
Project Management KPI's in Infrastructure Developments

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ABSTRACT

Project Management is a key element in achieving long-term success for any company. The codes of conduct Project Management KPIs adopts directly determine the sustainability of business activities. With this in mind, this paper aims to demonstrate the results of research that identifies a set of key indicators of Project Management performance in Infrastructure Development. The presented research is quantitative. This research aims to assist both academic and corporate practitioners who want to improve the performance of Project Management Key performing Indicators in Infrastructure Developments and, through the use of key performance indicators, support the transparency and sustainability of their business.

INTRODUCTION

A large list of Project Management KPIs that does not have clear linkages to a business's overall objectives may be a sign of a larger problem: a lack of strategic focus. Selected KPIs in any strategy should have clear and solid links to the overall performance. Understanding the importance of different KPIs in driving these objectives is a necessary condition for providing good, actionable information at the operational level where corporate strategy is implemented at the phase of infrastructure development. Considering the general development trends of infrastructure, it should be pointed out that the level of infrastructural development in the socialist countries is relatively low by international standards, as compared to either the general capacity of their economies or their level of industrialization. All this refers of course not only to the capacity of infrastructure, but also to the level and structure of the production factors of infrastructural development.

WHAT MAKES A PROJECT?

The work which the actuary undertakes is in general guided by precedent. At the most junior level of responsibility, the precedent operates over a short time-cycle, measured in weeks or months. With increasing seniority, the responsibility to look further into the future means that the precedents we use from the past are longer-dated, spanning several, or perhaps many, years; and the experience that usually supports seniority ensures that we previously had direct experience of the precedents we use today. However, where there are no precedents to guide our judgement we must perforce adopt some other procedure to tackle the new problems with which we are presented. These are the circumstances in which it is valuable to work to the concept of the project as a once-for-all undertaking which is embarked on with no certain perception of its eventual outcome and little or no previous experience to guide its conduct. This is an intentionally narrow definition of the project-concept, which has been circumscribed so as to exclude those undertakings which are indeed once-for-all in their nature but can be guided by an extensive past experience. By the definition adopted for this paper, the setting up of a new pension fund might rate as a project for the company whose employees are going to benefit from it - but not for the actuaries who are concerned (by whatever means) in the design and implementation of the new scheme. Falling squarely within the definition of the project-concept which this paper seeks to explore are the following examples: - the computerization of life office records - office decentralization - the design and launch of equity-linked business - the design and installation of a modern office telecommunications network - investigation of the scope for installing an office word-processing

system - investigation of the potential application of microcomputers in a specific office environment - identification and implementation of company-wide energy-conservation measures - setting up an office overseas.

TECHNIQUES OF PROJECT MANAGEMENT

The spread of these examples is wide. It includes projects both large and affecting perhaps every member of a large office staff in some cases and, in affecting only relatively few specialists. In one instance - the computerization of office records - some will recognize a project that was initiated and completed many years ago, to become part of company history for those who were in the activity at the time. But they all share one common feature, in proceeding through a number of recognizable stages towards their completion. These stages are:

1. Establishment of the Objective.
2. Project Planning.
3. Project Execution.
4. Implementation.

In terms of time elapsed on each stage, project execution and implementation necessarily outweigh the first two stages by a very large margin. However, definition of the project objective and the existence of a prepared plan can contain the time needed for the action stages, and can sometimes mean difference between success and failure. In the observations which follow, emphasis placed on the various stages is aimed at reflecting the influence each stage has on its successors.

DEFINING THE OBJECTIVE

Philosophical considerations In general, no project can meet two objectives, just as, in general, no man can serve two masters. It is possible, of course, that the recommendations proposed to meet one objective in a multi-objective project happen also to be the recommendations which meet all other objectives: but this eventuality is so rare and unpredictable that by far the wisest course is to face the issue of objective-definition squarely at the outset, by defining a unique objective and treating all other known considerations as constraints. This essentially philosophical viewpoint can draw support from the experience in practical application of the well-tried (if sometimes misused) technique of linear programming (LP). In its classic form, the use of linear programming demands the initial definition of an objective function which is to be optimized - e.g., a cost which is to be minimized, or a plant utilization which is to be maximized, subject to constraints on machine capacity, availability of raw materials and so on. Following the definition of objective function and constraints in conceptual terms, the immediately succeeding step is the formulation of these concepts as algebraic equations or inequalities. Matrix-manipulation procedures can then be applied to the set of algebraic relationships to determine those values of the unknowns which optimize the objective function.

