

Project Management in SMEs

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ABSTRACT

SMEs play a significant part in economic activity through employment, innovation and growth. Project management can play a significant role in facilitating this contribution, however; SMEs require less structured forms of project management than those used by larger, traditional organizations. This research identifies the nature of project management required by SMEs. The research is based on previous works done on project management in SMEs. Subsequently a survey of Small and Medium Enterprises has been undertaken to identify the type of project management practices adopted by them. Eventually, a working model is suggested. The results will be useful in identifying the nature of project management required in SMEs.

Keywords: SMEs, Project Management, Management Process.

INTRODUCTION

SME (Small and Medium Enterprise) are companies engaged in an economic activity whose personnel numbers fall below a certain limit. They may vary from self-employed persons to family businesses, partnerships or associations engaged in activities ranging from handicrafts to manufacturing. However, the exact thresholds are different for different economies around the world and in many cases, are also within economies. For an industry to be classified as SME in Pakistani Punjab (Faaruq, 2003) it should have a fixed investment of up to Rs 20 million excluding the land and fixed assets. In Sindh however an SME is categorized as any enterprise engaged in producing products having a fixed capital up to Rs 10 million including its fixed assets. In the industrial development of a country the importance of the SME sector cannot be overemphasized. In Pakistan SMEs constitute bulk of the non-agricultural economy (up to 80 percent); they have the lion's share when it comes to the total number of enterprises-90% and their share in the annual GDP is a staggering 40%. However, unlike large enterprises in the formal sector, a small and medium enterprise is constrained by financial and other resources. To date little has been written about the project management in SMEs; there has been a strong focus in the project management community on large projects. It's an assumption that the nature of project management required by SMEs will be very different than the traditional forms of project management practiced/suggested for larger projects. The following section aims to build up relational literature on the topic.

There is no consistent definition of SMEs. For example, the small and medium enterprise definition as explained by European Commission (2005) is as fewer than 250 employees and, a turnover of less than €50 million for medium and fewer than 50 employees, and a turnover of less

than €10 million for small enterprises. Some of the most significant work done to identify the value of project management tools (for example, Bresner and Hobbs, 2006) but most of them even their work is done in the context of large organizations and therefore focuses on systems. In other words their works tends to view people as machines rather than cultural beings. Payne and Turner (1999) showed that the results showed significant improvement if the tools are processes are tailored to the size of the projects. Micro sized companies do not employ specialist project managers, and so projects are managed by people with other primary roles. Moreover, small and micro-sized companies do not tend to use the established standards of project management. The differences between SMEs and larger organizations as described by Ghobadian and Gallear (1997) can be categorized based on the following parameters:

- a. *Processes*: SMEs require simple planning and control systems, and informal reporting
- b. *Procedures*: SMEs have a low degree of standardization, with idealistic decision making
- c. *Structure*: SMEs have a low degree of specialization, with multi-tasking, but a high degree of innovativeness
- d. *People*: Because of the high consequence of failure, people prefer tested techniques.

Processes and procedures reflect that SMEs require less structured methods of management, with greater flexibility. While the latter two imply a strong focus on people this underscores the requirement of a simplified model of project management and precludes the use of such models as PRINCE 2 which might be too bureaucratic and formalistic .Project Management evolved progressively with the need to manage large construction and manufacturing enterprises. However with the rapid growth in technology sector and especially the services, project management has morphed into new dimensions. Yet the traditional project management fails to cater for the requirements of the SME in following ways:

- a. *Processes*: the processes are formal and often bureaucratic.
- b. *Procedures*: the procedures encourage specialization and formal decision making.
- c. *Structure*: Roles are well defined and traditional project management stifles innovation (Keegan and Turner, 2002).
- d. *People*: traditional project management is systems rather than people focused.

