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**Scope Verification and scope control: “coffee talk” for project managers…!**

**ABSTRACT**

Project management is an emerging trend in businesses. The traditional hierarchical structure has been deemed obsolete and individuals find themselves belonging to project teams. Increasing emphasis on high-quality, speed-to-market, and outstanding customer satisfaction prompted managers to dissolve the vertical structure in organizational charts. Project managers are responsible for giving direction to all the efforts in the project. They must be able to balance the so-called Triple Constraints of time, resources and technical performance. Unfortunately, a few project planners are actually qualified for the demands of the job. They must have proper management training in order to be truly effective. The paper focuses on the product scope management practice. This practice involves project scope planning, project scope definition, creation of the work breakdown structure, project scope verification, and project scope control. Of these three, the author shall discuss the last two processes in the hope of minimizing **scope creep** and ultimately lead to the success of the project. The author notes that aside from the project manager, a scope controller must be hired externally so as to monitor and identify scope changes. Certain aspects of the scope verification can be improved such as inspections as early as procurement of raw materials and supplies, more effective quality control systems, which is a new critical review process.

**INTRODUCTION**

A lot of people become project managers by chance. Most people lead projects because they have the experience with handling similar tasks. An example of this is may be the town mayor's wife spearheading a fund-raising project for the community's halfway house. The mayor's wife becomes the project manager because she has experience interacting with the beneficiary and the sponsors of the project. However, these so-called "accidental" (Richman, 2002) project manager are doomed to fail. Project managers should have proper project management training.

Richman says that learning project management skills can "can help you complete projects on time, on budget, and on target. Furthermore, Richman asserts that the discipline of project management includes proven strategies for clarifying project objectives, avoiding serious errors of omission, and eliminating costly mistakes. It also addresses the necessary people skills for getting the cooperation, support, and resources to get the job done.

The AMA Handbook of Project Management attributes the peculiarity of projects to the following characteristic:

(1) Projects are unique undertakings-once executed, projects are not likely to be repeated often.

(2) Projects are composed of interdependent activities-as in all activities, there is a specific beginning and end and projects may be composed interrelated, simultaneous or successive activities.

(3) Projects create a quality deliverable-a project is not deemed complete unless its deliverable or development product meets quality standards.

(4) Projects involve multiple resources-these resources may be human and/or nonhuman which need to be in close coordination with each other.

(5) Projects are not synonymous with the products of the project-project refers to the managing all the efforts to achieving the product and not the product itself.

(6) Projects are driven by the Triple Constraint-the Triple Constraint also known as the equilibrium among time, technical performance, and resources, must be maintained though there may be one that serves as the main factor in the project.

From these characteristics, it can be deduced that projects are composed of interrelated activities that involve the utilization of multiple resources in order to produce quality deliverables or products. Therefore project managers must be aware of these characteristics and be skilled and efficient in utilizing the resources. He must adjust his management style and approach to the driving factor of the project while still maintaining the balance of the Triple Constraints.

Project management is defined as "a set of principles, methods and techniques that people use to effectively plan and control project work. It establishes a sound basis for effective planning, scheduling, resourcing, decision-making, controlling, and re-planning".

Project management seems to be the solution for the increasing emphasis on speed, quality, and cost controls in business, government, and nonprofit groups. Through project management, the managers are able to generate new income in the expanding sectors of the market. The tools used in project management cut back on slack time, limit expenses, and guarantee quality results thus boosting the project's profitability. Richman adds that through project management, there is also competitive advantage in the sense that the product becomes "positively differentiated" from its competitors. Therefore project management is truly one of the most important management techniques because it ensures the success of the organization.

Project management is the trend in today's businesses because it's the answer to the increasing focus on high-quality, speed-to-market, and outstanding customer satisfaction. Richman explains that this can only be accomplished "only across functional lines of authority in a project environment". The spotlight in today's business practice shifted from mass production to custom production of goods and services. Because of this fact, in order to be responsive to these demands, project management progressively becomes more and more vital. As a result, businesses are also shifting into project management from the traditional hierarchical management-organizational charts are now team-based structures, as opposed to the time-honored vertical structure. The employees cease to do the same tasks every day and tend to have various challenging functions and middle managers are disappearing-the less challenging, repetitive, data gathering work are now given to computers. The people focus on tasks like problem solving, product design, improving the ordering process-afterwards, once the project is completed, it will be shut down. As Richman phrases it, "project teams come and go with the problems and opportunities".

