

# BEYOND THE MYTH OF BEST PRACTICE IN PROJECT MANAGEMENT

Mihály Görög

Corvinus University of Budapest  
1093 Budapest, Fővám tér 8, Hungary  
mihaly.gorog@uni-corvinus.hu

## Abstract

*It is broadly accepted that projects are temporary endeavours that create some unique 'products'. That is, projects are also unique. Yet the best practice approach postulates that projects are basically same, and that one project management tool is better than another. Thus, believers of best practice accept that project management is an avowal of faith. Consequently, project management is just an occupation. However, projects are different both in terms of their inherent characteristics and organisational context. We thus need to apply the project management toolkit in a context-related manner. This latter approach is far beyond the best practice approach and implies that project management is a profession.*

*This paper aims to shed light on what lies behind the best practice approach and also aims to reveal the way in which the professional community may find what should be beyond the myth of best practice. The paper provides what is basically an exploratory journey based on previous research.*

**Keywords:** epistemology, memetics, strategy-oriented approach to projects, success criteria, theoretical bases of applying a project management toolkit

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## 1. INTRODUCTION

Over the last few decades many authors have reported a high percentage of project failure and the associated failure factors (e.g. Ives, 2005). Other authors have tried to identify those factors that could lead to the successful implementation of projects (e.g. Fortune & White, 2006). At the same time, research efforts have been devoted to revealing the criteria based on which the success of projects can be evaluated (e.g. Cooke-Davies, 2002). Yet, despite these reports on project failure and the research into the phenomenon of success, practically nothing has changed regarding the rate of project failures.

Encompassing a 14-year period and considering more than 1,000 completed

questionnaires, research by Hussain and Wearne (2005) identified a considerable number of problem areas in project management. At the same time, they also identified several associated causes of the greatest problems that had been highlighted by their informants. However, they did not reveal the ultimate reasons for the problems, i.e. the root causes of the high rate of project failure remained unexplored.

An ultimate aim of this paper is to highlight two fundamental reasons (the NIKE approach of top management and the blind following of the best practice approach) for the malmanagement experienced when implementing projects. Special attention will be given to the phenomenon of the best practice-based approach and the associated latent memetic

approach to learning. The paper also aims to highlight the need for a theoretically-based approach to managing projects. However, this latter approach requires a firm constructivist epistemological position in research and a contingency-based attitude in practice. The findings of this paper are based on both literature-based knowledge and previous research outcomes of the author. At the same time, the author engages in some speculative consideration of experiences gained from both in-company trainings and consultancy work.

The paper is structured as follows. First, the findings of those papers that report project failures and problem areas (success/failure factors) in project management will be overviewed. This overview is then followed by a consideration of the role of projects in the organisational development process and the associated success criteria. The true nature of the best practice approach to managing projects is then presented. Two fundamental reasons for problems (failures) in project management are outlined next. The need for a theoretically-based approach to project management is also emphasised in order to point out what should be beyond the misleading myth of best practice. Finally, suggestions are made for the professional community regarding project management's transition from an occupational status to a professional status.

## **2. FAILURES AND PROBLEMS IN PROJECT MANAGEMENT – A LITERATURE REVIEW**

During the late 1950s and the early 1960s a revolution literally started in the field of project management regarding the (especially quantitative) project management toolkit. Consequently, nowadays more and more

sophisticated techniques, tools and methods are available to project managers allowing them to prepare better implementational plans and provide more sufficient management for a temporary organisation in the course of implementing a project. Thus, one can expect reasonably that the rate of successful projects is constantly on the rise. Instead, it is the share of failed projects that seems to be growing. This phenomenon is clearly identified by both field research and library research. During the last few decades many authors have reported serious project failures based on the comparison made between actual project plans and actual project outcomes. A few of them are as follows.

Webb (1994: 262-263) says that "Research in the UK and USA into the relationship between the initial estimate of project cost and the final actual cost has shown that over-runs of 100% of the original figure are quite common .... Things have not improved in the meantime ...'. Berce (1998: 719) mentions in his conference paper "that according to the study prepared by the Standish Group, 31 per cent of new information system projects are cancelled before their completion" due to a serious cost overrun. A few years later, the CHAOS Report by the Standish Group (2004) reinforced the previous findings. Flemming and Koppelman (1998: 796) state that "many software projects are experiencing spectacular overruns of cost, resources and schedules". Radujkovic and Izetbegovic (2000) evaluated 400 construction projects in Croatia and found that two-thirds of them suffered from serious time and cost overruns. Deák (2001) pointed out in his PhD thesis that in Hungary in the 1990s only 25 per cent of information system projects associated with business process reengineering programmes were completed within schedule.