Techniques of Project Management subject to the defined constraints. If some other definable objective function optimized by the same set of values, this is purely fortuitous. The discipline which the procedures of LP manipulation impose, in demanding but one objective function in order to operate at all, may be seen as a restriction of the technique - but it is not. Rather, it is an explicit and inevitable consequence of the postulate that no project can meet two objectives. An appropriate illustration is provided by a project concerned with moving a company's headquarters from the centre of London to some other location in the U.K. The project will most probably have been initiated on the basis of cost reduction, but there are numerous other factors to be considered, amongst which the retention of existing staff will doubtless assume great importance. In drawing up the objective of the project, the initiators need to be quite explicit in their statement that maximum cost reduction is the primary aim (if, indeed, this is so), subject to well-defined constraints relating to the required degree of staff retention. Consider, in the first instance, "... minimum cost, subject to acceptability of the selected location by at least 60% of staff above a specified level of seniority and by at least 30% of other staff with more than 15 years' service". As a definition, this is clearly over-simple: it would need extension

and refinement (as to the criteria of cost and the terms of acceptability), and the parameters would doubtless be subject to negotiation with staff representatives. Nevertheless, it has the outstanding merit of providing an unambiguous base structure to the ensuing project, which should then result either in the choice of a suitable location or in the conclusion that no suitable location can be found. (The treatment of the second eventuality is taken up in a later section.)

By contrast, problems will undoubtedly arise in the execution of a similar project defined with dual objectives, thus: "(a) to achieve minimum cost (b) with maximum acceptability of the selected location by existing staff". Even with the same degree of extension and refinement as was envisaged for the preceding objective, this formulation is likely to cause severe operational difficulties. The predictable outcome is a polarization of vested interests around one or other of the two main criteria, leading to uncertainty and conflict at a critical downstream point in the project, when effort should more properly be concentrated on the maintenance of enthusiasm and momentum. In the ideal world, the specification of a well-defined objective to initiate the project will ensure that conflict is resolved before the project gets under way. In the real world, it is common to find that compromise on objectives has to be accepted, if only to enable progress in any direction to be set in train. This is frequently evident in the public sector, and particularly so in projects concerning public health, social security, and the environment, where the existence of influential pressure-groups may be reflected in a broad statement of purpose comprising some half-a-dozen or more objectives which are clearly in conflict to

Techniques of Project Management some degree. In this respect, an undertaking in the private sector is fortunate being less constrained by the influences of democracy both on what it needs publish and what objective it decides to pursue. This degree of flexibility not, of course, guarantee that multiple objectives are avoided. If the mathematical analogy of LP can serve to rationalize the assertion project objective as the ideal, how may we represent the compromise of objectives which circumstances may force upon us? An appealing model technique of linear regression, whereby the straight-line output is a best points in the plane but contains any one point only by chance - unless, that user of the technique can identify one observation as the prime objective weight it or regress through it. It may be noted in passing that this device, frequently employed for reasons of common sense, is not always included concomitant of the published results.

PRACTICAL CONSIDERATIONS

No project of significance can be started effectively until a clear objective has been drawn up in writing. The statement of the objective serves two purposes: - to give guidance in planning the execution of the project; - as a reference point throughout project execution. For a small project, involving few people or having a limited impact on many, the written statement is likely to be brief, and drawn up by one person with a measure of consultation with colleagues. As a general rule, it seems advisable to consult widely rather than narrowly, to disclose any implications that might not otherwise be apparent and to obtain a perspective on any problems apparent at the outset. Large projects, affecting the interests of several departments in an office or of diverse external organizations, may be best initiated through the medium of a committee. Because the project is large, and because several possibly conflicting interests have to be reconciled, the written objective is likely to be extensive and its agreement time-consuming. Experience suggests, nevertheless, that hours spent on completing this task satisfactorily can save months in the later stages.

