

donors (REPUTATION), its chances to be extended with additional funding if necessary (ADDFUND), the conformity of goods or services delivered to the project plan (GSCONF) and the national PROFILE (i.e. the reputation of the project locally). But project impact captures the impact of the project on the beneficiaries (IMPACT), the satisfaction of the latter with the goods and services delivered (BENSATIS) and the institutional capacity built by the project within the country (SUSTAIN).

The investment in PM is measured by the extent to which IDPM concepts, tools, and techniques are used only at the implementation phase and with particular attention to three core PMBOK areas (scope, time, and cost management) and three important PM processes suggested by Zwikael (2008) and Zwikael and Globerson (2006): "existence of project procedures; extent of use of standard PM software; involvement of the project manager during the initiation stage" let alone a fourth PM process that is "the existence of project success measures," which is covered above.

Here, are the tools: LF; work breakdown structure (WBS); activities/responsibilities (CHART); codification of tasks and work packages (CODIFT); budgeting of tasks (BUDGT); CPM; work progress monitoring (MONITW); monitoring of disbursements (MONITD); performance indicators (PI); and Microsoft project software (MSP).

Of course, façade management with too much emphasis on short-term results, technical short-sightedness, or myopia may be an issue here: concepts, tools, and techniques can be used just for the sake of using them and not for actual application (Bloch, 2000). Notwithstanding, their degree of utilization certainly reveals the emphasis and efforts put on PM. For example, a similar project planning efforts measure ("implementation of project management processes and procedures") was used by Dvir *et al.* (2003) for R&D projects. There are other measures of project planning in the literature such as a five-item scale that draws from such planning activities and resources as time schedules, milestones, slack resources, personnel needs, etc. (Aladwani, 2002; Slevin and Pinto, 1986). Some research studies measure the effect of project scheduling practices (Griffith, 2006) or the impact of project planning, project goal, or plan changes on project success (Dvir and Lechler, 2004). But these measures do not explicitly consider the degree of application of PM concepts, tools, and techniques that this paper partly focuses on.

Table III describes the questionnaire responses that addressed the application of IDPM tools, concepts, and techniques.

Measures	n	Min.	Max.	Mean	SD
Logframe (LF)	85	1.00	5.00	3.72	1.11
Work breakdown structure (WBS)	80	1.00	5.00	3.74	1.20
Activities/responsibilities (CHART)	84	1.00	5.00	3.71	1.11
Codification of tasks (CODIFT)	85	1.00	5.00	3.44	1.37
Budgeting of tasks (BUDGT)	83	1.00	5.00	3.99	1.18
Critical path method (CPM)	83	1.00	5.00	3.02	1.43
Work progress monitoring (MONITW)	87	2.00	5.00	4.40	0.75
Monitoring of disbursements (MONITD)	85	1.00	5.00	4.59	0.76
Performance indicators (PI)	83	2.00	5.00	4.11	0.84
Microsoft project software (MSP)	81	1.00	5.00	2.51	1.38
Valid n (listwise)	80				

Table III.
Descriptive statistics for the "application of PM tools and techniques" items

The interpretation of these descriptive statistics is straightforward. The project MONITW, the MONITD, and the PI tools hold the highest means and the lowest standard deviations. This reveals that they are the most frequently used tools. Most importantly, there seems to be an agreement among project coordinators on the extent to which they are used.

However, a PM tool like MSP software is sometimes scarcely used and there is little consensus with regard to its usage if one considers its high-standard deviation. This is not surprising since project planning in the aid industry sector, tends to be structural and less detailed at the implementation phase than major project planning at the preparation and appraisal phases, and as such does not require an important use of PM software excepted for infrastructure and construction projects with many activities to monitor.

6. Data analysis and results

6.1 Factor analysis (principal component analysis)

In order to simplify the analysis, we first applied factor analysis, more precisely principal component analysis, to reduce the large number of questionnaire items pertaining to the application of IDPM concepts, tools, and techniques. The optimal statistical processing with SPSS (after orthogonal rotation and removal of loadings less than 0.45) generates two components: "2 toolboxes." The meaning of these toolboxes is discussed as follows:

(1) *LF, WBS, CODIFT, CPM, BUDGT, MSP, and CHART.* This component consists of tools and techniques such as the LF, the WBS, the CHART matrix, the codification of activities and tasks, the BUDGT, the CPM, and the PM software. These are tools that are often used in project redesign, reformulation, and replanning or reshaping. That is to say that these tools are very important at the implementation phase where project coordinators have to surely reformulate, redefine, reshape, or replan, whether partially or entirely, their projects. We will label this component "project reformulation and replanning tools." It accounts for 29 percent of the total variance.

