T. G. K. Vasista (2017) large construction projects are inherently complex and dynamic. Many projects start with good ideas, huge investments and great efforts. However, most of them do not achieve much success. A major contribution to unsuccessful projects is the lack of understanding on scope, time, cost and quality. Projects as powerful strategic weapons when initiated create economic value and competitive advantage. The objective of the research is to explicitly declare the scope of the research to by considering only the scope, time, cost and quality as process success parameters and how specifically the cost element would influence the project success when all other elements or factors other than cost are represented in terms of cost factor along with the contract conditions as basic rules or constraints that drive the strategic cost based on applying the CRASP methodology concept. The concept of benchmarking would provide right meaning of project success when allowing to properly distributing the meaning of customer profitability to the project providers (project owner and contractors).

ZeynepIsik, et al(2009) the project is at the core of the construction business. Project management can be used as a tool to maximize the success of projects and ultimately the success of construction companies. It is therefore worthwhile to explore the factors that can enhance project management competencies. In this study, it was hypothesized that “project management competencies” are influenced by “corporate strengths/ weaknesses”. “Corporate strengths/weaknesses” was defined as a second-ordered construct composed of three latent variables including the company’s resources and capabilities, its strategic decisions, and the strength of its relationships with other parties. The data obtained from a questionnaire survey administered to 73 contractors were analyzed using structural equation modeling (SEM). The results of the study verified the hypothesis suggested.
A.O. Ogunde*, et all (2017) The success of the Nigerian construction industry can be aligned with the use of construction project management systems, although, the industry has been maligned by issues such as building collapse, incessant delays, abandonment and cost overrun. It is therefore imperative to examine the challenges confronting construction project management system in Nigeria. In this study the descriptive survey method was adopted and data were obtained by means of inquiries using questionnaires. A sample size of fifty nine (59) construction professionals was used for the study. The study reveals that location of a project majorly influences Project Manager’s decision making on project planning. It asserted the crucial importance of Management skills required in practicing construction project management. In conclusion, the result identified that passive participation from Project Manager, lack of client involvement in making decisions, provision of substandard materials, design error, lack of effective communication and poor treatment of workforce are challenges hampering the use of construction project management. The study recommends the institutionalization of construction project management practice, compulsion of adequate training and skill modification programs for construction professionals to aid the sustainability of construction project management systems in Nigeria.

Godwin Iroroakpoldoro (2012) Monitoring and control are very important management functions for ensuring that project objectives are fully achieved. This study compares the level and effectiveness of the efforts of indigenous and expatriate Nigerian contractors on project monitoring and control. The aim of this study is to establish whether the project monitoring and control efforts of the contractors contribute to an improved project outcome. The study's objectives are to compare the frequencies at which project monitoring and control strategies are used by Nigerian contractors and their influence on project outcome. A field survey was conducted using a sample of 86 contractors selected by stratified random sampling. The data were collected using structured questionnaires and analyzed using the mean, t-test and Spearman correlation test. The results of the study reveal that indigenous contractors carry out project control strategies more frequently than expatriate contractors. Furthermore,
three of the eight monitoring and control strategies influence the project outcome, while the remaining strategies do not; this result indicates that while some of the strategies are effective, others are not. Contractors should thus ensure that their project monitoring and control efforts are directed towards improving the entire outcomes of their projects.

**Atul R Nikumbh and Dr. S.S. Pimplikar (2014)** The construction industry generally deals with the various types of construction sectors viz Real Estate & Infrastructure. Real Estate Sector is segmented in Residential, Industrial, Corporate, and Commercial. Whereas Infrastructure sector in Roads, Railways, Urban Infrastructures, Ports, Airports and Power. To manage such kind of unique projects requires an expertise with organizations and a thorough body of knowledge. The purpose of this paper is to provide the analysis or breakdown of Role of Project Management Consultancy and study the Problems faced by PMC for implementing the project. Project Management Consultancy plays multifaceted part in such projects and provides the services from inception to completion of projects. At every stage of project life cycle, the principles of pro-activeness and creating the win-win situation is necessary keeping in mind the customer / client’s requirements. Use of Project Management Consultancy (PMC) offers one of the effective management solutions to increase and improve the efficiency and outcome of a project in construction. A case study of construction of a Mega Industrial Project which is dealt by PMC and Project consist of various type of buildings for Manufacturing unit, Assembling unit, Logistic unit, Process unit with allied Infra of Electrical utilities, Services like Fire fighting, Sewage line, Storm water arrangement and Road etc have been considered for this research work.

