Capturing Tacit Knowledge for Strategic Success: The IQ-Meter Approach

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ABSTRACT

Strategic Project Management essentially focuses on the use of tacit knowledge dealing with the general management and leadership skills which are the key drivers of sustainable competitive advantage. In this paper, we focus on the concept of strategic project management by proposing the IQ-METER Approach - a theoretical framework involving the practices of succession planning, project learning, and communities of practice that can be used by project-based organizations to optimize the transfer and capture of tacit knowledge. Through the framework presented in this paper, organizations can optimize the deployment of their human resources within appropriately structured project executions that capture intellectual capital as an outcome and integrate with a social network designed for effective transfer of tacit knowledge.

INTRODUCTION

Knowledge as an asset has become a concern for modern project-based organizations. Through attrition, reduction in force, retirement, and organic movement of associates, knowledge is displaced on an ongoing basis while organizations face the challenge of how to create knowledge retention and transfer strategies. The harnessing of knowledge as intellectual capital is a competitive advantage in the age of the project-driven knowledge worker where decentralized decision-making, innovation, and intellectual execution are important factors. As organizations develop a discipline of project management, structured frameworks facilitate such capabilities causing organizations to consider how related practices can contribute to the proliferation of knowledge. Organizations should also consider how their general management practices, within which project management is contained, influence their ability to develop and retain institutional memory. Opportunity exists to implement practices that enhance the sharing and capturing of knowledge related to the project management discipline and the subject areas and products contained within projects.

Knowledge has been defined as either explicit or tacit. Explicit knowledge is easy to articulate, transfer, and codify. Project Management Institute's Project Management Body of Knowledge is explicit knowledge represented as a standard codified into knowledge areas, processes, tools, and techniques. Tacit knowledge, however, is that which is not easily articulated, transferred, or codified. Such knowledge is described as "know-how" and more importantly "know-why". Such knowledge develops through experiences that provide insight into cause-effect relationships (Schindler and Eppler, 2003).

Historically, knowledge management within project environments has been more effective in addressing the capture of explicit knowledge through the application of information technology that facilitates codification, storing, and retrieval of relevant information. Explicit knowledge represents only the tip of the iceberg of the entire body of knowledge suggesting a significant amount of intellectual capital, being tacit knowledge, is ineffectively managed or ignored (Fernie et al., 2003). Therefore, knowledge management practices must go beyond commoditized explicit knowledge and seek to extract value from elusive tacit knowledge.

Tacit knowledge lies in the brains of the organization and requires such a cognitive repository to be useful. Tacit knowledge is personal and used to make judgements and distinctions when interpreting information (Fernie et al., 2003; Lindkvist, 2005). Consequently, tacit knowledge is better when shared and experienced socially versus extracted and represented in documented form absent context. Such knowledge is best shared through stories and interactive dialogue and debate allowing context to be established in real-time. Stories that involve actual events and experiences are more meaningful than approaches that only provide instructions. As a reflection of someone's experience, stories allow others to internalize the lessons learned without actually going through the experiences themselves.

Given existing literature establishes that the management of explicit knowledge is extensively addressed through contemporary practices and tools, the subject was excluded from our research. Our research involved a review of literature on tacit knowledge management within project-driven organizations. A theoretical framework involving the practices of succession planning, project learning, and communities of practice that can be used by project-based organizations to optimize the transfer and capture of tacit knowledge was derived from the literature..

Strategic Project Management focuses essentially on the use of tacit knowledge dealing with the general management and leadership skills which are the key drivers of sustainable competitive advantage. In this paper, we review some historic project management failures and then focus on the concept of strategic project management by proposing the IQ-METER Approach - a theoretical framework involving the practices of succession planning, project learning, and communities of practice that can be used by project-based organizations to optimize the transfer and capture of tacit knowledge.

HISTORIC PROJECT MANAGEMENT FAILURES

The failure of projects may not readily be attributed to the basic constraints of scope, budget, time, and sponsor satisfaction. The difficulty in narrowing down the reason for a project's failure to one of these four specific areas of constraint may be due in part to the vast range of ventures that may not be readily identified as projects. However, if these endeavors are reclassified as a project, their failures may indeed be attributed to the four basic constraints. A project by definition is "a temporary endeavor undertaken to create a unique product, service, or result" (Schwalbe, 2008, pg 4). Restated, a project is any venture that has a beginning, an end and a specific desired outcome or goal.