(2) *MONITW, MONITD, and PI.* This is a group of tools and techniques for project monitoring and performance measurement: the MONITW, the MONITD, and PI. These tools and techniques serve in the monitoring and evaluation phase. We will simply name the component "Project monitoring and evaluation tools." It accounts for 23 percent of the total variance.

Overall, the two components account for 52 percent of the total variance. The results of the principal component analysis are used for the correlation analysis between PM efforts and project success (Table IV).

6.2 The correlation analysis

As the central part of this research is data analysis, we examine the correlations between the three composite measures of project success (PM success, project "profile", and project impact) and the two composite measures of the PM efforts (project reformulation and replanning; and project monitoring and evaluation tools). For that purpose, we use the average aggregated scores of those composite measures on the initial variables. For instance, for the component labelled "project monitoring and evaluation tools,"

Measures	Principal components	
	1	2
Activities/responsibilities (CHART)	0.784	
Microsoft project software (MSP)	0.678	
Budgeting of tasks (BUDGT)	0.625	
Critical path method (CPM)	0.619	
Codification of tasks (CODIFT)	0.590	
Work breakdown structure (WBS)	0.580	
Logframe (LF)	0.484	
Monitoring of disbursements (MONITD)		0.792
Performance indicators (PI)		0.726
Work progress monitoring (MONITW)		0.712

Notes: $n = 87$; orthogonal rotation: VARIMAX

Table IV.
Coordinates of the
toolboxes on the initial
items

we consider the average aggregated scores on the initial variables MONITW, MONITD, and PI. The same method applies to the determination of PM success scores (average aggregated scores on the initial variables objectives; and time; budget). For the project success score (the "dependant variable"), we use the score available from the survey.

Table V shows the descriptive statistics of the IDPM tools and techniques composite measures and Table VI displays the correlation analysis results. There are 15 correlation coefficients and it is in fact possible that some will appear to be statistically significant due to the compounded effect of type I error. Consequently, we resort to a Bonferroni adjustment. The critical significance level is set to the rather conservative value of $0.05/15 = 0.003$.

Several interesting results from the correlation table are noteworthy. First, unsurprisingly, one observes a high correlation between the success criteria and the project success. The highest correlations are between PM and project success, and between project profile and project success. There is no significant correlation between the use of PM tools and project impact. This is rather acceptable since African NPCs seem not to care about project impact, as surprising as it may seem; they instead care deeply about PM success as well as project "profile," an early pointer of project impact (Diallo and Thuillier, 2004). In so doing, they are not that different from the other project managers for which PM success instead of product success is the "Holy Grail" (White and Fortune, 2002; Youker, 1989; Gittinger, 1984; Shenhar *et al.*, 2005). May be this is a sign of a professional bias in the PM profession, if it is in fact a profession (see Smith, 1988 for the professional bias in IDP identification).

Furthermore, as it is practically impossible to observe project impact during project implementation, project profile, although somewhat difficult to understand as a project success criterion (as mentioned above), acts as an early pointer of project impact, which it takes long time after the project to assess. Still, NPCs cannot afford to wait.

Measures	n	Min.	Max.	Mean	SD
Project reformulation and replanning tools	87	1.43	5.00	3.49	0.83
Project monitoring and evaluation tools	87	2.33	5.00	4.37	0.62
Valid n (listwise)	87				

Table V.
Descriptive statistics for
the average composite
PM tools' scores

Statistics	Project reformulation and replanning tools	Project monitoring and evaluation tools	PM success	Project "profile"	Project impact	Project success
Project reformulation and replanning tools						
Corr.	1	0.447**	0.206	0.198	0.265*	0.222*
Sig.		0.000	0.055	0.066	0.013	0.039
n	87	87	87	87	87	87
Project monitoring and evaluation tools						
Corr.		1	0.238*	0.313**	0.156	0.193
Sig.			0.026	0.003	0.149	0.073
n		87	87	87	87	87
PM success						
Corr.			1	0.624**	0.523**	0.729**
Sig.				0.000	0.000	0.000
n			89	89	89	89
Project "profile"						
Corr.				1	0.594**	0.727
Sig.					0.000	0.000
n				89	89	89
Project impact						
Corr.					1	0.638**
Sig.						0.000
n					89	89

Note: Correlation is significant at: *0.05 and **0.01 levels (two-tailed), respectively

Table VI.
Correlation between average PM tools' scores and average project success criteria scores

Their evaluation and their career depend on their project performance. For their own agenda, they therefore need to capitalize on the project results as quickly as possible, i.e. before effective or real long-term impact is known (Diallo and Thuillier, 2004). However, a project with a high profile has a good chance to generate effective impact in due course.