Ledwith (2004) and Murphy and Ledwith (2007) have conducted initial investigations into Project Management practices in SMEs in high-tech and service industries in Ireland. They argued that SMEs should follow a formal structure for implementing their project management practices, by identifying Strategic objectives, KPIs, Success factors and Tools and techniques matching the criteria. In small companies, the application of project management or otherwise is directly related to the commitment of the founding entrepreneur. If the founder is strongly committed, project management will be applied. Turner (2009) showed that in small enterprises the median sized project is six months long and in medium-sized ones it is nine months long. The different size of projects will again be reflected in the way project management is applied. In larger companies it tends to be more formal and structured, with the use of permanent structures like Project Management Offices whereas in smaller companies it tends to be simpler.

In order to identify the project management requirements of SMEs in managing their businesses, the aim will be to answer the following questions:

- a. The extent to which the Small and Medium Enterprises use Project Management to run their businesses.
- b. Elements of the project management important for SMEs.

- c. Simplified model of Project Management for SMEs.

RESEARCH METHODOLOGY

The research is conducted with the object of determining whether the SMEs adopt project management practices and to evolve a simplified model of project management for SMEs. For this purpose interviews of five companies were conducted. People were asked about their role in the company, its size and the nature of its business. Questions were also asked from them about how they felt about the need for project management in their companies. Subsequently a questionnaire was developed to identify which practices of Project Management are essential to SMEs and based on that to develop a simplified version of Project Management for these entities. Following are brief profiles of the companies.

COMPANY EWI : The company employs about 100 full time employees. It provides variety of electronics and electronics related products to its customers. These products include both indigenously developed systems as well as proprietary products that may be imported from foreign suppliers. The biggest customers of the company are mostly government departments including police, traffic police and military. The company CEO is a PhD doctor, whereas mid-level employees and managers are graduates in various disciplines of engineering. Since the products provided by the company are tailor made for their customers hence there is no need for innovation. The company is more responsive to the customers thus making it more aligned with its targets than with future growth. The management style is therefore laissez-faire in its nature. The company manager was largely unaware of the project management methodologies practiced worldwide and especially in larger organizations and staff is generally not convinced of the importance of project management and especially its need for timely fulfilling of contractual obligations. Most of the projects are assigned to people on multitasking basis.

COMPANY ARI: The company was founded in late 1970s and over the years has remained a family business. It deals in manufacturing, assembling and importing from foreign suppliers various types of power solutions and products used in other industries. This company again has its biggest customers in the form of large government departments including defense. The company CEO has done Bachelors in Arts (BA) and after finishing his studies joined the family business. The company employs about 70-80 full time employees. Most of the employees have done Diploma in Associate Engineering (DAE), whereas the others have only nominal education. Some manufacturing activities are outsourced. The company people admitted that although they made tailor made products for their customers, they did not view the internal development and manufacturing processes as projects.

COMPANY MA: The company employs about 60 people . This Company also provides tailor made products ranging from communication to power solutions as well as electromedical equipment for all the leading hospitals. Its biggest clients are both in private and public sectors. The company has two managers under the CEO who are responsible for various projects. Each manager has a team of individuals who are mostly qualified in business administration, finance and telecommunications engineering. A dedicated project management department like other companies was nonexistent here as well. The Firm CEO spent early part of his career in telecommunications sector and later founded his own company. He, although aware of the Project Management terminology was reluctant to adopt any formal methodology for managing projects stating that it would be a burden on the resources, time and cost. His contention was that project management is being practiced in the company in a way that might not be consistent with formal structures but it was useful for him

COMPANY PDG: The Company is newly founded and provides tailor made products to its customers. It employs about 25 individuals. The company CEO has done Bachelors in Business Administration. Remaining workforce has a few Diplomas in Associate Engineering (DAE) while the others have just basic education but sufficient experience and expertise in dealing with electrical equipment. The company's CEO has knowledge of project management and has practiced those methods previously in other industries. The company recently ran into some financial difficulties owing to lack of/poor forecasting on some contractual obligations and failure to identify potential risks, therefore, the CEO want at least some type of specialized manpower who can manage the contracts and projects.