**John Conlin and Arkady Retik (1997)** The aim of this paper is to identify the techniques which are used in the construction industry for monitoring and minimizing the effects of delays and to establish how these techniques could make use of both the current computer technology and advanced IT tools, such as knowledge-based expert systems (KBESs) and visualization techniques. First, the
techniques identified are briefly presented. They are as-built method, time impact analysis method, and as-planned method. The paper describes a study of the software packages that was carried out as a product survey, with material being sourced from 33 software vendors. The software packages evaluated are presented under three basic criteria: general characteristics; technical features; and specialist features. General characteristics consist of the name of the system and the name and address of its vendor. The technical features consist of an analysis of the standard features which apply to commercially available project management software. Specialist features consist of an analysis of features which are applicable to delay management. Hardware and software requirements were reviewed to establish what is physically needed to operate the software package. KBESs and visualization techniques in the field of project scheduling are also examined, with close attention being paid to systems which assist in the field of delay dispute resolution. Finally, the possible way forward is presented and demonstrated.

**T. Rajani Devi (2013)** A project manager is the person who has the overall responsibility for the successful initiation, planning, design, execution, monitoring, controlling and closure of a project. And to complete the project on schedule, with in the budgeted costs and specified quality towards making the project a success. However, many reports have shown the opposite results. Studies on this issue are pointing towards the poor understanding of good practice as a basic problem for the failures in project management. The objective of this paper is to identify the competency skills that a project manager should have to influence a successful project performance. The data was collected as well as obtained from and through project reports, questionnaires and interviews with the project managers and project teams of the relevant projects. The variables were then separated into two classifications that could be defined as either success or failure. The good project management practices result in a higher project performance.

**Atul R Nikumbh and Dr. S.S. Pimplikar (2014)** To manage the various kind of construction projects requires an know-how with organizations and a thorough body
of knowledge. The project Management consultancy has characteristic of Knowledge, Performance & Inter-personal Skills. The purpose of this paper is to provide the analysis or breakdown of various services & Role of Project Management Consultancy and study the Problems faced by PMC for executing the project. Project Management Consultancy have versatile role in various construction projects and provides the various services from Initiation to Handing over of projects. The customer / client’s requirements is very essential during the project life cycle and all is looking after by Project Management consultancy during their services Project Management Consultancy (PMC) provides one of the helpful management solution to enhance and growth the efficiency and outcome of a project in construction. A research is carried out to study the Role, Services and Operating Processes provided by the Project Management Consultancy (PMC) in construction projects, identify the methods of selection of the Project Management Consultancy by the clients, to identify the problems faced by Project Management Consultancy’s in project implementation, and to determine the level of Importance & satisfaction regarding the services provided by the Project Management Consultancy with respective all stakeholders viz Client, Consultant, contractors, etc.

