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Lack of skilled management personal in small and medium constructions

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ABSTRACT

Small and medium enterprises precisely known as SME in our country is an important and integral part of our nation's growth in economy and other integral development in our country is largely based upon the SME's. Skill shortage in the construction industry is persisting throughout the century in all level of management. But there is very little evident for skill shortage in the management level of construction industries. Skill shortage directly impacts the project outcomes in terms of the profit validity and other aspects [2]. Skill shortage in the workplace not only impacts the particular employer it affects the overall organization settings. In this study will discuss more on skill shortage causes and factors and how it impacts the project outcomes and how it impacts the organization setup and the methods and other aspects to mitigate the skill shortages.

Keywords— SME, skill shortage, organization, construction management

1. INTRODUCTION

When we consider small and medium construction enterprises, they contribute 9% to the Indian economy.

If we have a closer look into the SME especially in the construction field one may find skills shortage it occurs in almost 90% of the firms. [3] Why is that happening and also having a skill shortage in labour level will affect project duration and productivity and many of the industrialist do talks about the skill shortage in the construction industry on the grounds men level but not giving importance to non-skilled management personal will also leads to the project failure as well as the project overdue. [4] [5] [6]

So, skills shortage often happens to management teams and the management personals do have a very important role to play in the project needs to take all-important final decisions in every phase of a project.so researching on this topic is much more needed and important one to address[8] [9] [7]

This study will primarily be focused on the small and medium organizational setup and the skill shortages happening on the small and medium industries in terms of management perspective. [10] Will indicates the important factors and causes which directly indulge skill shortage on the construction industry and the most preferred methods to mitigate the skill shortages in the small and medium construction industries.

2. LITERATURE STUDY

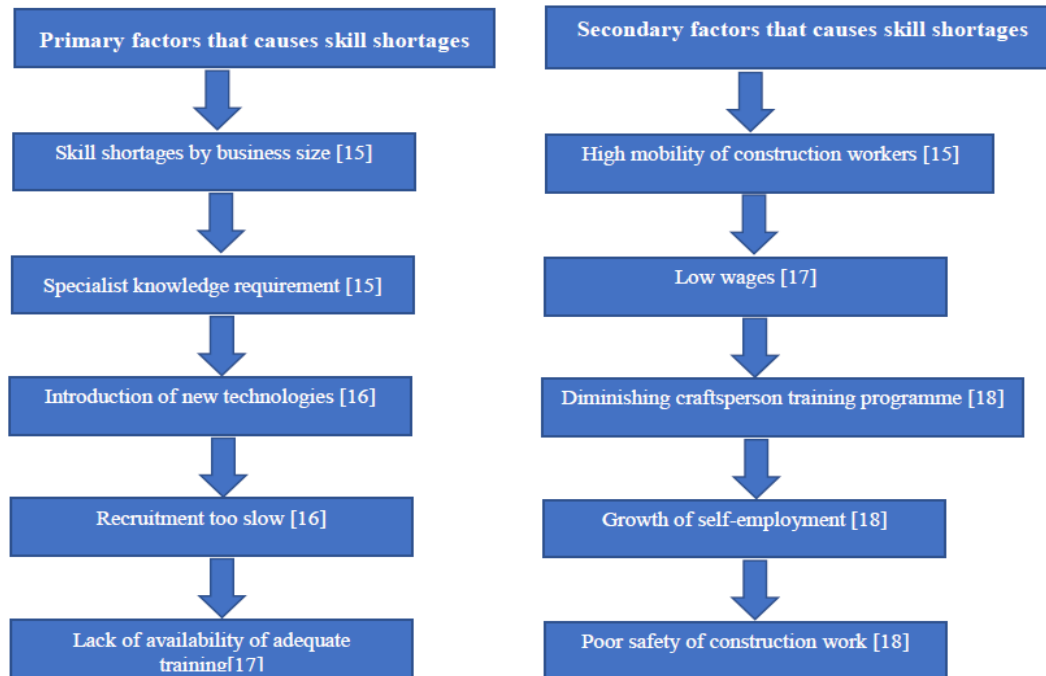
2.1 SME's in India

The definition of Small and Medium-sized Enterprises (SME) varies across countries and organizations. The most commonly used denominator for a definition is the number of employees, Followed by turnover and assets. [11] [12] [13]

Micro Enterprises	Investment does not exceed one crore rupees
Small Enterprises	More than 1 crore rupees but does not exceed 10 crore rupees
Medium Enterprises	More than 10 crore rupees but does not exceed 50 crore rupees
Micro Enterprises	Turnover does not exceed 5 crore rupees
Small Enterprises	Turnover does not exceed 50 crore rupees
Medium Enterprises	Turnover does not exceed 250 crore rupees

2.2. Definition of skill shortage

The Employers Skills Survey (ESS) defines the skills shortage as “recruitment difficulties caused specifically by a shortage of individuals with the required skills in the accessible labour market.” (Frogner, M.L., 2002.) [14]



From the above literature we wanted to study about the classification of construction enterprises in order to know whether the present classification of enterprises is applicable to the construction field, to know about the field perspective have conducted a survey regarding their firm size and turnover.