Quite interestingly, this had been the rule of thumb for years in Hollywood-where everything from television to movies is managed by projects. Richman adds that "in the entertainment industry, producers are top-level management, casting and talent agents are the resource providers, movie directors are the project managers, and actors and crew are the talent".

The AMA Handbook of Project Management (2006) sees project management as a "*discipline that requires discipline*". It is a discipline because project management has rules and guidelines used to maintain control and at the same time is supported by "mental, moral, or physical training".

The following are some characteristics of project management:

(1) Project management is a unique career and profession-the demands of the job differ as the projects themselves (i.e. the functions of a NASA space mission project manager differs from that of an IT development project manager).

(2) Project management is not just scheduling software-PERT (Program Evaluation and Review Technique) and CPM (Critical Path Method) are merely tools that help project run more smoothly and leave more time and energy for the project manager to fulfill his other functions.

(3) Project management is different than operations and technical management-it's actually the "interface between general management, operations management, and technical management" (Dinsmore & Cabanis-Brewin, 2006, p. 5) and all these incorporate all facets of the project and contribute to the project's success.

(4) Focus on integration-no other word sums up project management than integration because project management is closely linked and is driven by other organizational activities such as strategic planning, resource allocation, change management, quality, mentorship, metrics and close-out, productivity, teams, risks, and competencies. (Dinsmore & Cabanis-Brewin, 2006, pp. 6-7)

These integrations are backed up by a "superstructure" (Richman, 2002, p. 7) of processes, procedures, and/or methodologies. The following are the key processes undertaken in project management discipline:

(1) **Integration Management**-that projects cannot be successful without amalgamating with other management activities.

(2) **Scope Management**-certifies "that the project includes all the work required, and ONLY the work required, to complete the project successfully" (Project Management Institute's A Guide to the Project Management, 2013).

(3) **Time Management**-this is crucial to the success of the project as it ensures when the project should and will be completed.

(4) **Cost Management**-this looks after the financial condition and control of the project so that the project can be finished within the approved budget.

(5) **Quality Management**-ensures that the product is consistent with the standards and meets the expectations of the buyer/consumer/client.

(5) **Human Resource Management**-makes sure that the people and the teams are motivated enough to work efficiently for the completion of the project.

(6) **Communications Management**-guarantees that the lines of communication are open within the project team and helps in the "timely and appropriate generation, collection, dissemination, storage and ultimate disposition of project information" (Project Management Institute's A Guide to the Project Management, 2013) and it is the project manager's responsibility to be knowledgeable of the kinds of messages necessary, who are to receive them, and to make sure that all people concerned understand the messages.

(7) **Risk Management**-a proactive way of dealing with potential setback or problems that may arise during the duration of the project.

(8) **Procurement Management**-takes into consideration all the necessary requirements for purchasing and acquiring raw materials for the project even the varying "social, political, legal, and financial implications of this process." (Dinsmore & Cabanis-Brewin, 2006, pp. 7-9)

Considering all the concepts discussed in this section, project seems to be such a sophisticated endeavor-for the project management discipline to work it must rely on realistic scope, time, cost, quality, human resources, communications, risk and procurement management.

According to Ten Step, Inc., Project Scope Management comprises of the course of action required to secure that the project includes "*all the work required, and only the work required, to complete the project successfully*" (Ten Step, Inc., 2006). In other words, it is concerned primarily on making sure that what must be done is executed and what must not be done is eliminated from the activities of the project.

The following activities or process are undergone while performing Project Scope Management:

**1. Project Scope Planning-Collect Requirements**

The creation of the Project Scope Management Plan is the starting point in all the Project Scope Management practices. This process of coming up with this plan begins with the "analysis of the information contained in the project charter, the preliminary project scope statement, the latest approved version of the project management plan, historical information contained in the organizational process assets and any relevant enterprise environmental factors" (5.1 Scope Planning, PMBok, 2013).

The output of this process is the project scope management plan which details on how the project management team will define, document, verify, managed, and control the project scope. The elements of the project management plan includes the following processes: (1) a way to set up the detailed project scope statement-based on the preliminary scope statement; (2) a way that facilitates the formulation of the Work Breakdown Structure (WBS) and how it can be monitored and authorized; and (3) a way on how change control management can be processed.

