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Software Project Planning and Level of Resources

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Abstract— This paper gives an idea about the level of resources available in the software planning process area in small and medium software enterprises. It represents the role of software planning process area in terms of resources in software projects. Software projects have a notorious reputation of poor performance in terms of manpower, time, budget, infrastructure and so on. There has been limited research on software project management, especially in a context of developing countries.

Keywords— Resources, SMEs, Software Process Standards, Manpower, Time.

I. INTRODUCTION

Software Project Planning process area determines what work must be done, who will accomplish it, and when it will be done. It plays a very important role in satisfying the requirements of a given software project. Software project planning is very crucial to the success of a given software project. Right from the very beginning of a software project, careful project planning will provide an assurance that the software project execution will accomplish its goals on quality, schedule and within budget.

II. SOFTWARE PROCESS STANDARDS AND SOFTWARE PROJECT PLANNING

Software projects are seldom completed on time and within budget. And when completed on time the projects often don't meet their system requirements or the expectation of their customers. To overcome these problems different researchers has suggested different software process standards. Different software process standards are developed to help different software organization to produce a quality product within schedule and budget and to compete with the changing market demands. The different standards that are studied are CMM[1],CMMi[2],PSP[3],TST[4],Six-Sigma[5],MBNQA[6],SE-CMM[7],ISO 9000[8],Trillium Model[9],SPICE[10],BOOTSTRAP[11],ISO/IEC 12207[12],SECAM[13],SDCE[14],TickIT[15],IEEE 1220[16],IDEAL Model[17],PRISMS[18],EIA 632[19],K-Model[20] and TRISO[21]. The software project planning process area is included in the following software standards along with the maturity level at which it is defined.

The goal of software project planning is to ensure that the software project tasks are well coordinated and they meet the project objectives including timely completion of the project. Typically, a software project planning mainly includes project scopes, estimates, risks, schedule, control strategy and so on. The software project planning process area is included in different software process standards and the category the process area is located is given in the table below.

TABLE 1:

Software Project Planning	CMM,PSP,TSP,ISO 9000,BOOTSTRAP	Repeatable Level
Project Planning	CMMi,Six-Sigma,TRISO	Managed Level
Workforce Planning	P-CMM,TRISO	Defined Level
Strategic Planning	MBNQA	Management Level
Planning	SECAM,EIA 632	-----
Software Development Planning	SDCE	Software Engg Level

III. LEVEL OF RESOURCES

A survey is conducted in different software development small and medium enterprises (SMEs) in India. The survey is all about the use of different process areas in SMEs. A questionnaires consisting of 22 software process standards alongwith their process areas are surveyed. The names of different SMEs where the survey is conducted are FutureSoft,IT Pyramid,Zaloni Technologies,DZ Engineering,Aon Hewitt,CGI Technologies,IAG Automation,SIQUES,Vacpic Technologies Pvt Ltd,Aris Global Software Pvt Ltd,Yodlee Pvt Ltd,Roma Think Soft,Exilant Technologies Pvt Ltd,Xixom Technology,IQ Systems India Pvt Ltd,Globrin Technologies,Targus Technologies and Verschaska Infotech Pvt Ltd.

The questionnaires of software project planning concentrating rigorously on the availability of manpower, time, budget, and infrastructure and so on.

The questionnaires are

- Q.1 The level of resources available in the planning stage: 5 4 3 2 1 0
- a) Manpower
 - b) Time
 - c) Budget
 - d) Infrastructure
 - e) Others

The percentage of availability of different resources is given in the figures below:

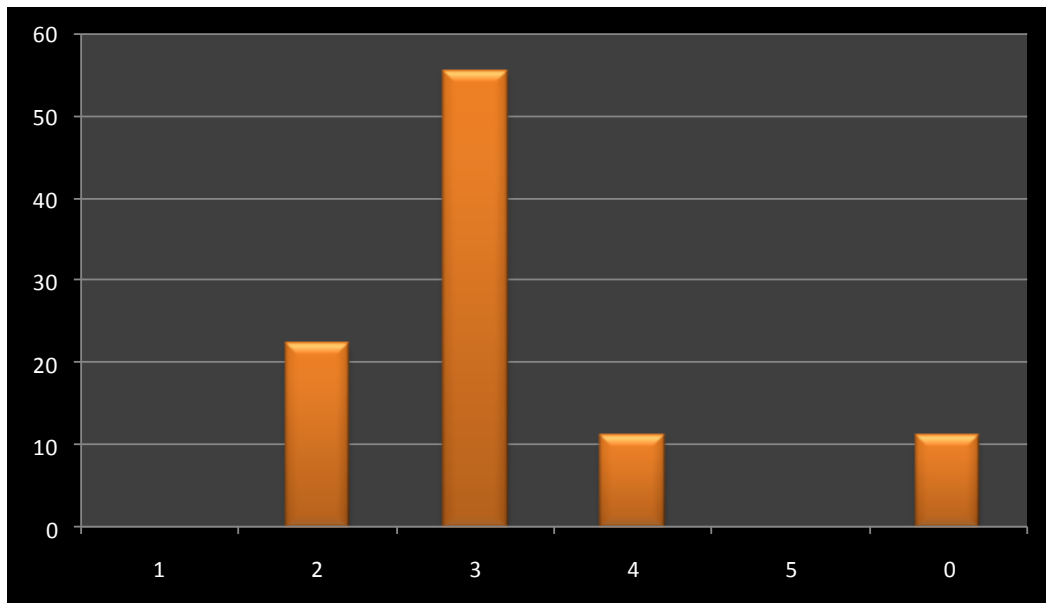


Fig 1: Level of Resources in Planning Stage (Manpower)

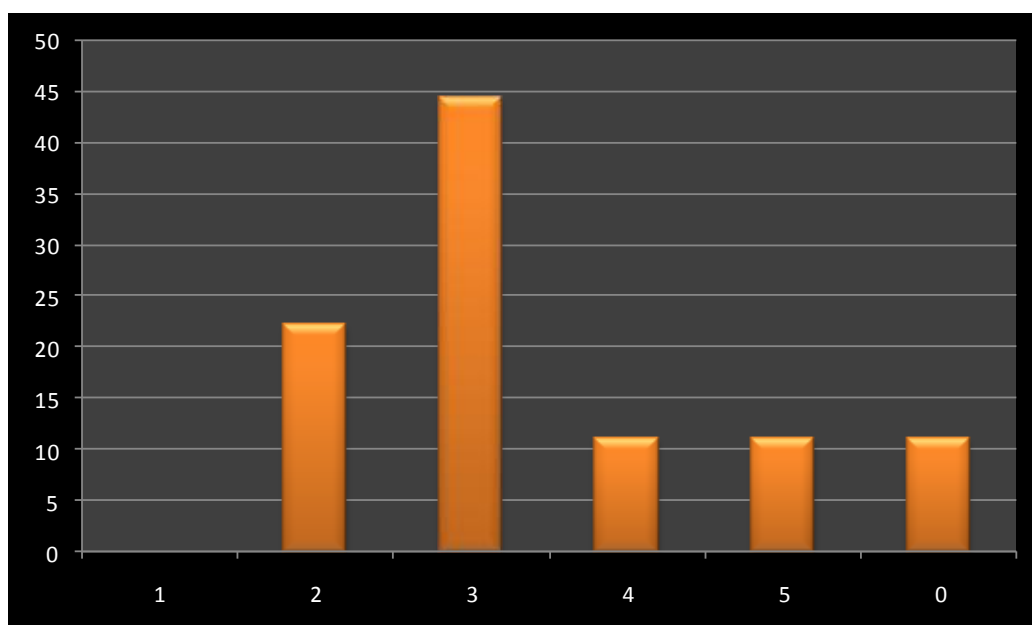


Fig 2: Level of Resources in Planning Stage (Time)

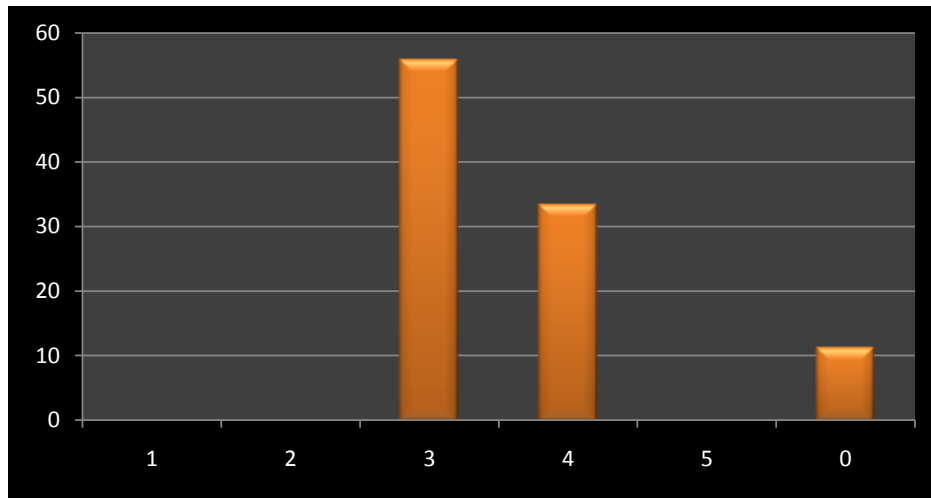


Fig 3: Level of Resources in Planning Stage (Budget)