VALUE-BASED PROJECT MANAGEMENT

Value is a fundamental term in management. Value is a measure express in currency, effort, exchange, or on a comparative scale which reflects the desire to obtain or retain an item, service or ideal (Kelly and Male, 1993, p. 15). Value for money is the optimum combination of whole life cost and quality to meet client's responsibility (Connaughton and Green, 1996, p. 8). Value can also be defined as the fair equivalent in service or communities that an owner/buyer receives in exchange of money (Dell'Isola, 1982, p. 2). Different value situations could be (a) exchange value, being the amount HalilShevket Neap and Seran Ay sal for which an item may be sold, (b) esteem value, being the amount an owner is prepared to pay for prestige or appearance, (c) use value, being a measure of the function(s) of an item and (d) other value situations like

aesthetic, judicial, moral and religious. Interrelation of cost and value could be expressed as value = cost marginal value, where marginal value is the subjective part of value and depends on the owner's value system (Neap and Celik, 1999, p. 184). Marginal value reflects owner's desire to obtain or retain a facility or how much the owner is prepared to pay for prestige, appearance, aesthetic, judicial, religious or moral reasons. Marginal value of a constructed facility depends on how the decisions made by the contributing parties at different stages of the implementation of a building project (Neap and Celik, 2001, p. 119). Little attention is given to assessing the needs of the client, stakeholders and those of the design team (Smith et al., 2001, p. 121). Value management in construction aims to maximize the functional value of a constructed facility to the owner/client. Value management is a multidisciplinary and team-oriented approach to problem solving. The facilitator or value manager has to harness the creativity of the team members and direct it towards solving client's problems using techniques like

- (a) Functional analysis method, being a powerful technique in the identification of the prime functional requirements of a project
- (b) Life cycle costing, being a cost centered engineering economic analysis whose objective is to systematically determine the costs attributable to each alternative course of actions over a specified period of time
- (c) Simple multi-attribute rating technique (SMART), being a soft-system approach of weighted evaluation technique to ensure owner/user participation in design of buildings. Value-based project management uses the principles of value management and a value manager involves in all stages of the management from concept to completion.

Value manager is an expert responsible for organizing all aspects of value management study and may also facilitate workshops. Multi-disciplinary and team-oriented approach to problem solving is introduced to the management at every stage of the construction. Interesting parties are encouraged for their contributions to the discussions. Value manager oversees the stages of the project and harnesses the creativity of the interesting parties and direct it towards solving problems based on owner's value system. Relevant techniques and methods are introduced during the stages of the project. Owner performs his/her duties and responsibilities by making decisions as required by the project. Value manager in value-based project management increases the functional value of the project by helping owner in making correct decisions at the right times and thus adding positive marginal value to the value of the project.

DEVELOPING THE IN-PROJECT DATA TEMPLATE

The benchmarking data, supplemented with the interview data just described, enabled the development of a template for future performance measurement. Crucially, future measurement would seek to modify the methodology adopted for the previous studies, which concerned the benchmarking of postproject data. Although these data provided valuable insights, it was recognized that collecting data of this nature was limited. It is backward looking rather than forward looking. It afforded participating agencies and departments the opportunity to make policy changes designed to improve future possible performance but not to improve the outcome of current performance. On this occasion, however, the measures were designed to be used during the project process. Without this in-project benchmarking, it would only be at the end of a project that its outcomes would be known. Moreover, by developing in-project measures, the process of benchmarking need not be seen with distrust but as a tool for the strategic and operational management of projects. In-project benchmarking was seeking to shift the learning aspect from one of retrospective analysis and reporting to forward-looking, team-based problem solving. Without this real-time presence, benchmarking risks losing the potentially valuable input from those in a position to identify problems and effect and manage solutions or resolutions.

This emphasis on learning has led to a significant shift in the reception and use of benchmarking. The first two phases used benchmarking to monitor how projects had performed in order to isolate performance gaps. Practitioners were placed in the passive role of being assessed. In-project benchmarking, on the other hand, involved practitioners in self- assessment focused on feedback and solutions. This went some way to

overcoming the suspicion that was often found during benchmarking exercises. It would allow practitioners to invest in the rigor of the method without feeling unduly restricted by the resultant judgments. It was intended as a flexible tool, free from any specific idea about what an organization or its environment of operation (public or private) should look like. Instead, it insists on method. Because in-project benchmarking relies on practitioners to impart their understandings of process and products, it relies less on dictating rigid patterns of activity than establishing clear communication channels that encourage self-motivation to pursue improvement (Walgenbach&Hegele, 2001). By undertaking in-project benchmarking, the public sector clients felt themselves to potentially benefit from the following: The ability to design a performance plan linked to examples of good practice and identified organizational strategy. In addition, the ability to assess and monitor the effect

LONGER-TERM BENEFITS FROM THE PROJECT WERE IDENTIFIED AS:

- improved standards for project management across the country Service; and
- increased knowledge and skills in project management methodology, through training and development covering all project participants.