Research studies with an international outlook into project success have shown that 30 per cent of projects were cancelled before completion, while the so-called surviving projects generally failed to achieve their aim or suffered from cost and time overruns (c.f. Lee-Kelley & Loong, 2003). As to business transformation projects, over 75 per cent of them were considered to be a failure (c.f. Ives, 2005). According to Gartner Research (c.f. Raymond & Bergeron, 2008), 75 per cent of projects without the support of a project management information system fail. This is probably why Lindahl and Rehn (2007: 250) ironically say as follows: "One could even dare to claim that project management is about failing, as project management as a practice generally deals with patching up a continuous array of failures, pushing the project back on track, rather than seeing to it keeps on track".

Most of the mentioned authors mention time and cost overruns with regard to project failure. The underlying reason for this phenomenon is that project problems such as low quality performance, operational difficulties in the completed project result etc. require considerable rework. Rework naturally leads to both time and cost overruns. Determining a project failure in terms of time and cost overruns is much more tangible than expressing it in terms of a deficiency of quality.

At the same time, research efforts have also been devoted to identifying both success and failure factors. Pinto and Slevin (1988) point out 12 failure factors that could lead to project failure in any case. Clarke (1998) find only four decisive success factors in the case of organisational development projects. Hormozi and Dube (1999) ascertain 15 decisive failure factors based on interview-based research. Yeo (2002), also based on IT/IS related field research, identifies just five factors considered

to be serious factors. Hartman and Ashrafi (2002) find four outstanding success factors, also relating to IT/IS projects. However, there is no agreement among the authors as to what are so-called typical failure factors.

Recent research into success factors (Bryde, 2008; Young and Jordan, 2008) emphasises the overwhelming role of top management support in order to achieve success in projects. At the same time, Shore (2008) stresses the need for a fostering organisational culture.

Westerveld (2003) aimed to match the success factors with success criteria by means of the Project Excellence Model®. In addition, Fortune and White (2006) developed their Formal System Model to measure success achieved in projects.

Hussain and Wearne (2005) completed and published a research paper which aimed to reveal problem areas in project management. Their research was based on questionnaires (a total of 1,063) and encompassed different projects (in terms of both size and complexity) in different industries over a 14-year period. They grouped the revealed problem areas into 11 categories, such as: project definition, resources, organisation (including roles, communication, supervision etc.), time, cost, quality, safety, risk, contracts, change, and inexperience. The authors identified 42 so-called causes of the problems that were considered to be basically profession-related statements regarding the lack of professionalism in project management.

However, despite the considerable research efforts devoted to highlighting project success achieved in the past, a high failure rate is also characteristic of project implementation nowadays. Yet the root causes of this phenomenon seem to have gone unexplored. The author of this paper searches for these reasons from a different point of view.

However, for the sake of better understanding, first let us see the role of projects in organisations and the associated success criteria.

### **3. THE ROLE OF PROJECTS IN ORGANISATIONS AND THE ASSOCIATED SUCCESS CRITERIA – A CONCEPTUAL REVIEW**

In order to highlight the inappropriateness of the best practice approach, it is necessary to clearly understand the role projects play in the organisational development process and the associated success criteria.

Cleland (1994) was the first to state that projects are the building blocks of strategy implementation, i.e. projects are the means of change set by the organisational strategic objectives. Paradoxically, Cleland did not strive to apply this approach in a project-specific manner. Görög (1996), and then Görög and Smith (1999) based on Cleland's conception, drew up the strategy-oriented approach to both projects and project management. This approach also implies that the role of projects in any organisation is to realise the change anticipated by the organisational strategic objectives. This latter approach also points out that the long-term success of an organisation, provided the strategic objectives are realistic, relies on successful change, i.e. on successful projects.