Projects are not just confined to those readily identified as business ventures but can also exist in areas such are astronomy or space exploration, government programs, technology, engineering and software systems, international communications, finance and war. It may be because of this vast range of subject matter that perhaps the various ventures may have to be closely examined in order to correctly associate them with the aforementioned basic constraints. Therefore the following undertakings will be examined in their simplest form, as projects, in order to satisfactorily explore their failures and associate the reasons for their failures with one of the four constraints within project management. Some project failures that will be examined are the Space Shuttle Challenger, the Mississippi River Bridge collapse, and the Titanic.

Space Shuttle Challenger

An example of a project failure in space exploration is the NASA Space Shuttle Challenger disaster which occurred on January 28, 1986. The disaster occurred 73 seconds into its flight, leading to the deaths of its seven crew members. The disaster was due to the disintegration of the shuttle which led to a structural failure causing leaking liquid nitrogen to be ignited by various flame sources on the shuttle. The cause of the malfunction could have been avoided if NASA managers had not disregarded warnings from engineers about the dangers of launching on such a cold day and if they had not failed to adequately report these technical concerns to their superiors (Wikipedia 1986). This failure can therefore me attributed to a lack of meeting stakeholders' expectations as well as the lack of adequate communication between the stakeholders.

Mississippi River Bridge Collapse

The events leading up to the collapse of the Mississippi Bridge during rush hour on August 1, 2007 has its roots in a project that was taking place during the week of the disaster. The interstate bridge that is located in Minneapolis, Minnesota was being worked on since the preceding Tuesday. The crew was still working on the bridge on Wednesday when the collapse occurred. However the bridge was only being re-decked. According to U.S. Transportation Department spokesman Brian Turmail, nothing structural was being done ("Seven dead as," 2007). After further investigation it was found that fatigue problem in the bridge's approach spans and main truss were reported in inspection reports conducted in 2005 and 2006. Nothing was done to correct the problem because the study, at its conclusion suggested that the replacement of the bridge "may be deferred" ("Seven dead as," 2007).

The failure of this project may therefore be attributed to scope, because had the repair of the bridge been expanded to include those that were structural as well as cosmetic, the failure may have been avoided. Again, communication between those that conducted the inspections and those that were responsible for ordering the repairs were inadequate.

The Titanic

The building and virgin launching of the Titanic on April 14, 1912, was perhaps the most famous of all project failures. One may not readily think of the events surrounding the sinking of the Titanic as a project, but when the largest, most complex ship afloat struck an iceberg and sank, the ships engineers realized that they had not thought of everything that could possibly beset the 'unsinkable ship'. If the time had been taken to test their theory of invincibility, it would have been discovered that the construction of the lower chambers did not allow for even distribution of water in the event they became flooded.

The failure of the Titanic project had nothing to do with cost since the owners would have had no problem recapping the funds spent because the ship catered largely to the wealthy. This was apparent because no expense was spared on its interior opulence. Likewise the scope of the project was well planned. There was no scope creeping due to the fact that they accomplished their initial goal of creating and delivering a superior ship. The downfall of this project was the time contraint. There was a deadline to meet and many wealthy customers to satisfy and due to this deadline, there may have not been time to test the invincibility claim.

THE IQ-METER APPROACH

A traditional PM aphorism: "You know you're a successful project manager when you survive the project."

Project management is a wholesome experience. Historical information on the projects, organizational databases and organizational process assets help in providing a lot of meaningful information on the past and current projects handled by the organization,. It also helps in providing a future direction. Quality Models like CMMI, Six Sigma, ITIL framework help in project processes and execution adhering to project standards.

Growing competitive environment in the corporate business world and the sweeping changes and challenges brought into it by the winds of globalization have resulted in a scenario, in which every aspect of the business is conducted, needs to be professionally managed and executed.

The way the projects are managed in the competitive International Business scenario, a formal project management approach/process is required for the success of any project. The Project Management Body of Knowledge is the sum of knowledge within the profession of project management. Just as with other professions and knowledge areas like law, medicine and accounting, bio-technology etc, the knowledge base of project management also keeps developing as the experts apply and advance this knowledge base.