KEY PERFORMANCE INDICATORS (KPI)

KPIs stand for a set of method focusing on those aspects of organizational performance that are the most important for the current and future achievement of the organization. KPIs are rarely new to the organization. A Key Performance Indicator is a measurable value that demonstrates how effectively a company is achieving key business objectives. Organizations use KPIs at multiple levels to evaluate their success at reaching targets. High-level KPIs may focus on the overall performance of the enterprise, while low-level KPIs may focus on processes in departments such as sales, marketing or a call center. A KPI is only as valuable as the action it inspires. Too often, organizations blindly adopt industry-recognized KPIs and then wonder why that KPI doesn't reflect their own business and fails to affect any positive change. One of the most important, but often overlooked, aspects of KPIs is that they are a form of communication. As such, they abide by the same rules and best-practices as any other form of communication. Succinct, clear and relevant information is much more likely to be absorbed and acted upon.

Mr. David Parmenter KPI workshops has done extensive analysis and discussions with over 3,000 participants, which has covered nearly every organization types in the private and public sectors, he has been able to identify the following characteristics of KPIs.

-) Are nonfinancial measures (e.g., not expressed in dollars, yen, pounds, euros, etc.),
-) Are measured regularly (e.g., 24/7, daily, or weekly),
-) Are acted on by the CEO and senior management team (e.g., CEO calls relevant staff to enquire what is going on),
-) visibly specify what action is necessary by staff (e.g., staff can be aware of the measures and know what to put right),
-) Are measures that fix task down to a team (e.g., CEO can call a team leader who can take the required act),
-) Have an important impact (e.g., affect one or more of the critical success factors [CSFs] and more than one BSC perspective),
-) They promote appropriate action (e.g., have been experienced to certify they have a positive impact on performance, whereas poorly thought-through measures can lead to dysfunctional behaviour).
-) Once a dollar sign is put on a measure, it has already converted into a result indicator (e.g., daily sales are an outcome of activities that have taken place to create the sales). The KPI lies deeper down. KPIs should be monitored 24/7, daily, or perhaps weekly for some.
-) KPIs must be supervised 24/7, daily, or possibly weekly for some. A KPI is deep enough in the organization that it can be attached to a team. In other words, the CEO can call someone and ask "why."

Return on capital employed has never been a KPI, as it cannot be attached to a manager-it is an outcome of many activities under diverse managers

SETTING THE RIGHT KPIS

It is fairly easy to find suitable financial KPIs for an organization, such as a measure of total revenue. But defining KPIs is less straightforward when applied to more subjective or vague areas of a business, such as customer satisfaction or employee development. In these instances, more creativity is needed. For example, an appropriate KPI for measuring employee development might be the number of training days per year taken by each staff member. To make the selection of KPIs more systematic, organizations need to be particularly careful when developing them.

The following is a typical sequence for developing KPIs within an organization:

-) Identify a problem, situation or objective you are trying to address, e.g., reducing the number of defective products at the end of the manufacturing process.
-) Develop a view on how you would like the results to look, e.g., target number of defective products to reduce from 20% to 5%.
-) Develop a process for how you want things to be achieved, e.g., this could involve reengineering the whole process or it could be achieved by introducing quality assurance checks at various stages of production.
-) Develop effectiveness KPIs before efficiency KPIs. This is because you first need to establish your benchmark, e.g., how many units you produce in a given period of time, before you can begin to think about measuring related efficiencies.
-) Develop stakeholder and financial KPIs before other KPIs. Stakeholder KPIs for a government organization, for example, might be that every child receives education. For a company, it is likely that the financial KPIs, such as growth and revenue targets, will drive all other strategic objectives. Hence, it's logical to set these KPIs before any others.
-) Develop output KPIs before input KPIs for each objective. It's not possible to start thinking about input KPIs before output has been determined. For example, you need to know what your production target is, i.e., how many cars you need to produce, before you begin to think about KPIs relating to the manufacture of those cars.
-) Select best-fit KPIs, share, approve and document them. Companies should always have a flexible and creative mind set when developing KPIs, as their ultimate goal is to drive the performance changes required by the corporate strategic plan. KPIs cause divisions and departments to act differently, improve certain processes and drive discussion and agenda items at the executive level. Well-designed KPIs enable management to ask the right questions, rather than give neat answers and results. In other words, KPIs are tools to create a climate for action and to support dynamic high-level discussion.