COMPANY PI: The company employs about 70 employees and provides both tailor made and proprietary products on a large scale. The company started as a family business and has remained so over the last fifteen years. The company provides power solutions both for commercial consumers as well as on a large scale to various private and public sector organizations. The owner has done bachelors in social sciences and has no technical qualification. The staff comprises mostly of technical people who have either vast experience in this field with various diplomas in engineering. Starting from the top management down to the lowest tier, there is absolutely no previous experience or education on project management. In fact the company CEO and most of the staff are largely unaware of the term.

The companies were asked about certain practices which they considered essential to the successful completion of their projects. These are described subsequently.

Quality Management: Since many products provided by the companies were of foreign origin, they provided certifications like ISO, IP (Ingress Protection) and IEC (International Electric Code) etc. In case of products developed by the companies indigenously Quality Management during the production is nonexistent. The companies interviewed stated that Quality Assurance at the client end was ensured by their own quality control departments carrying out inspection/evaluation of the equipment.

Risk Management: All the companies were unanimous about the need to manage risk from the initial stages till the delivery and even beyond to cater for such eventualities as warranty claims, late delivery of stores etc.

Company	Location	Size	Industry	Person interviewed	PM maturity	Product development
EWI Pvt Ltd	Islamabad	M	Electronics	Manager	M	CTO
PDG Pvt Ltd	Islamabad	S	Electrical	CEO	L	CTO
M Associates	Lahore	M	Electrical, Electromed	Manager	L	CTO
ARI Pvt ltd	Lahore	S	Electrical	CEO	L	CTO
PI Pvt Ltd	Lahore	M	Electrical	Manager	L	CTO

M: Medium, S: Small, L: Low, CTO: Configure to Order.

Table 1: Companies Information

Scheduling: All the companies use some form of scope or resource schedule. Some have a simple resource schedule, with dates against their activity list. Others have a resource schedule with dates against the involvement of named resources. From experience, they know what has to be done

to complete the customer's requirements and how long it will take; they just need to know when certain resources will be assigned or available to do that. EW combines the scope and resource schedule into a chart. Against each activity is marked the dates against which it is to be completed and all the stakeholders or resources who will be involved in its completion.

Customer Requirements: All the companies were unanimous in their opinion that defining what their client actually requires is the key baseline factor defining subsequent phases of the projects. This is particularly important since the PMI model does not mention customer requirements. All the companies underscored that when projects involve contracts with large organizations and particularly defense, where the product required by the customer is in large quantity, a very systematic procedure is followed whereby the customer gives specific requirement of the type of equipment required along with the detailed specifications. These requirements are thoroughly evaluated, vetted and finalized by various departments giving due consideration to what is currently available in market. When the companies are invited to tender their products, they have to confirm that their product meets the desired specifications of the customer. The process involves meetings with all the stakeholders including the end-user. In case the product has deviations which are minor and do not affect its intended use by the end-user, they are accepted. The process is uniform and remains the same for local and foreign vendors.

Cost Management: None of the companies highlighted the need for cost management or using tools like Earned Value Management System (EVMS). This may not be required for smaller projects but some form of cost management will nevertheless be essential.

Integration Management: All the companies stated that they did not apply any formal process of integration management for their projects since the scale of the projects was not as extensive.

Scope Management: All the companies were unanimous that definition of scope was the pivotal point around which all their projects developed. While no company uses any formal process for managing scope, however all the interviewees expressed the need to have proper scope management which should be directly contingent on the customer/stakeholder requirements.

Human Resource Management: A dedicated human resource department in small organizations would neither be both cost and resource intensive. This was also highlighted by the CEOs of all the companies. However, all the companies stated that they informally managed human resource related affairs. But these were limited to such matters as pay and allowances, Since the projects are limited in scope and manpower requirements do not exceed certain limits, therefore the requirement of a special HR department is unnecessary, however informal human resource management in one form or another would always be needed.