This project scope management plan is in fact a part of the whole project management plan. It can be as detailed, as structured or as broadly framed based on the demands and needs of the project.

**2. Project Scope Definition**

This step involves the development of a detailed project scope statement also known as the project scope definition. This becomes the foundation for future incoming project decisions. This is a critical point in the process because it builds upon the major products, assumptions, and limitations outlined during the project initiation and planning.

The output of this stage is the project scope statement which "describes in detail the project's deliverables and the work required to create those deliverables". This definition should be clear and understandable to all project stakeholders. It should adequately state the scope and limitations of the project, as well as its major goals or objectives. This serves as the baseline for evaluation and a guide for making management decisions. More specifically, the detailed project scope statement includes the following documents: (1) project objectives-these should be measurable and observable project success criteria; (2) project scope description-this should adequately describe the qualities of the product, service, or the deliverable; (3) project requirements-these prioritized requisites should detail the conditions or capabilities the project deliverables must have to comply with the expectations and standards of the client stated in an agreement or contract; (4) project boundaries-through this the stakeholders are able to gauge whether a particular component is within the scope and limitation of the project; (5) project deliverables-includes the project outputs and the additional results of the project like documentations and reports in great detail or summarized, depending on the specifications in the project management scope statement; (6) product acceptance criteria-itemizes the process and standard for accepting finished products; (7) project constraints-things like contractual provisions, predefined budget, and the schedule are included in this; (8) project assumptions-lists down the specific project conjectures and their corresponding consequences if they are proven true or false and these are usually validated as the project goes along; (9) initial project organization-the project stakeholders are identified; (10) initial defined risks; (11) schedule milestones-dates when an important targets or achievements in the project are reached; (12) fund limitation; (13) cost estimate; (14) project configuration management requirements; (15) project specifications; and (15) approval requirements.

Other outputs of this process may be the requested changes and updates from the project management plan.

**3. Creating the Project Work Breakdown Structure (WBS)**

The creation of the WBS involves the division of the major project deliverables into smaller components that are more manageable and easier to monitor and evaluate. The WBS is a "deliverable-oriented hierarchical decomposition" of the work. The top-to-bottom hierarchy of activities gets more detailed and specialized.

The outputs of this step are the (1) Updated Project Scope Statement; (2) WBS-this main output should not be confused with other existing breakdown structures; (3) WBS Dictionary-this is the supplemental document the WBS functioning as like a user manual for the WBS ; (4) Scope Baseline; (5) Updated Project Scope Management Plan; and (6) Requested Changes.

**4. Project Scope Verification**

This step is the process of obtaining the "stakeholders' formal acceptance of the completed project scope and associated **deliverables**". Though quite confused with quality control, project scope verification deals with the actual formal acceptance of **the finished product**. Quality control usually precedes project scope verification and sometimes occurs simultaneously. The main activity under this step is inspection. Deliverables are measured, examined, and verified in order to ascertain whether they meet the product acceptance criteria. Other terms for this step are reviews, audits, and walkthroughs.

The outputs are (1) Accepted Deliverables-these documents contain acknowledgements and proofs that the stakeholders accept the project deliverables and if they are not accepted, the reasons must also be stated; (2) Requested changes; and (3) Recommended Corrective Actions.

**5. Project Scope Control**

Richman defines scope control as "the process of comparing actual performance to the scope statement to determine variances, evaluate possible alternatives, and take the appropriate action". Moreover it deals with the changes that occur and controlling the effect of those changes in the project scope and the product itself. Scope creep is those changes that are uncontrolled. Another definition of scope creep is "the tendency for scope to increase during the course of the project without proportionate increases in time or scope". One can say that project scope control tries to avoid having project scope creeps.

The tools and techniques in scope control include the following: (1) Change Control System-tracks down changes and classifies them as to whether they conform to the project scope management plan; (2) Variance Analysis-used to evaluate the magnitude of variation relative to the scope baseline and helps decide whenever a curative course of action is required; (3) Replanning-updates and modifications on the project scope management plan; and (4) Configuration of management system-states procedures for the "the status of the deliverables, and assures that requested changes to the project scope and product scope are thoroughly considered and documented before being processed through the Integrated Change Control process".