INFRASTRUCTURE

The changes in infrastructural development are traced in relation to the new economic policy developments of the seventies, the "critical decade", to new trends in the world economy and to the rearrangement of the economic points of emphasis. Earlier established international long-term development trends in infrastructure are reassessed.

In the past years several studies have dealt with the state of infrastructure in India, the role of infrastructure and services in economic growth. Realizing the deficiencies of infrastructure, the serious tensions resulting from it and the complicated interrelation between the further development of the economy and the level of infrastructure, the creation of a long-term development strategy of infrastructure and its alternatives have also been included in the long-term planning in India, the first time in the planning practice of socialist countries .

Beside the results of the research work focusing on the Indian infrastructure, another important basis for planning purposes was provided by international experience based on international comparisons covering a longer historical period (1860-1970) on the one hand and the last decade (from 1970 up to the beginning of the 80s) on the other [2, 3]. In various debates, however, the problem has been justly raised that, as a consequence of the changes in the world economy in the late 1970s and the early 1980s, when evaluating the present period or working out concepts about the future, it is no longer enough to rely on the international experiences of infrastructural development after the long post-war boom period.

New economic policy developments of the 1970s, the beginning of a new world economic epoch and the shifts of emphasis brought about considerable changes in real economic processes determining infrastructural development, modified previous proportions of production factors and were (and still are) able to render previously established long-term international development trends irrelevant.

It seems therefore necessary that an international analysis relying on new data should be given, first of all from the viewpoint of India and thus new ideas be provided for Indian planning as to - how far international economic processes, including also hectic fluctuations, have influenced the levels of the whole infrastructure and of its major fields;* - what kinds of short- and long-term changes may be perceived in the volume and the structure of both the labour force employed in infrastructure and the capital invested in this area; - what shifts of priorities may be experienced in the economic policies of various countries with respect to infrastructure, and what connections exist between the production basis in the narrow sense and the infrastructural background; - what conclusions may be drawn from all this for the future in general and for India in particular.

The performance of infrastructure is determined by the quantitative and qualitative characteristics of its facilities while the level of infrastructure is influenced by production factors, investments and employment connected with the functioning and development of infrastructural branches.

INVESTMENTS

Investments Infrastructure is famous for being the most capital-intensive sphere of the economy. The volume of infrastructural investments is related much more to structural peculiarities of the economy than to the level of economic or infrastructural development. As is indicated by international experience, the share of infrastructural investments within the total is relatively stable even in the long run. In most of the developed capitalist countries the share of infrastructural investments has been about 50-60 percent of the total, or 70-75 percent with the energy sector included, since the Second World War

Manpower

Manpower In the last decades the proportion of manpower employed in various branches of infrastructure has shown an increasing trend within the total employment. This growth, however, was different in the capitalist and socialist countries, as regards its extent, rate, proportions and sources.

Infrastructural characteristics of economic policy during the decade of recession

Infrastructural activities were gaining ground in the capitalist economies in the period preceding the economic recession. One of the reasons for this was that the higher standard of production, the more and more complex processes of production, marketing and distribution made ever growing demands on the various transport, communication, commercial and social, cultural and personal services, by no means independently of social and political changes. The development of these was closely related to the ambitious government welfare programmes of the 1960s and 1970s. For most of these activities, profitability criteria were formulated not at enterprise but at national economic level and they were financed not by the private sector and private entrepreneurs having to keep short-term returns in view, but mostly by the state, which provided almost unlimited possibilities for the expansion of infrastructure for a long time. High capital intensity and the profitability features of infrastructural investments made state participation necessary. Furthermore the favourable and lasting boom as well as the resulting accumulated economic potential meant that these activities could be financed through redistribution channels of the national income and the central budget. At

the same time, infrastructure played a role in the utilization of excess manpower following the structural changes in the real spheres of the economy. Beside the undoubtedly positive effects which, in the framework of neo-Keynesian anticyclical economic policy, infrastructural development had on the cyclicity of the economy, by the 1970s the limits of infrastructural development, more and more "separated" from the productive basis in the narrow sense, were clearly outlined.