Regarding the role of projects in organisations, it should be mentioned that a few authors – e.g. Grundy and Brown (2002), and Bredillet (2004) – state that strategy is essentially identical to the concept of project. This approach seems to be extreme, although in the case of an emergent strategy it is considered reasonable. At the same time, different projects could carry different degrees

of importance from the aspect of the strategic objectives. Certain projects may be very important from the point of view of the future of an organisation, although projects are more the means to achieve a desired future state, especially where a deliberate strategy is involved. Identifying future objectives (strategy) is the responsibility of strategic management whereas, since projects are building blocks of implementing an organisational strategy, achieving these objectives is the responsibility of project management.

As mentioned, Cleland (1994) was the first to recognise the strategic role of projects and at the end of the last millennium ever more authors came to the same conclusion (e.g. McElroy, 1996; Grundy, 1998; Leybourne, 2007). These days, the strategic role of projects is broadly accepted by professionals.

One milestone in the research into project success was the clear differentiation between the phenomena of success factors and success criteria (Belassi and Tukel, 1996). Accordingly, success factors are those conditions and measures that may be influenced by managers in order to bring about success. Success criteria are those values that need to be met by a project, or those objectives a project must achieve (Cooke-Davies, 2002). Research findings on the criteria of success may be grouped into two categories based on the underlying research approach. The first are multi-criteria approaches, while the second are value-based approaches. The multi-criteria approaches have two common features:

- The project triangle alone is not sufficient, although it is one of the criteria needed to evaluate the success achieved in projects.
- The concept of project management success and the concept of project success are different and thus each should be evaluated using a different set of criteria.

However, the use of a multi-criteria system may result in conflicting outcomes regarding the success achieved in terms of different criteria. The criticism implied in the last statement led to the emergence of a value-based approach to the question of project success. This approach aims to interpret the success achieved in projects in terms of monetary value. First, Freeman and Beale (1992) and then Gardiner and Stewart (2000) introduced a method utilising the post calculated net present value (NPV) to express the success achieved in projects. Yu, Flett and Bowers (2005) introduced two value-based measurements to evaluate project success. These are the net project execution cost (NPEC) and the net product operation value (NPOV). In this way, a project is considered to be successful if  $NPOV > NPEC$ .

The following features of the multi-criteria approach to interpreting success in projects may be identified:

- The approach did not underpin the relevance of the identified criteria with a conceptual basis; moreover, it did not even define the concept of project success.
- The approach identified the most decisive success criteria, but did not reveal the interrelationships among the criteria.
- The approach did not address the issue of the relative priority of the different criteria.

My earlier research into project success addressed the above issues and a hierarchical approach to the phenomenon of project success was put forward. As a conceptual basis for assessing the success of projects we must consider the role projects play in organisations, as mentioned earlier. Accordingly, a project

may be considered successful if the outcome of the project (the project result) contributes to achieving its underlying strategic objective in the organisation, while both the project implementation process and the project result itself are accepted by the stakeholders of the project. This definition encompasses both the contribution to the organisational objectives (client satisfaction) and stakeholder acceptance (identified by previous research work) in a direct way, and also implies the traditional project triangle. In this way, the above definition implies the following success criteria:

- The traditional project triangle, i.e. implementation cost, implementation time, and quality of the completed project result.
- Client satisfaction, i.e. the potential of the completed project result to contribute to achieving its underlying strategic objective.
- Stakeholder satisfaction, i.e. stakeholders' readiness to accept both the project implementation process and the project result itself.

In fact, the project client is one of the stakeholders, although we need to consider the client separately. This is justified by the role of the client. While the client needs to adopt an active role (acts) in the project, other stakeholders generally have a passive role (react to the project).

The multi-criteria approach to project success distinguishes project management success and the success of the project result (e.g. Baccarini, 1999). However, our research into project success found that these two success areas may be interrelated. That is, successful project management may contribute to the success of the project result. Yet successful project management cannot prevent the failure of the project result. In contrast,

success of the project result may justify the success of project management. This mutual relationship implies that project success is a multi-faceted phenomenon since it encompasses both the efficiency aspect and the question of effectiveness (c.f. Jugdev and Müller, 2005). The efficiency aspect relates to implementation of the project, while effectiveness is understood as the impact of the project result. The efficiency of implementing a project is evaluated by means of the project triangle, while the effectiveness of the project result is evaluated by means of client and stakeholder satisfaction.