The outputs of this stage are the following: (1) Updates on Project Scope Statement-this becomes the future baseline for coming changes or variances; (2) Updates on the Work Breakdown Structure; (3) Updated WBS Dictionary; (4) Updated Scope Baseline; (5) Requested Changes; (6) Recommended Corrective Action-for future use; (7) Updated Organizational Assets-includes additional information regarding the "causes of variances, the reasons behind the corrective actions, and other types of lessons learned from project scope change" (5.5 Scope Control, PMBOk 2013); and (8) Updated Project Management Plan.

All these processes are related to each other and affect each other. The implementation of these stages does not lie solely on the project manager but involves the effort of the other stakeholders-when the need arises. Those these phases may seem distinct and discrete, they can actually overlap, and it all depends on the demands and the uniqueness of the project.

Within the project framework, the term scope can mean (1) product scope-refers to the features and functions inherent to a product, service, or result; or (2) project scope-refers to the effort being exerted to furnish as product, service or result with specialized features and functions in itself.

The completion of the project scope management is appraised against the project management plan, the project scope statement, and its WBS and WBS dictionary. Ultimately, the product scope is evaluated against the product requirements. (Ten Step, Inc., 2006)

Taylor introduces another aspect that may lead to the eventual success of a project-an external Scope Controller. In the article, Controlling project scope is critical: Managing change requests is a job for the scope controller, the functions and the characteristics of an effective scope controller are outlined. It is important that this job is not given to the project manager or anyone within the project team. The scope controller should be always be objective and has a bird's eye view of the project. The only task of the scope controller is to "monitor the scope" (Taylor, 1990). Taylor elaborates that this person should not join the project team without the finalization of the project specifications. It is at this point that the project is most susceptible to scope changes.

An external consultant may also be hired as a project scope controller. This person is good for the job because they can contribute the most unbiased evaluation of change requests and they come in the team void of "preconceived notions or allegiances to people or departments" (Taylor, 1990). The role of the scope controller is to mainly scrutinize requests for changes and to counsel the stakeholders of the project whenever there is a change in the scope of the project.

Conventionally, it was the project manager's responsibility to act as scope controller. However from experience, project managers tend to get too personally and emotionally involved in the daily project progress that he may be unable to be fully objective and methodical.

The timing of hiring or assigning the scope controller must also be considered. He shouldn't be added to the project team until the finalization of the project's specifications. It is at this point that the scope is most susceptible to changes. During this critical period, the scope controller has the time to conscientiously evaluate change requests. With someone specially tasked to do this, the consequences of the requests may be easily recognized before implementation.

Aside from a consultant, the scope controller may also come from close departments or organizations concerned with the project-like people from other branches of the systems department or from the user departments. Preferably the scope controller should have experience in systems development projects. He should also be accustomed with the effects caused by mismanaged scope changes like "missed deadlines, the unmet expectations, the tarnished image of the systems department, and the career casualties" (Taylor, 1990).

Some of the tools utilized by the project scope controller include the Project Charter, the Project Dictionary, and the Change Request Documents-they are periodically evaluated and updated if the changes relate with the project charter. When a scope change is identifies, the scope controller must head a meeting with the project manager and the sponsoring user. The implications must be made known to all stakeholders – Change Control Board and a decision shall be made with all the factors considered.

**CONCLUSION**

Projects are means by which major necessary changes are made possible. The emerging business trends suggest that a more effective way of going on with daily transactions is to create a team based work structure-similar to project groups. Though these may change still as much as disciplines change but this fundamental business principle is constant: finish the right tasks at the right time, using the right methods, within the reasonable time frame, resources, and budget. The Project Scope Management is simply the mean by which businesses can cope up and respond to the expectations and challenges of the present and the future.

Project Scope Management involves many steps and processes-there is no one process that guarantees the success of a project. From all these information and discussions, the author has come up with the following: (1) close coordination among the stakeholders of the project; (2) a clear statement of the project scope; (3) a scope manager sensitive to the changes in the scope; and (4) an effective scope verification to determine of the product meets the agreed upon standards. Such processes minimize the occurrence of **scope creep** and eliminate unnecessary costs.

The success and failure of projects perhaps rely mostly on the people working on them. Make sure that the stakeholders of the projects are committed and determined to see the completion of the project. The project manager, project scope controllers, sponsors, and other stakeholders must cooperate in ensuring that the project plans are executed and that the project objectives are met. Though a project's lifespan is relatively short-the processes taken to make it happen are truly applicable to other work processes.

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**Stakeholders and Scope Management’s course.**

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