In several infrastructural branches (first of all in those financed by the state budget) an autonomous development evolved, far exceeding the capacity of the economy and structurally separated from real demands justified by the functioning of the economy. There was too much development, and it did not yield the economic results that would have been proportionate to development efforts. Because of its indirect relations to the productive sphere and the relative unimportance of profitability, even during the world economic recession the dynamic growth of the tertiary sector seemed to be unbroken.

CONCLUSION

This paper has provided a range of tips and information to keep in mind when thinking about Project Management KPIs in Infrastructure Developments. But, there are some overarching messages that all organizations would do well to remember. Firstly, Project Management KPIs can have unintended influences on Infrastructure Developments when connected with people's behavior. For example, a company might set infrastructure targets to encourage employees to complete tasks as quickly as possible, i.e., some sort of time-related target. But the unintended consequence could be that employees are so motivated to hit these targets that they endanger themselves and the company finds they have lots of injured employees! This is just one example from many that demonstrates how important it is to understand the broader effect a target could have on employee behavior. A second point is about the quality of the KPI itself. It's not good enough to set a vague target, such as "improved productivity." There always has to be a quantifiable and realistic goal. It seems obvious, yet, so often, this is overlooked. And, finally, it is worth remembering that there is no science behind KPIs — it's an art, something that you can only get really right by trial and error. For example, one expert may recommend a list of KPIs and another expert would likely recommend a completely different list. Neither of them is right or wrong — both lists will have their advantages and disadvantages. So, be confident with your target setting: brainstorm, filter and seek agreement. Be realistic, but be wary of being vague. Be ready to measure your organization's success!

Infrastructure can be improved only within the framework of a general economic strategy, and only with the further development of the general reform of the system of economic management. There are heated debates as to the extent and paths of infrastructural development in India; it seems worth emphasizing therefore that the required equilibrium, export-oriented and dynamic development cannot be reached without an adequate background of infrastructural network.

The development of infrastructure is a precondition of the realization of the economic strategy and as such, it also contributes to the stability of the Indian economy. Infrastructural development is of vital importance in improving the production structure of the economy, in ensuring labour mobility, in tourism, in the export of services, in the marketing and commercial network, in storage, in improving our reliability both at home and abroad, in the maintenance and repair network etc.

Common challenges when using project Management KPIs

- Objectives are not clearly communicated
- Lack of agreement over KPIs
- Calculation method is unclear or incomplete
- Insufficient amount of data available
- Number of KPIs is too many
- Representation is not credible

Common challenges in setting targets for infrastructure development

- Striking the right balance between being realistic and challenging
- Achieving alignment between compensation and performance
- Setting targets rests only with top leadership
- Meeting targets is not achievable with approved resources
- Finding alignment with broader objectives