Since efficiency (project management) and effectiveness (the impact of the project result) may be interrelated, the associated success criteria are also interrelated. This perception led me to the notion of a hierarchical approach to project success. Accordingly, the previously identified success criteria are interrelated in the following ways:

- The project triangle as the lowest level success criterion makes it possible to measure the success of project management. The author's research findings show that success at this level fosters both client and stakeholder satisfaction. Completion on time and to quality fosters achieving the underlying strategic objective, while completion within cost increases the potential for a favourable financial return. However, the opposite situation is also true. The previous train of thought may also be interpreted in connection with stakeholder satisfaction.
- Client satisfaction as the second-level success criterion also implies a two-directional interrelationship. A successful project result that contributes to achieving the underlying strategic objective may

qualify the project management process as a success, even despite a serious time and cost overrun. At the same time, a successful project result may also lead to stakeholder satisfaction (consider e.g. the Sydney Opera House, the London Thames Barrier etc.). However, when both the client and stakeholders are unsatisfied they may undervalue the efficiency of the project management involved.

- Stakeholder satisfaction as the third-level success criterion may have a considerable impact on the realisable success at the other levels. Hostile stakeholders emerging in the operational phase of a completed project result may eliminate the potential for client satisfaction, and may undervalue the efficiency of managing the project (consider e.g. the Budaörs Logistics Centre of the National Post of Hungary). One might say in such a case that the operation was a success, but 'the patient died'.

Based on the interrelationships that exist among the success criteria, a hierarchical order of them may be comprehended. In this way, the lowest level success criterion is the triangle which is followed by client satisfaction, and finally stakeholder satisfaction is on the top. The highlighted interrelationships imply that a higher level success criterion includes (at least indirectly) the requirements of the lower level success criterion. This approach to project success implies the following possibilities:

- Different players and stakeholders of a project may evaluate the success achieved in the project at the appropriate level.
- Based on the underlying strategic objective, the client organisation may determine the relative importance of the success criteria in advance.

The success criteria encompassed by this approach are in line with the definition of project success given in this section of the paper, while the considered criteria make it possible to evaluate both the efficiency and effectiveness of projects. One might say that the phenomenon of success is a very complex issue, while the followers of the best practice approach seek to satisfy the implied needs of the success criteria simply by means of imitation.

#### **4. THE TRUE NATURE OF THE BEST PRACTICE APPROACH**

The rising number of projects and, at the same time, growing complexity of projects created demands new solutions in order to enable both the planning and implementing of complex projects in an uncertain world. In this way, innovative efforts have resulted in the situation where today there are a couple of techniques and tools for the same ultimate management task in project management. For example, there are a few risk assessment techniques, scheduling techniques, project organisational arrangements, contract types, and so on. Thus, project management professionals have the possibility of selecting a certain technique or tool to complete the very same project management task in order to ensure success.

Each of these techniques and tools has its own theoretical bases (e.g. mathematics, organisational science etc.) that support their proper use in the course of implementing a project. Central to the international literature, especially those books that provide a comprehensive overview of the project management toolkit, is the proper use of these techniques and tools. However, an approach regarding how to properly apply them, i.e.

which ones to use to solve the same project management task, was missing. During the last few decades, the lack of any firm theoretical bases regarding the application of the project management toolkit led to the phenomenon which is referred to as best practice. Even if this is not considered to be a generally followed approach, it is frequently used in the case of organisational development projects and the associated information system projects.

One could say that it is not the abovementioned project management techniques or tools themselves that make a project successful, but the people involved. People, that is, project management professionals (including their technical skills, personal characteristics etc.) and the organisational context of a project (including top management's attitude, the organisational culture etc.) have a decisive role in achievable project success. However, the project management techniques and tools are used and applied by people. In this way the right use, that is, the application of the techniques and tools depends on people. In other words, the appropriateness of using these techniques and tools reflects the attitude of the users and, ultimately, the organisational context of the users. That is why project management techniques and tools are in forefront when the best practice phenomenon in project management is being considered. It is in this way that the followers of the best practice approach confuse learning from experience with copying the experience of others. Learning from experience is, however, essential from the point of view of achieving success in projects.

The best practice approach presumes (willy-nilly) that a certain project management technique or tool is better than other ones that could be used for the very same project management task. Put differently, the use of

project management techniques and tools that led to project success in one project should also lead to success in another project. This approach implies that one problem means one solution. Bredillet (2004) prudently asks whether this is the right approach to managing projects. This approach also implies that all projects are the same and are implemented within the same organisational context.