Second, if the observed correlations between PM tools and project success and project success criteria variables are not significant, they are between 15 and 31 percent, which is noteworthy. This conveys the idea that in practice, the importance of PM tools cannot be denied. Also, the kind of tools matters. There are two great toolboxes: project reformulation and replanning tools; and project monitoring and evaluation tools. Furthermore, there appears to be a consensus between NPCs: the project monitoring and evaluation tools are not only often used in practice but they also seem to be used more often than the so-called project reformulation and replanning tools.

Third, the results (Table VI) also show that only the project monitoring and evaluation tools are significant (the highest correlation in fact between any PM tool and any project success variable) with project profile ($r = 31$ percent, $p = 0.003$) at the level 0.003 although there is indeed a significant correlation at the 0.05 level between project reformulation and replanning tools and project success and project impact. This is interesting since they suggest that project monitoring and evaluation tools may be helpful to make the project results and the project coordinators' achievements known.

Such tools will allow the NPC to capitalize on the project profile and make the achievements emerge. In other words, NPCs put a lot of effort into project monitoring and evaluation. In so doing, they try to ensure project performance and accountability

throughout project lifecycle, and this contributes to project "profile," an early pointer of their project long-term impact.

Project monitoring and evaluation tools are in fact critical to measure project performance throughout the life of the project, to inform key project stakeholders about project progress and to demonstrate accountability through transparency and documentation (Crawford and Bryce, 2003; Gasper, 2000; Rakodi, 1982; Cracknell, 1988; Earle, 2003; Binnendijk, 2000).

Fourth, the correlations between project profile and each of the projects and respondents' characteristics such as total amount of donors' contributions; total amount of local government contribution; language, gender, level of education, annual salary of the project coordinator (see Appendix 1, Table AI) on the other hand, are weak and statistically not significant.

7. Discussion and conclusion

7.1 Project success is insensitive to the level of project planning efforts

At a first glance, it may appear that the success rate of a project depends on the PM tools, techniques, and methods used and that project planning efforts must be given great importance. This realistic assumption, commonly accepted among practitioners and researchers, is challenged by the surprising research results, which are similar to the ones that Dvir *et al.* (2003) came up with. If a minimum level of project planning is required, there is no significant correlation between project planning efforts, project success, and project success criteria as perceived by African IDP coordinators (NPC). Although this stands in stark contrast to literature, the interpretation by Dvir *et al.* (2003) is also admittedly acceptable here: considering that the current donor-recipient paradigm demands more and more rigorous project plans as a basis for contracting and that a certain level of planning and most importantly of reshaping and replanning is done for all types of projects, a significant statistical correlation cannot be found in the data. Are tools and techniques such as the LF, the PM software MSP and the CPM not systematically used for successful and unsuccessful projects?

7.2 A call for an involvement of the NPCs in project planning

The research results are also logical since NPCs, the project managers in the aid industry sector, are only involved in the project execution (or implementation) and not in the early major planning stages (identification, preparation, appraisal, and approval) where the project summary plan or "rolling wave" detailed plan is created. This stands in contrast to calls in PM literature (Munns and Bjeirmi, 1996; Zwikael, 2008; Zwikael and Globerson, 2006) and in IDPM literature (Youker, 1989, p. 55) for an involvement of the project manager and other stakeholders during initiation phase in an effort to increase project chances for success. Although one may think "they implement, therefore they manage" (Wilson, 1983, cited by Analoui, 1989, p. 38), this is a classical case of semantic confusion (see Smith, 1988 for semantic confusion in IDP identification versus selection). In fact, the terms implementation and management may appear to be synonymous but "they may take on quite different meanings" (Johnson, 1984, p. 116). NPCs are not at all project planners but project replanners and implementers. One question is therefore important: how could they lead a project for which they do not create at least the plan?