REFERENCES

- J Parkin (1980). *Systems Management* (Edward Arnold).
- J Taylor & Watling (1970). *Successful Project Management* (Business Books).
- J Merrett & Sykes (1963). *The Finance and Analysis of Capital Projects* (Longmans).
- J Staffurth (1969). *Project Cost Control* (Heinemann).
- J M.G. Wright (1967). *Discounted Cash Flow* (McGraw Hill).
- J Raiffa H. (1968). *Decision Analysis* (Addison- Wesley, Massachusetts).
- J Moore & Thomas (1976). *The Anatomy of Decisions* (Penguin Modern Management Moore, Thomas, Bunn & Hampton (1976). *Case Studies in Decision Analysis Management Texts*).
- J Lockyer (1969). *An Introduction to Critical Path Analysis* (Pitman).
- J Rawlinson (1981). *Creative Thinking and B*
- J Ammons, D. (1999). A proper mentality for benchmarking. *Public Administration Review*, 59(2), 105-114.
- J Beretta, S., Dossi, A., & Grove, H. (1998). Methodological strategies for benchmarking accounting processes. *Benchmarking for Quality Management and Technology*, 5(3), 165-183.
- J Graves, A., & Rowe, D. (1999). *Benchmarking the government client: Stage two study*. London: HM Treasury.
- J Graves, A., Sheath, D., & Rowe, D. (1998). *Constructing the best government client: Pilot benchmarking study*. London: HM Treasury.
- J Kouzmin, A., Loffler, E., Klages, H., & Korac-Kakbadse, N. (1998). Benchmarking and performance measurement in public sectors. *International Journal of Public Sector Management*, 12(2), 121-144.
- J Lock, D. (1996). *The essentials of project management*. Aldershot, UK: Gower. Office of Government Commerce. (2001). *Construction procurement guidance: No. 8 Project evaluation and feedback*. London: Author.
- J Schein, E. H. (1993). On dialogue, culture and organizational learning. *Organizational Dynamics*, 22(2), 40-52.
- J Walgenbach, P., & Hegele, C. (2001). What can an apple learn from an orange? Or: What do companies use benchmarking for? *Organization*, 8(1), 121-144.
- J Anderson, S. D. and S. S. Patil: 2001, 'Optimizing Owner/Contractor Core Competencies for Capital Programs', *Journal of Management in Engineering* (April), 77-85.
- J Connaughton, J. A. and S. D. Green: 1996, *Value Management in Construction: A Client's Guide* (Construction Industry Research and Information Association, London), pp. 7-20.
- J Kelly, J. and S. Male: 1993, *Value Management in Design and Construction* (E & FN. Spon, London), pp. 14-16, 89-99. McNulty, A. P.: 1982, *Management of Small Construction Projects* (McGraw-Hill, U.S.A.).
- J Neap, H. S. and T. Celik: 1999, 'Value of a Product: A Definition', *International Journal of Value-Based Management* 12, 181-191.
- J Neap, H. S. and T. Celik: 2001, 'A Knowledge Based System for Determination of Marginal Value of Building Projects', *Expert Systems With Applications* 21, 119-129.
- J Oberlender, G. D.: 1993, *Project Management for Engineering and Construction* (McGraw-Hill, Singapore). Pilcher, R.: 1992, *Principles of Construction Management* (McGraw-Hill, Berkshire, U.K.).
- J Smith, J. and P. E. D. Love: 2001, 'Adapting to Client' Needs in Construction ?a Dialogue', *Facilities*, Vol. 19, MCB University Press, p. 71-78.
- J Smith, J., P. E. D. Love, and R. Wyatt: 2001, 'To Build or Not to Build? Assessing the Strategic Needs of Construction Industry Clients and Their Stakeholders', *Structural Survey*, Vol. 19, MCB University Press, pp. 121-132.
- J Szokolczai, A. and L. Fiiftos: 1996, *Value Systems in Axial Moments: A Comparative Analysis of 24 European Countries* (European University Institute, Italy), pp. 19-21.
- J Dennis Campbell, "Choose the right measures and drive the right strategy," *Balanced Scorecard Report*, January 2006, pp.14-16.

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-) Andrew J. Pateman, “Five easy steps for developing your BSC measures,” *Balanced Scorecard Report*, January 2004, pp.15–17.
 -) John H. Lingle, *From BSC to IS Measurement*, Wm. Schiemann& Associates Inc., 2007.
 -) Janice Koch, “The challenge of target setting,” *Balanced Scorecard Report*, January 2007, pp. 14–16
 -) Ayuso, S., Argandona, A. (2007). *Responsible corporate governance: Towards a stakeholder board of directors?* IESE Business School Working Paper No. 701. Retrieved June 8, 2014, from <http://www.iese.edu/research/pdfs/di-0701-e.pdf>.Google Scholar
 -) Clark, V.L. (2004). *SAS/STAT 9.1: User’s guide*. SAS Institute.Google Scholar
 -) Committee on the Financial Aspects of Corporate Governance. (1992). *Committee on the Financial Aspects of Corporate Governance Report with Code of Best Practice. (Cadbury Report)*. London: Gee Publishing.Retrieved September 10, 2014, from <http://www.ecgi.org/codes/documents/cadbury.pdf>.Google Scholar
 -) Cranfield School of Management. (2009).
 -) Sustainable Value EABIS Research Project: *Corporate Responsibility, Market Valuation and Measuring the Financial and Non-Financial Performance of the Firm*.Retrieved June 17, 2014, from <http://investorvalue.org/docs/Eabis-ProjectFinal.pdf>.Google Scholar
 -) Demb, A., Neubauer, F. F. (1992). *The Corporate Board: Confronting the Paradoxes*. New York: Oxford University Press.Google Scholar
 -) Donaldson, L., Davis, J. H. (1991). *Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns*. *Australian Journal of Management*, 16(1), 49-64.Google Scholar