Communications Management: Interviewees were asked about the importance of communications in their organizations and they stressed its importance. All companies have resort to e-mails, fax, video conferencing through such software as skype and formal correspondence through letters. In fact, these enterprises are very much tech savvy when it comes to managing communications, be it with prospective customers, suppliers or within the companies.

Bresner and Hobbs (2006) highlighted the top ten tools which are the basis of differences between small and large projects. These are:

Ranking of risk : Indicating the overall risk position by comparing the risk scores.

PM software for monitoring of cost: Use of project management software for monitoring of cost.

Change request: Form to log, assess and agree on, before a change to the project can be made.

Quality plan: A document setting out the specific quality practices, resources and sequence of activities relevant to a particular product, service, contract or project.

Critical path method and analysis: A network analysis technique used to predict project duration by analyzing which sequence of activities (which path) has the least amount of scheduling flexibility.

PM software for monitoring of schedule: Use of project management software for monitoring of schedule.

Graphic representation of risk information: Graphical methods to represent risk information.

PM software for task scheduling: Use of project management software for task scheduling.

Earned value: A measure of the value of work performed so far. Earned value uses original estimates and progress-to-date to show whether the actual costs incurred are on budget and whether the tasks are ahead or behind the baseline plan.

When the research results are compared with this list it was observed that requirement exists following tools for small and medium sized projects:

PM software for monitoring of schedule: Almost all the interviewees were unanimous on the requirement to have software for monitoring schedule for various contracts and contractual obligations. Most contractual obligations require things like submission of testing criteria on which the equipment will be evaluated, time line for submitting the equipment for evaluation which is contingent upon the acceptance of advance sample of the product et al. all these require

Quality plan: This occupies a pivotal position especially when the customer procures products in large quantities and lays special emphasis on receiving the desired quality vis-à-vis the cost incurred. While equipment procured from third-party foreign suppliers carry certifications from reputed organizations like ISO, TUV et al, indigenously developed equipment also requires that its manufacturers meet the quality requirements as per the international standards

Graphic representation of risk information: Risk whether it pertains to financial implications due to force majeure, performance issues, damage during transportation, late arrival of stores from abroad et al needs to be addressed and necessary

PM software for monitoring of cost: Over costs resulting from schedule over-runs quality, risks as discussed needs monitoring and development of subsequent strategies to avoid them.

CONCLUSION

By and large all the companies surveyed applied very limited or no project management. This was partly due to the absence of qualification in staff for such skills but mainly because of the lack of interest for managing projects in a scientific way at the top tier management and founding CEOs. The results of this research has so far indicated that there is a need for “lite” project management for Small and Medium Enterprises (SMEs) since a more formal structure would be cost, resource and time intensive for smaller organizations where the disadvantages would potentially outweigh the benefits. This “lite” or simplistic version of project management must be at the core of the management requirements providing support ultimately to the delivery of requirements to the customer. The simpler version is also needed to win over to tier management, particularly the CEOs and founders who view with skepticism the requirement of project management for smaller organizations. Based on the research findings and their comparison with the work done in this field previously, an attempt is made to propose the following structure (Figure 1) which may be adopted by small to medium size organizations undertaking projects. The salients of this model are:

a. The criteria for any project undertaken by SMEs should be weighed against cost, time and quality dimensions. These would be at the core of any process since varying any single of these would directly affect the other.