"One solution is to appoint a project manager earlier in the process before bank approval" (Youker, 1989, p. 55) if one is to shrink the long delay that often occurs between project approval and actual start-up implementation in the borrowing country, which is seemingly difficult to do in practise. All too frequently instead, projects are subject to delays owing to the failure or delay of the Public Service Commission of the borrowing country or of the personnel agencies to recruit for the formation of the project team (Youker, 1989). Such a situation, despite the participation discourse, affects projects "buy in" by the local beneficiaries and the borrower country that often falls short of understanding and committing itself and of supporting project objectives:

> It is interesting to note that in almost recipient countries, they refer to "the World Bank project" rather than the country's project, their project or at least the World Bank "financed" project. This naming of a project as a foreign entity is symbolic of a lack of ownership of the project by the local stakeholders (Youker, 1989, pp. 55-6).

Although things have positively changed since 1989, there is still a lot to do with regard to ownership and empowerment in IDPM. Project stakeholders have to be involved in the decision making for IDPs (Khang and Moe, 2008; Smith, 1988). But they cannot only rely upon emotional judgments; but they also have to be able to engage in technically, economically, and environmentally (including socially) informed (educated) decision making between the critical resources uses/issues. Tools such as "educated trade-offs" are required for an effective stakeholder consultation (Ranasinghe, 2008).

7.3 Too much emphasis of aid agencies on accountability-for-results

It is probably not by chance that project monitoring and evaluation tools seem to be used more often than the so-called project reformulation and replanning tools. As Besner and Hobbs (2004, p. 12) put it, "the differences in usage levels of tools are indicative of important differences in practice." In the same way business, construction, and IT projects are different with regard to the focus on certain specific PM tools (Besner and Hobbs, 2004), IDPs may also be singular in that respect, especially at the implementation phase. There is certainly a discrepancy between PM literature and PM practice (Yasin *et al.*, 2000). But this result has an intuitive appeal since it suggests that NPCs consider the monitoring and evaluation of their projects to be very important.

There are a lot of incentives from the aid agencies to spend a lot of time and effort on monitoring and performance evaluation activities. The RBM philosophy in the aid industry sector may have something to do with that. It provides a sound rationale for the interpretation of our research results. The use of those PM tools is laudable but donors and aid agencies are in fact emphasising a lot the accountability-for-results side of the RBM, LF, and performance evaluation tools, with little attention to their managing-for-results side in the internal decision-making process. In fact, annual performance reports are required for ministers, parliament, auditors or other oversight agencies, customers and the general public to convince skeptical that the aid agencies are providing "value for money" for their projects (Binnendijk, 2000, pp. 7-9). Also, "the priority sometimes given to the 'horizontal logic' over 'vertical logic' in logframing reflects a politically driven need to show symbols of accountability" (Gasper, 2000, p. 27).

7.4 A strong procedures or guidelines orientation in IDPM
There is a growing "contract culture" where a focus on the fulfillment of contracted inputs and outputs, rather than on IDPs outcomes, allows the aid industry to demonstrate contractual success even with spectacular project failures (see Fitz-Gerald and Neal, 2002 for the specific case of the humanitarian aid sector). Instead of incentives to managing for results, this acts as a disincentive and there do not appear to be a strong results culture in donors and aid agencies (see United Nations Development Programme (UNDP), 2007, pp. 6 and 88) for the specific case of UNDP).

Instead of a strong results orientation, the aid industry sector exhibits a strong procedures or guidelines orientation epitomised by the bureaucratic and stringent reporting requirements that NPCs are subject to (see Mahalingam *et al.*, 2005 for the role that professional cultures and institutionalised work practices play in cultural clashes in infrastructure IDPs and the conflict between rules and results orientation).

The procedural aspects of project implementation may typically cover *inter alia* the format and the timing of disbursement and of project funds reports, compliance with donor financial reports on how the money has been spent and how to apply for replenishment of project bank accounts, and other statutory requirements such as compliance with procurement guidelines. Even in the case of local management where building PM capability in developing countries is important and where responsibility for project implementation falls in the hands of recipient countries, statutory requirements, processes and procedures, at least from UNDP, for example, are still imposed on the national implementing institutions (Maddock, 1992).

That being said, demonstrating results is easier than managing for results and the former is often the focus, in fact the part of strategic management over which management has some control: performance evaluation (Fitz-Gerald and Neal, 2002). For that reason, "knowing how to report and reporting on time is therefore of great importance" for NPCs (Maddock, 1992, p. 405). Confronted to such pressures, NPCs are left with no other choice than to extensively use monitoring and evaluation tools if they want to preserve their relation with their counterparts at the aid agencies (the task managers who are in fact the project supervisors) and their exceptionally well-paid jobs difficult to abandon in Africa (Diallo and Thuillier, 2004, 2005). Anyway, if the project fails, it is still possible for them to complain about the weaknesses of the project plan in first place, let alone their "man-in-the-middle of the devil and the deep blue sea" position (Analoui, 1989).