Gwaya, et al (2014) -Leadership is believed to be important to project success despite a limited number of studies on the topic. Servant leadership, for example, has never been studied in the context of the project environment or project success. Servant leadership does, however, include a number of skills that have been found to be important to the management of projects such as: Listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people and community building. For that reason, the research herein will contribute new knowledge to the study of leadership in project management. The study investigated the relationship between servant leadership and project outcomes. The project management profession is undergoing tremendous growth worldwide as officials of corporations, governments, academia and other organizations recognize the value of common approaches and educated employees for the execution of projects acknowledged that implementation strategic change has been a
business problem for decades and still is a problem. The discipline of project management is a key strategy to manage change in organizations. Project management techniques may be a partial solution to the problem of implementing strategic change. Construction projects globally have often failed to achieve expected results. In Kenya, for instance, we have been experiencing cost and time overruns on projects which are further compounded with quality issues. This even when professors are involved in projects execution. Even when teams are disassembled and reassembled with a different team leader and or project manager, results have varied. Since the latter years of the 1980s, the links between the implementation of change and project management has been strengthened (Ives, 2005). Organizational systems are open, complex, and political, creating a greater level of uncertainty and contributing to an unstable and changing project environment. The high level of uncertainty and change challenges traditional systematic approaches to project management. The emphasis of the traditional approach was more on project processes, tools, and techniques, and less on the leadership of projects. This study determines to what extent servant leadership can contribute to project success. The outcome of this study indicates that servant-leadership is present in a majority of successful projects. The results from this study could benefit project management practitioners by providing specific constructs that can be applied towards improving the current approaches to project management leadership. The study will add to the body of knowledge on leadership in project management.

Olawale et al., (2010) Despite the availability of various control techniques and project control software, many construction projects still do not achieve their cost and time objectives. Research in this area so far has mainly been devoted to identifying causes of cost and time overruns. There is limited research geared at studying factors inhibiting the ability of practitioners to effectively control their projects. To fill this gap, a survey was conducted on 250 construction project organisations in the UK, which was followed by face-to-face interviews with experienced practitioners from 15 of these organizations. The common factors that inhibit both time and cost control during construction projects
were firstly identified. Subsequently 90 mitigating measures have been developed for the top five leading inhibiting factors - design changes, risks/uncertainties, inaccurate evaluation of project time/duration, complexities and non-performance of subcontractors were recommended. These mitigating measures were classified as: preventive, predictive, corrective and organizational measures. They can be used as a checklist of good practice and help project managers to improve the effectiveness of control of their projects.

Oko John Ameh and Koleola (2014) This study examined the extent to which Nigerian construction professional groups are equipped with relevant degree-specific knowledge in project management practice. A survey was employed, in which 60 construction project managers based in Lagos, Nigeria were selected using the snowball sampling technique. Data were analysed using descriptive statistics. The findings indicate that construction project managers are proficient in construction technology, project planning and control and contract administration, while they are deficient in information technology, marketing, accounting and finance and human and industrial relations. The quantity surveyors’ group and the builders’ group are the most equipped, whereas the civil engineers’ group is the least equipped in terms of background education to practise project management. The study can be used as a guide by clients when engaging built environment professionals to aid in construction project management. The current study provides insight into proficiency and highlights the deficiencies of the various built environment professionals in the management of construction projects.

A K Munns and B F Bjeirmi (1996) The role of different project management techniques to implement projects successfully has been widely established in areas such as the planning and control of time, cost and quality. In spite of this the distinction between the project and project management is less than precise. This paper aims to identify the overlap between the definition of the project and project management and to discuss how the confusion between the two may affect their relationship. It identifies the different individuals involved on the project and project management, together with their objectives, expectations and influences. It
demonstrates how a better appreciation of the distinction between the two will bring a higher possibility of project success.

Yē Wēn (2014) Lean construction is a new type of management mode of construction project, which is especially suitable for those complex, changeable and speedy construction projects. Besides, building information model (BIM) is “computable digital information” created and utilized during the design and construction of buildings. This paper takes construction project as the object and combines BIM technology with the theory of lean construction. Both of them will play a collective role in cost control of construction project. A case study is made to illustrate that to the construction projects, the lean construction and BIM technology can control their cost effectively.

Jōnās Sōderlund (2004) Project management has long been considered as an academic field for planning-oriented techniques and, in many respects, an application of engineering science and optimization theory. Much research has also been devoted to the search for the generic factors of project success. Project management has, however, in the last decade received wider interest from other academic disciplines. As the field rapidly expands, the need for an internal discussion and debate about project management research increases. Project management and project organization is a complex subject and, we argue, is usefully examined from several perspectives. In this paper we discuss the emerging perspectives within the project field. The paper also presents a number of questions that project research to a greater extent should acknowledge. The questions concern issues such as why project organizations exist, how they behave and why they differ. The principal argument is that too much effort has been dedicated to clarifying the reasons of project success and failure, while downplaying a number of important research questions that need to be discussed in order to further the knowledge about project management.