Today's business leadership is grappling with a plethora of challenges and a myriad of issues in the conduct of their business activity. Some of the key challenges confronting them are,

a) Business takes place in a borderless world across national boundaries.
b) To be locally successful, you have got to be globally competitive so as to meet the threat posed by external business entities competing in your domestic market domain.
c) Jobs are getting shifted by the minute to those nations that offer the least cost.
d) Rapid globalization has brought about highly shortened product life cycles (PLCs).
e) The businesses need to innovate at a faster rate than their competition not just for flourishing but for their very survival.
f) The route to successful business performance lies in whether you are able to anticipate product patterns, demand patterns, global scenarios and technology patterns.
g) Imperative of having to introduce new products on a regular basis.
h) Project execution times and turnaround times are very crucial in deciding a firm's future growth prospects.

Today the Project Management is no longer looked upon as an added extra feature but as a necessary tool for project execution. Organizations have realized the importance of project management and are now convinced about its centrality in their business conduct.

There have been many models in the past which have worked on project management methodology. Today, the missing piece is a decision making model that helps the project manager and the project team to take right decisions on the project. The decision will be a strategic decision, which means it may override stakeholders' requests, and still can make the right choice for the project while demonstrating respect for the stakeholders' wishes. In addition to this, we still require a complete formal project management approach for the project success. We call this approach **IQ-METER** spanning through five process areas of project management life cycle, namely initiating, planning, executing, monitoring and controlling, and finally project closure. The **IQ-METER** approach is as follows:

IDENTIFICATION

Identification of the right project, project team mix and project manager is critical to the project success. Identify potential project team members as well as the major players in the user community that will test and except the final product or service.

QUALIFICATION

The right qualification required to execute the project leads to be an essential ingredient in the project quality and success mix. Along with the project manager, it is critical to carefully assess the qualifications and experience of each team member as they pertain to the specifics of this project. It is also vital, the importance of team players, and the ability to get along with others.

MEETINGS AND PROJECT KICK-OFFS

Meetings are potential tools to resolve conflicts amongst stakeholders. These meetings help in bringing harmony and provide a vision for all stakeholders to work for in the project, generally leading to its success. Periodic participant update meetings should be incorporated into the work plan. These meetings are to present the current progress of the project to upper management and major participants in the user community.

Just like any other meeting, a project kick-off meeting provides lot of rigor and life to the project. The project should officially start with a meeting of all parties involved. The project team should be introduced, the milestones reviewed with estimated completion dates, and expectations as to the level of participation, should be outlined.

EARLY ASSIGNMENT OF THE PROJECT MANAGER

A project charter is a prelude to project management plan. The project charter authorizes the project and provides the project manger with an authority over the project. This happens in the project initiation stage before the actual planning starts. The project manager can literally make or break a project. The individual selected as project manager must have the expertise to manage the project and work well with others.

TRACKING SYSTEM DEVELOPMENT FOR RESOLVING ISSUES

A key problem in the project management process is the formalization of a tracking system to resolve all issues related to the project. The project team requires a method by which, all issues pertaining to the project are recorded and can be reviewed regularly and tracked by the project team. All issues should eventually have a documented resolution.

ESTABLISH A SYSTEM TO MONITOR PROJECT DEFICIENCIES

A preliminary work plan system needs to be developed with major milestones, clearly outlined in it. Any deviations must be tracked and looked into. Techniques like Earned Value Analysis (EVA) could help in the development of such a system. The work plan should list the tasks for each milestone with the estimated hours, start and stop dates, costs and responsible parties.

REVIEWING PROJECT MANAGEMENT AS A WHOLE FROM INITIATION TO CLOSURE

The most important problem faced in projects is the proper review critical to its success. Earned Value Management (EVM) helps in this direction. Regularly scheduled project review meetings should be incorporated into the work plan. These meetings are to review the current progress of the project including the percentage of completeness of work plan tasks as outline in EVM methodology. This will help the project to be successful through its complete lifecycle.

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Project management becomes strategic in its capabilities of managing virtual organizations, risky projects and the frequently multi-functional, multi-locational, multi-cultural and multi-organizational activities involved in projects' execution. These characteristics of project management are dependent on the personal characteristics and management experience of people, on the tacit knowledge gained through managing diverse projects as much as on formal structures, systems and procedures. This brings to life, the concept of Strategic Project Management. Strategic Project Management (SPM) is defined as the management of projects in such a way as to develop competencies and capabilities, which contribute to the firm's sustainable competitive advantage (Porter 1987, Prahalad and Hamel 1990; Stalk, Evans and Schulman 1992).