7.5 Culture and work values matter: PM tools and techniques are only one part of the success equation
The research results are also significant since one needs to know which tools are available to African project coordinators before investigating what in the current PM orthodoxy works and what cannot work in Africa, as requested by Muriithi and Crawford (2003). Too often though, aid agencies put emphasis hitherto on performance evaluation only to find that failure of their strategy is due to a lack of recognition of a key factor, such as cultural change issues, within the strategy implementation phase (Fitz-Gerald and Neal, 2002). Johnson (1984) has shown how implementation problems that plagued IDPs in developing countries can be traced to a tendency of a generic IDPM cycle to abstract project planning and implementation from its organizational and institutional context with little consideration of organizational structure and interdependence and managerial responsibility and control.

The applicability of PM orthodoxy in Africa and to IDPs in East Africa in particular, where the case study by Muriithi and Crawford (2003) took place, has been subject to criticism. PM tools and techniques, particularly project implementation ones, may fall short in delivering success if they run counter to cultural and work values, considering the fact that many of them like the Gantt chart are rationality and efficiency-driven and that NPCs have to cope with political and social demands on project resources. Those tools are based on a Western Greco-Roman philosophical premise that a man is a rational being (Mbigi and Maree, 1995; Boon, 1997 cited by Rwelamila *et al.*, 1999, p. 338), which is not always the case in Africa (Muriithi and Crawford, 2003; Rwelamila *et al.*, 1999).

The PM tools and techniques are one part of the project success equation. Far more important are socio-political aspects of the NPC job. The PM tools still need to be tailored or harnessed or at least aligned with African sociality if they are to deliver success. Rwelamila *et al.* (1999) trace "the African project failure syndrome" back to the lack of a metaphor of group solidarity between African project stakeholders coined "ubuntu" (harmony or literally translated "a person is a person"), which was due to an inappropriate traditional project organizational structure. MIST cardinal principles, i.e. morality, interdependence, spirit of man and totality (Mbigi and Maree, 1995) have proven to be critical for PM in Africa. First, the belief that moral base is fundamental to project success and the PM must be committed to fair practices; second, the belief that every project stakeholder is part of the project success formula; third, the belief that a project is present to serve man with unconditional respect and dignity, and a failure to so condemns its existence; last, the belief that a PM system is made of a number of variables and that for it to be a success, it requires a number of improvements from every internal client (Rwelamila *et al.*, 1999, p. 338). All the above suggests that the NPC job is more than a simple passive project implementer and controller's job and that hard skills and tools as well as soft skills and tools are needed for success (Analoui, 1989).

7.6 Research limitations

An explanation is needed regarding the limitations of the research. First, although acceptable, the argument that PM efforts could be measured to the extent to which concepts, tools, and techniques are used may not always hold, especially in the case where they are used simply for the sake of using them and not for actual application (e.g. façade management, technical short-sightedness or myopia, etc.). Still, this measure is worth exploring since the existing literature on project planning and implementation measures does not explicitly consider the degree of application of PM concepts, tools, and techniques, which is one of the main focuses in this paper.

Second, caution is also required in interpreting the answers given with regard to the relationship between PM efforts on the one hand and project success or success criteria on the other hand. The fact that, in the research design, the same NPC is asked about his/her PM efforts and their outcomes introduces without a doubt a "same source bias." This seems not to pose a risk to research results (Section 4). In addition, the questionnaire only focuses on self-perceptions of project coordinators (NPCs) and does not intend to determine the effective success rate of IDPs. In fact, even if it were possible to agree on a shared definition of project success, it is practically impossible to establish objectively the effective rate of project success.

7.7 Further research
Our study opens opportunities for further research. First, an important line of research that is worth exploring is the extent to which the available tools and techniques are used in each of the IDPM phases (preparation, implementation, and evaluation) and the analysis of the respective correlations between the success measures.

Also, as project success is a matter of perception and divergence of perspective, we call for research on the viewpoints of coordinators, directors, or managers of projects financed by the regional development banks (Inter-American Development Bank, African Development Bank, and Asian Development Bank), European Union and other multilateral international aid funding organizations, not to mention the standpoint of the bilateral aid agencies and the beneficiaries of the projects.