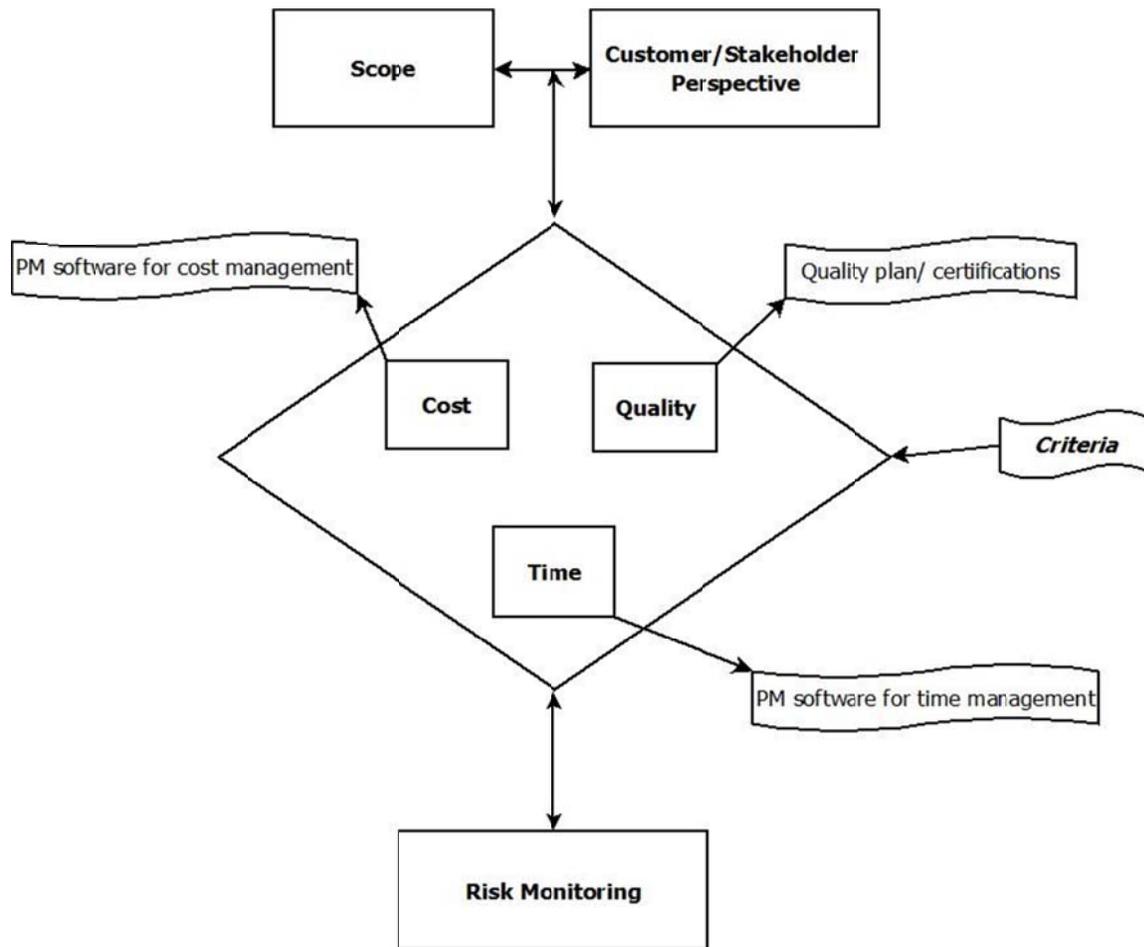


Figure 1. PM model for SMEs

b. Cost and Time management would require Project Management softwares which would continuously monitor whether the projects are on schedule and within the budget limits or otherwise. These would be weighed against potential risks. A detailed Quality plan would be required for products developed indigenously. These would require detailed evaluations and inspections at the production stage which would be contingent upon better processes. Better processes would make these enterprises eligible for certifications. Outsourced products, particularly those procured from abroad would require certifications from reputed quality and testing houses to ensure that these remain aligned with the project scope and ultimately with the stakeholder/customer requirements.

c. Risk monitoring would require identification, monitoring and subsequent graphical representation of all present and future risks vis-à-vis the quality, cost and time dimensions through graphical representation.

Future researchers may want to expand the range of industries, since this research focuses mainly on companies dealing in electronics, electrical and electro medical equipment. Research may be

conducted considering the requirements of various companies depending upon their geographical location and ethnic and cultural composition.

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