Amin Rezaian (2014) In this paper, the survival pyramid including time, cost, quality and risk in construction and development projects and investment has been taken into consideration and explanation. The results for other industries such as automotive,
appliances and electronic devices, leading industries and etc can be used. The purpose of considering them is to create balance among time, cost, quality and risk to make the best level of customers’ satisfaction and end users and to obtain the most optimal level of value for organization. In recent years, examining the relationship between competitive advantages in the leading industries and industrialized countries are still under discussion. Every year, large companies spend large sums on the research and development about the most optimum combination of production or the most optimum function and feature of their products and services. The impact of poor quality on the price of products and organization earnings and the amount of cost should be paid for high quality has raised many important issues affecting cost accounting, quality control, repairs and maintenance, supply chain, production management, stores, safety and health, education and improvement and so forth.

**AcharaKhamaksorn (2016)** Although it is known that knowledge and competency in project management are important for the construction industry. This report seeks to answer to question: How to develop and implement project management knowledge and skills in the construction industry. The method used to answer the research question is analysis of the ways for developing and implementing the construction project. Findings reveal that scheduling and planning management is a significant knowledge while delegation, leadership, decision making and problem solving are the essential skills for the construction process. Moreover, project manager is a key person who’s responsible for the construction project success. It is important that construction project manager must have knowledge and skills in term of management and technical skill. Therefore, project manager should improve their personal knowledge management skills in order to help them develop and implement project management knowledge and skills for their construction project.

**KarlosArtto, et all (2008)** The concept of project strategy – referring to the strategy of a single project – has remained ambiguous in existing studies. In this research, we review literature from multiple viewpoints to develop a novel definition and interpretation about the project strategy concept. Our definition is used to derive different alternative project
strategies from literature, characterized by two important dimensions in a project’s environment: project’s independence and number of strong project stakeholder organizations. We introduce four types of strategies for a project along these two dimensions: obedient servant, independent innovator, flexible mediator, and strong leader. Existing research using the project strategy concept mostly assumes that there is one strong parent organization for a project; indeed, the parent is assumed to dictate an image of its strategy to the project, and the project is assumed to take an obedient servant’s role, to serve as a tactical vehicle that becomes a mere part of its parent organization and the parent’s strategic scheme. Our project strategy definition and the four project strategy types allow a more open interpretation about the content of alternative environment-dependent project strategies as well as the processes of strategy formulation and implementation. The wider concept of project strategy introduced in this paper recognizes more widely the various positions that a single project may take in its environment. This way, our paper contributes even to development of new and context-specific project management bodies of knowledge in the future. The paper suggests empirical research and further conceptual research on detailed contents of different project strategies.

Heap-Yih Chong (2014) Numerous types of construction procurement systems have been developed for project implementation. However, previous studies have not focused on subsequent managerial strategies and the project organizational forms to be adopted towards the selected procurement system. This research proposes that further managerial theories are required to enhance the project performance and effectiveness. Therefore, this paper aims to extract the principles of projectized and nonprojectized organizations and incorporate them with the selected procurement systems at the project level. A mechanism for assessing the key areas of compatibility was developed using the well established McKinsey 7 S model. The paper shows that the characteristics of the organizational principles are complementary with the procurement systems. It contributes an insight for future strategic organization and management at the project level in construction.
Sarah M. Hazel and Willow S. Jacobson (2014) As demand for government services becomes greater and more complex and the nature of work continues to change, there is increasing interest in project management. In many public organizations, however, the term “project management” evokes images of highly specialized private sector project professionals working in project-based industries such as engineering, power, pharmaceuticals, and tech companies. Project management also has modern roots in government. In the 1950s, the Navy used project management methods in its Polaris project. During the 1960s and 1970s, the Department of Defense and NASA—not just large engineering and construction companies—employed project management philosophies and tools to direct large-scale, schedule-driven projects.