The huge number of project failures mentioned earlier in this paper at the same time suggests that the best practice approach is basically a misleading paradigm. In reality, projects differ both in terms of their end product (the project result) and the characteristics of their implementation process. At the same time, projects are initiated and implemented within different organisational contexts. In this way, a certain project management tool considered to be the best in a given case could be the worst for another case.

The best practice approach in fact relies on the belief that if the use of a certain project management technique or tool was sufficient in one project, then it should also be good (moreover, the best one) in other cases. Those subscribing to this view follow a certain project management practice which is considered to be the best one. Yet the required associated project management competence is referred to as an experience-based skill justified by practical experience and accumulated in the course of managing projects. Thus, the best practice approach is merely some kind of copying. Consequently, it should be referred to as the worst practice. This is the true nature of the so-called best practice approach in project management. It is this approach, copying, that is (among others) responsible for the high rate of project failure since it does not take the phenomenon of contingency into consideration

(i.e. that both projects and their organisational context are different).

The underlying reason for the development of the copying-based best practice approach in project management was the lack of any theoretical underpinning for applying the project management toolkit. Yet this should help professionals select the most appropriate project management tools and techniques for a certain project context. At the same time, some factors foster not only the viability but also the proliferation of the copying-based best practice approach.

One of the most important factors is the positivist epistemological position of the researchers which, according to Smyth and Morris (2007), is considered to be predominant. Central to this type of epistemology is the world "have", i.e. the normative approach which implies the notion of "one problem means one solution" (c.f. Bredillet, 2004).

Besides the above factor, another favourable factor fosters the best practice approach in project management; namely, the certification philosophy of both the IPMA and PMI. Both of these organisations require practical experience in the first place which is (willy-nilly) based on the previously highlighted copying approach.

However, the copying-based nature of the best practice approach in project management may be explained by means of the science of memetics. Memetics is the science of the flow of ideas (memes) from one person to another. A meme is an element of culture that may be passed on by imitation, i.e. by copying as well. A memplex is a set of memes, and one characteristic of a memplex is that false memes are copied along with true memes since a meme does not need to be true to be successful (c.f. Whitty, 2005). In a project context based on best practice, this implies that



project management practitioners learn from each other through imitation. In this way, a project manager does not need to be familiar with the best practice phenomenon and does not need to be aware of the sanctioned ritual of the best practice. They may follow the best practice by means of imitation (c.f. *ibid.*).

One wonders if the copying-based best practice approach can satisfy the need derived from the role of projects and the complexity of the associated success criteria. Such a contradiction justifies why both statistics on project failures and the role of projects in organisations along with the associated success criteria were presented in detail earlier in this paper.

## **5. THE ULTIMATE REASONS FOR PROBLEMS IN PROJECT MANAGEMENT AND THE ASSOCIATED PROJECT FAILURES**

Most of the previously mentioned authors (along with many others) identified important failure factors, while Hussain and Wearne (2005) pointed out the so-called problem areas in project management. Both failure factors and problem areas lead to project failure, yet organisations (because of the potential for long-term success) need successful projects. Failure factors and problem areas are merely symptoms of a serious project management disease, while there is a fundamental need to reveal the ultimate causes of the previously mentioned problems and failure factors. Merely considering the symptoms allows general managers and project management professionals to only provide symptomatic treatment, but there is a need for causal treatment.

Previous sections of this paper highlighted the role projects play in organisations and

revealed the success criteria in detail. The role of projects is particularly important from the point of view of the future success of an organisation, and the success criteria are literally complex. At the same time, the success rate achieved in projects is considerably low and since many practitioners believe in the so-called best practice approach they are also part of this phenomenon.

In terms of the role of projects in organisations and the associated success criteria, the ultimate reasons for project failure may be classified in two groups:

- those related to the organisational context; and
- those related to professional attitudes.

These ultimate causes may manifest themselves as symptoms (failure factors and problems). The causes of the high project failure rate are not only the outcome of some speculation but are justified by experience accumulated in consultancy work and in-company training courses. In this paper, only the most important one from each of the abovementioned groups of ultimate reasons will be highlighted.