We feel that both explicit and tacit knowledge leads to the development of the tools and techniques required in the strategic success of difficult, complex and risky projects. This brings benefits when improving internal procedures, developing new systems, conducting technical analyses, leveraging quality improvement, implementing change initiatives, and tackling situations where incremental learning is necessary to discover the best approach.

IMPLICATIONS FOR MANAGEMENT: 21ST CENTURY PROJECT MANAGEMENT SUCCESS FACTORS

The criterion for a project's success has changed from documentation compliance to measuring real performance in the 21st century. Success is measured by the ability to keep the customer happy. Keeping the customer happy is a change from the 90s where the focus was on just finishing the project on time and within budget. 21st century project managers' focus on completing the project in as shortest time as possible and as cheap as possible, while delivering maximum customer satisfaction. The following are some of the key factors needed for a successful project in the 21st century:

- **Initiating Processes:** Clearly define the beginning and end of project phases and the overall project. This would also include a business case for the project.
- **Planning Processes:** Adequate time should be spent planning the project. The plan should include time, scope, costs, goals, and organization needs. The project should align with the business strategy of the organization. A good plan helps the project manager identify project milestones, deliverables, realistic timelines, costs, resources, gaps, monitors progress and closure.
- **Identify Risks:** During the planning stage, identify the risks of the project and an action plan to minimize the risks. Share this information with the stakeholders early.
- **Executing Processes:** Include coordinating people and resources to complete the project and to produce the deliverables.
- **Monitoring and Controlling Processes:** The project manager should monitor the progress of the project to prevent the project from running over budget or out of time. The project manager should also monitor to measure and correct any deviations.
- **Team Motivation:** It is important to keep the team motivated. Expectations should be clearly communicated. The project manager should involve team members throughout the project. Frequent milestones should be planned to help the team see the progress being made.
- **Ability to Say No**: Do not promise anything you cannot deliver.
- **Project Closure**: Projects must have an end date.

To be successful, a project manager must also know and understand what drives the diverse members of the team. In order to build a successful team, a project manager must be able to find individuals with certain characteristics for cohesion within the group. During the process of recruiting and building an effective team, the project manager must consider the technical skills of each person, and the critical roles and chemistry between workers. A good project manager can bring individuals with diverse backgrounds together and within a few days have them working effectively with mutual respect and trust for one another. With global competition increasing every day, a project manager must maintain a competent collaborative team and keep

in mind a good talent management strategy may determine the success or failure of a team and a project.

CONCLUSION

McManus and Wood-Harper (2008), looked at 214 information systems projects undertaken between 1998 and 2005 in the European Union and included follow-up interviews with project managers. Among their key findings are the following reasons for project cancellation:

- Business process changes (poor alignment)
- Business benefits not clearly communicated or overstated
- Overspends in excess of agreed budgets
- Poor project board composition
- Too big a project portfolio

We hope the **IQ-METER** approach will help overcome these shortcomings and lead to successful projects that not only meet the triple constraint of scope, schedule and cost but also meet/exceed the customer expectations.

Intellectual capital in the form of tacit knowledge is an elusive organizational asset. If not proactively and intentionally valued and managed, extensive opportunity losses will occur in any given organization. Valuing intellectual capital is an effective means of creating tangibility around such an abstract concept. The first step in valuing knowledge is understanding that which exists and that which will be needed in the future. Succession planning is an important element of gaining such a perspective. Since projects inherently involve change within the organization, knowledge domains are constantly mined and exposed within them. Projects are where organizations turn over their proverbial "rocks" and perform their most complex problem solving. Subsequently, project managers must understand the opportunity for constant learning within their environments and plan for tacit knowledge transfer. As a related control, organizations must establish learning as an expected project outcome beyond the intended products and services. Their portfolio and project management methodologies must require multiple audits within a project lifecycle to ensure ongoing learning is occurring and lessons are socialized. Through the framework presented in this paper, organizations can optimize the deployment of their human resources within appropriately structured project executions that capture intellectual capital as an outcome and integrate with a social network designed for effective transfer of tacit knowledge.

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