Koskela and LJ and Howell, (2001), In this paper, we focus on the need for reforming the role of plans, execution (or action) and control in project management. We argue that the present style of project management, as described in the Guide to the Project Management Body of Knowledge (PMBOK Guide) of PMI, is based on two underlying theories in this regard: management-as-planning (for planning and execution) and the thermostat model (for control). Unfortunately, both theories can be shown to be heroically simplistic and insufficient from the point of view of project management reality. In consequence, the practice of project management suffers from three shortcomings. The vague interface between planning and execution is the cause for two of them. First, the role of planning is not realistically defined, and short term planning (that is critical from the point of view of execution) is customarily poorly carried out or simply neglected. Secondly, there is no systematic way of managing execution, i.e. taking into account the actual conditions of the real world as higher level plans are translated into short term plans and then into action. Thirdly, control is too narrowly seen as measuring and taking corrective action, rather than as a process of learning. These arguments are justified by empirical data and theoretical discussion.

Khyomesh V. Patel(2011) This paper is written to fill a void created by the absence of proper materials management on construction sites. To managing a productive and cost efficient site efficient material management is very essential. Research has
shown that construction materials and equipment may constitute more than 70% of the total cost for a typical construction project. Therefore the proper management of this single largest component can improve the productivity and cost efficiency of a project and help ensure its timely completion. One of the major problems in delaying construction projects is poor materials and equipment management. This paper describes the main results of survey carried out in Ahmedabad that investigated the material management of 3 well-known builders of Ahmedabad.

S O OGUNLANA and K BUTT (2011) Construction projects are fraught with uncertainty and they are learning processes. As such, managers need to constantly use field data to refine planning. Feedback is an effective management tool because it serves an informational function that enhances work performance. The construction industries in developing economies like Pakistan suffer many problems such as delays, cost overruns, and miscommunication of information within organisations. A research focusing on the communication system and feedback control processes among the members of general contracting organisations in Pakistan has been conducted. Three cases were selected from a list of general contracting organisations for study through formal and informal interviews. Construction companies in Pakistan do not have effective systems to collect feedback data from the site. They collect feedback data only through monthly cost bills. There is also no practice of standardization of data. The main reason for this is the heavy use of subcontracting and lack of formally educated personnel in the construction industry. Suggestions are made to improve the feedback system and project performance.

F A O OTIENO (2004) Many projects in third world countries fail to be successfully completed due to several reasons. Among these are lack of understanding of the need for monitoring and evaluation. This paper attempts to outline the importance of these two and how they can be applied to ensure successful completion of projects. The paper also sets out the common constraints that impede these two and outlines ways in which these can be overcome.
**Ralf Luis de Moura (2017)** Projects form part of organizational activities and have a direct impact on the organization’s results and performance. Improving project management performance can have a positive effect on an organization. Being ultimately responsible for project results, the project manager has factors within its personal characteristics that may affect project performance. The purpose of this study is to analyse the project manager’s personal characteristics in relation to its effects on project performance using an empirical survey of 244 project managers. The results show that skills, knowledge and attitudes directly affect project performance and that personality traits do not have direct effects, but indirectly affect attitudes. The results also show that certification in project management does not directly affect project performance but has a moderating effect on the relationship between the project manager’s skills and knowledge and project management performance.

**Youngsoo Jung (2008)** This paper explores future requirements of project management information systems (PMIS) for professional construction management (CM) firms. Current constituents and effectiveness of CM-PMIS were analyzed first by surveying ten CM firms in South Korea. The composition of PMIS was quantitatively investigated by two dimensions; system configuration (e.g. in-house developed, ERP/ASP, groupware, professional software) and construction business functions (e.g. design, estimating, cost, time etc.). Information requirements from the owners and contractors are compared in order to examine the CM’s role among these project participants. Current and future levels of practical utilization of CM-PMIS were also surveyed in order to evaluate the issues and needs. Findings indicate that the Korean CM firms plan to actively enhance PMIS in the areas of ‘sales’ and ‘cost control’ business functions in near future.