As to reasons related to the organisational context, the attitude of general (top) management seems to be the most salient. Top management's attitude generally implies an immediate need for change without farsighted strategic analysis. In other words, the need for some prompt change in response to the pressure of the external or internal operational environment. In such cases, the desired future state and the associated strategy of the organisation cannot be clear. Consequently, the scope of the projects that are to implement the desired changes also cannot be clear. Stated differently, if 'we don't know where to go, we

won't know how to get there' (in terms of project scope, implementation cost, duration time etc.). The situation involves the appearance of serious problems and the associated failure factors will lead to project failure by virtue of the lack of a strategy-oriented approach to projects and managing projects. This type of management approach may be referred to as NIKE approach ('Just do it!').

As to reasons related to professional attitudes, the blind following of the best practice approach seems to be most important. In other words, the absence of using theoretical bases for applying the proper project management techniques and tools in a given project context in an appropriate manner (see e.g. Görög, 2003; Görög, 2005). Restating this, following the misleading phenomenon of the so-called best practice, i.e. copying a 'was-at-one-stage' successful solution. This approach presumes that both projects and the organisational context of implementing them are the same from project to project, and from organisation to organisation. This approach also presumes that one of those project management techniques and tools (e.g. a certain project organisational arrangement) that can be used to complete the very same project management task (e.g. coordinating a temporary organisation) is better than another. In reality, both projects and their organisational context vary from project to project and, at the same time, from organisation to organisation. Yet it may be that no project management technique and tool that can be used to complete the very same project management task is better than another. Each of them has different advantageous and disadvantageous characteristics and thus each one can be either the best or the worst in a given project context. That is why the phenomenon of merely copying

a certain solution in a different project context is likely to lead to problems and an uncountable number of project failures.

Conclusions and implications will only be concerned with the above highlighted reason related to professional attitudes.

## 6. CONCLUSIONS AND IMPLICATIONS

In order to formulate conclusions and implications and offer suggestions, the following two questions should be addressed:

What is behind the 'best' (worst) practice?

What should be beyond the 'best' (worst) practice?

The answers are implied in the previous sections of the paper. Behind the 'best' (worst) practice approach one can find a high rate of project failure. That is, the running amuck of the 'best' (worst) practice approach to managing projects is signalled by the innumerable project failures. As to what should be beyond the 'best' (worst) practice we need to focus on the highlighted professional-attitude-related reason. Beyond the 'best' (worst) practice approach there is a need for the theoretically-based application of project management techniques and tools because of the need for successful projects. Again, projects are different and are implemented in different organisational contexts. At the same time, those project management techniques and tools that can be used to complete the very same project management task have different (advantageous and disadvantageous) characteristics (Görög, 2003; Görög, 2005). In order to find the most appropriate ones in the case of a given project management task, i.e. ones suited to both the project characteristics and organisational context, it is necessary to use the theoretical basis when applying these

techniques and tools. The term use and apply should be differentiated in this respect. The term use implies mastering a certain technique or tool as one single entity. The term apply implies the ability to identify the best-suited one of them. In this way, the term use is technical-related, while the term apply is managerial-related. Thus, the final conclusion is the inevitable need to improve professionalism in this way.

### **Implications and suggestions for academics**

Since the best practice approach adopts a so-called 'one type fits all' philosophy which finds its roots, like it or not, in positivist normative epistemology, in this way the academic community needs to adopt a constructivist (to be) epistemology. Otherwise, there will be no potential to successfully cope with a complex and unique project context.

### **Implications and suggestions for professional bodies**

Since both the ICB: IMPA Competence Baseline (IPMA, 1999) and Project Management Body of Knowledge® (PMI, 2008) suffer from a lack of theoretical bases regarding the proper application of the project management toolkit, they foster the 'best' (worst) practice approach. At the same time, these professional bodies enjoy a monopoly over the certification of professionals, while the certification and associated qualification are primarily based on the practical (experience-based) competence of the applicants. In this way, to gain a qualification there is no need for theoretically-based knowledge in the field of project management. Consequently, the 'best' (worst) practice approach is further fostered. The author of this paper is well aware of the importance of practical experience. However, it should be noted that experience alone is a one-

armed giant. But experience can do marvels when coupled with theoretically-based knowledge. There is nothing as practical as a good theory (c.f. Lewin, 1951).

The abovementioned professional organisations should reconsider their body of knowledge and utilise the theoretical bases elaborated by academic researchers regarding the proper application of project management techniques and tools. Moreover, the professional organisations should leave both qualification and certification to universities since, as Zwerman (2005) asserts, professionals of the mature professions are educated at universities. The ultimate question in this respect is whether the community of project management professionals wants to move project management from its current occupational status towards a professional status.

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