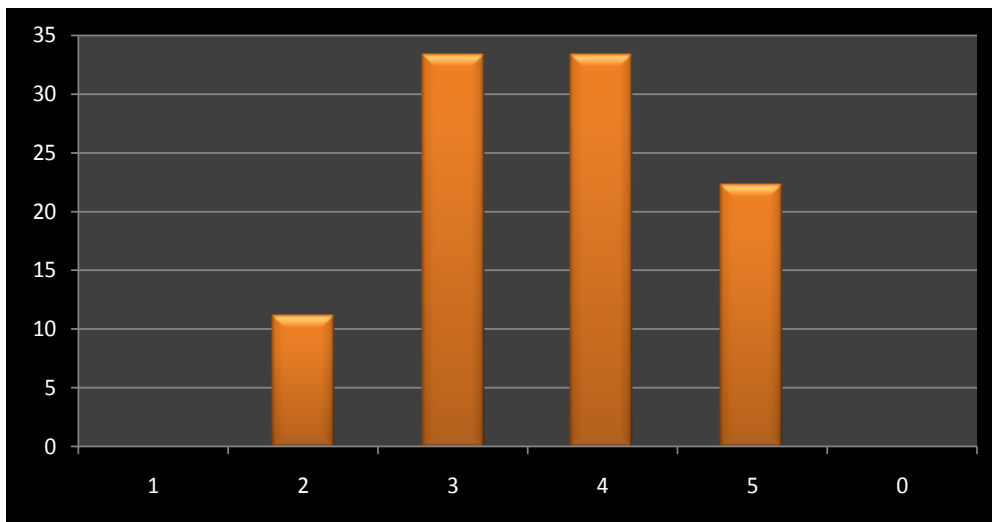


Fig 4: Level of Resources in Planning Stage (Infrastructure)

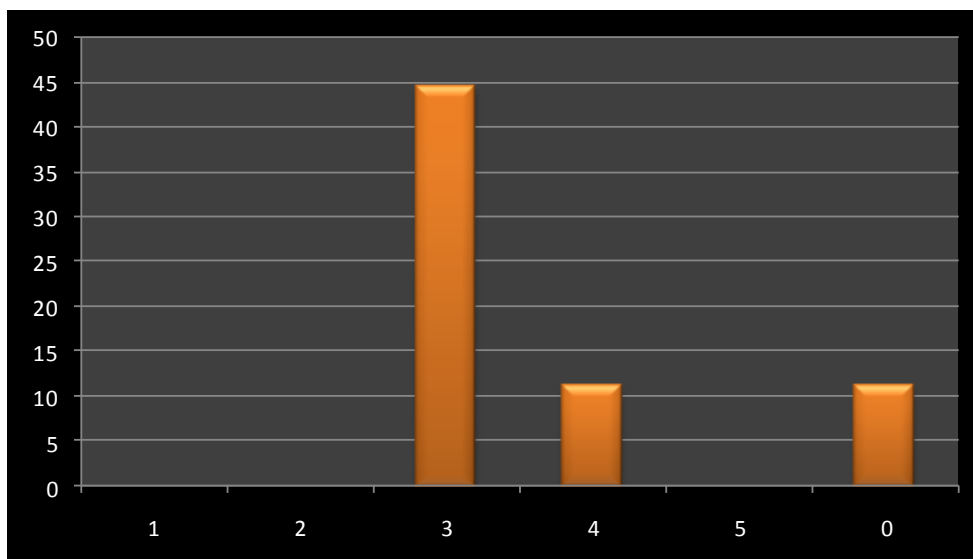


Fig 5: Level of Resources in Planning Stage (Scheduling)

IV. CONCLUSION

This paper explored the answer to the trends being followed by small and medium enterprises in India for software development. Different small and medium enterprises of Indian software industry have different range of availability of resources and interaction with resources. The software engineers and the project managers of different software enterprises play a vital role in software project planning. From the above figures, it reflects the scenario of SMEs of that are running with limited availability of resources and participation of delegates of company functional departments and clients functional departments.

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