Third, since "plans are nothing, changing plans are everything" (Dvir and Lechler, 2004), and the NPCs are at the execution phase project replanners, it could be interesting to empirically study the impact of project planning, project goal changes, and project plan/scope changes on project success, to determine whether the quality of project planning could compensate for the possible negative effects of changes and to understand how project contextual variables affect goal changes and how such changes, in turn, affect project success.

Last but not least, the role of NPCs in IDPM needs to be investigated considering the shift toward sector-wide and programme approaches in the context of the new aid management orthodoxy.

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Appendix 1

Project sectors: (n = 89)

	%
Education	12.4
Energy	3.4
Environment	9.0
Mines	2.2
Rural development	19.1
Urban development	3.4
Public works	6.7
Social dev.	9.0
Reform and governance	11.2
Health, pop. and nutr.	5.6
Comm. and telecom	2.2
Agetipe[a]	15.7

Donors contributions (n = 83), (*millions of US$*)

	Total	World Bank	AFDB	EU	UNDP	Others	Govt.
n	86	61	23	17	23	36	63
Mean	36.08	25.94	9.50	9.78	1.82	15.60	7.75
Median	16.70	19.00	2.00	2.50	0.30	5.50	2.00
Mode	5.00	4.10	0.00	0.00	0.00	0.00	2.00
Min.	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Max.	600.00	120.00	60.00	90.00	15.00	250.00	100.00

Project coordinators %

Gender (*n* = 91)

Male	89
Female	11

Country (*n* = 92)

Anglo	35
Franco	65

Education (*n* = 91)

Undergraduate	13
Graduate	87

Prof. status (*n* = 91)

Civil servant	33
Civil serv. seconded	27
Contractual	34
Other	6

Annual salary and benefits (n = 89)

Equivalent US$	<2,500	2,500-5,000	5,000-7,500	7,500-10,000	>10,000
%	26.1	17.4	10.9	8.7	33.7

Notes: [a]Agence d'Exécution des Travaux d'Intérêt Public, which is an agency in charge of municipal works, local infrastructures and construction in several African countries; most of the projects are financed by international donors

Appendix 2. Parts II, III and VII of the questionnaire

II Overall Assessment of Your Project

We now would like you to assess the success of your project. **If your project has only recently started, we ask you to evaluate the success thus far.** Please bear in mind that it is not you who are being judged, but rather you are being asked to objectively judge the overall performance of your project. Please circle a response (and only one) on the following scale of 1 to 5 where: 1= strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree.

Please indicate your level of agreement with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
13. My project is a success................................	1	2	3	4	5

III Dimensions of Success of Your Project

Please indicate your level of agreement with the following statements by circling the number that best corresponds to your feelings (where: 1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree).

Considering the portion of the project that has been completed:	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
14. The beneficiaries are satisfied by the goods or services generated	1	2	3	4	5
15. The goods and services produced by the project conform to those described in the project documents..	1	2	3	4	5
16. The initially identified objectives were attained..	1	2	3	4	5
17. The project operated on time........................	1	2	3	4	5
18. The project operated within budget..............	1	2	3	4	5
19. The project achieved a high national profile...	1	2	3	4	5
20. The project had a good reputation among the principal donors......................................	1	2	3	4	5
21. The project has a good chance of being extended with additional funding.................	1	2	3	4	5
22. The design or implementation of my project was unique...	1	2	3	4	5
23. The project had a visible impact on the beneficiaries..	1	2	3	4	5
24. The project built institutional capacity within the country...	1	2	3	4	5

Figure A1.

(*continued*)

VII Application of Project Management Concepts and Tools

Here we would like to measure the degree of current application of project management concepts and tools. Please indicate your level of agreement with the following by circling the number that best corresponds to your feelings (where : 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always).

Current Application

25. Stakeholders Analysis	1 2 3 4 5
26. Logical Framework	1 2 3 4 5
27. Work Breakdown Structure	1 2 3 4 5
28. Operational Planning of Activities	1 2 3 4 5
29. Activities-responsibilities matrix	1 2 3 4 5
30. Codification of tasks and Work Packages	1 2 3 4 5
31. Budgeting of Work Packages	1 2 3 4 5
32. Critical Path Method	1 2 3 4 5
33. Work Progress Monitoring	1 2 3 4 5
34. Budget Monitoring	1 2 3 4 5
35. Monitoring of Disbursements	1 2 3 4 5
36. Earned Value	1 2 3 4 5
37. Performance Indicators	1 2 3 4 5
38. Ms Project Software	1 2 3 4 5
39. Other planning software (specify :……………)	1 2 3 4 5

Figure A1.

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