3. METHODOLOGY

3.1 Preliminary survey

To know about the present condition of small and medium enterprises in terms of their annual turnover, total number of employees, average project size. Set of questions were asked to specified group like architects, engineers, project managers, CEO, site supervisors and contractors The responses were received with the help of google forms.

3.2 Main survey

This Dissertation is about identifying the skill shortage and skill mismatches in Small and Medium Constructions. Also, to analyse how we can rectify the skill shortage and what are all the policies we can follow to improve the skill set. Survey is conducted to analyse the inputs from different constructions to understand their management skill sets and Methodologies. This Survey is mostly focused on to collect input from the Coordinator roles like Project Managers, Supervisors, and Site Engineers. This includes both onsite and offsite skill aspects. This Survey is mainly divided into four sections as following:

- Organizations and Employees perspective
- Skillsets, Methodologies and Software
- Employers' perspective
- Workshops/Trainings and Policies

3.3. Set of questions

3.3.1 Organization based questions: (combine the questions)

- Average number of projects, turn over per year
- Total number of permanent employers and their roles
- Method of Recruitment in your company and the difficult position to fill in

3.3.2 Organization skill and methodology-based questions: question marks or combine it

- Used PM methods and software's and the reasons for adapting to them

3.3.3 Employee based questions:

- Project failure scenario
- Client and firm's success ratio
- Employers working experience

3.3.4 Training and workshop-based questions

- Internal, external training for the skill development
- If you have already attended any workshops how did you feel about it
- Will your organization be interested in tying up with private or government parties in conducting workshops to improve the skills of your staff members?

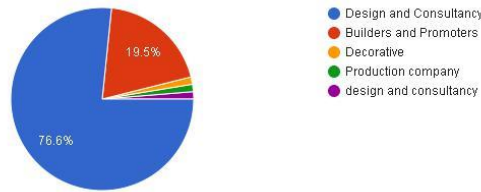
4. SURVEY ANALYSIS

4.1 preliminary survey analysis

This survey is mainly to analyse small and medium construction enterprises in tamilnadu especially for the Turnover, average projects per year and their employers. Totally 85 employees participated in this survey.

In this, more than 80% people are in management position such as CEO, Architects and project managers.

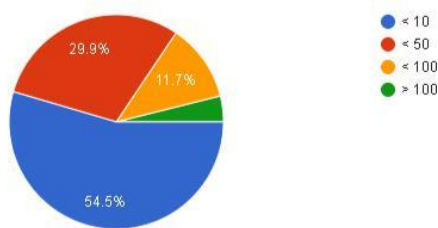
Type of the firm
77 responses



Key points taken from the survey:

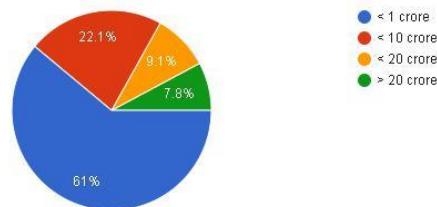
1) More than 50% of the people mentioned that, on an average they have only ten projects per year.

Number of project per year
77 responses



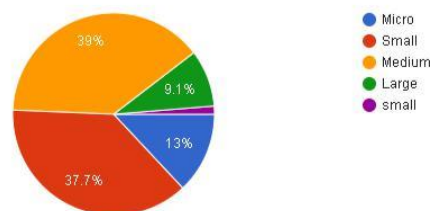
2) More than 16% of people are having earning as one crore per year as maximum.

Turnover per year
77 responses



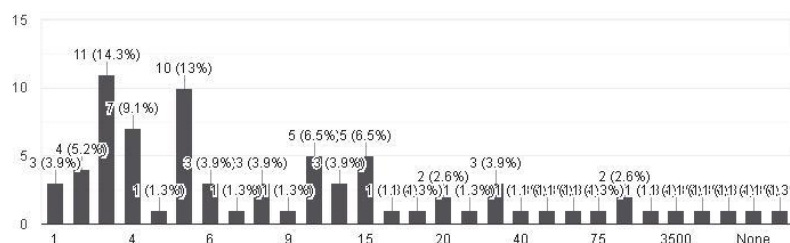
3) From the survey 37% of the people are considering their firm as small firm and 29% of the people are considering their firm as medium

77 responses

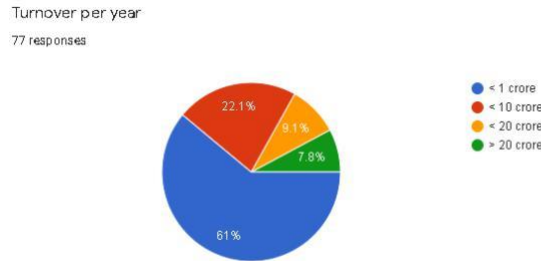


4) In further analysis, employees in small firms are earning 10 to 40 percentage. There will be 40 to 70 employees in medium firms. In which only 60% of the Employees has permanent job. Medium firms are using floating type employees to meet their business aim.

Number of permanent employees working in your company
77 responses



5) While comparing in terms of turnover, as per the survey data, small firms are having the turn over as 1 to 10 crore. But there is a huge difference while comparing this data with the government analysis. As per government statistics, small firms are having the turn over as max 50 crore.



6) Medium firms are having the turn over as 10 to 20 crores. But in government statistics, maximum benchmark for the medium firms is 250 crores.

7) From the comparison report of survey and government provided data, we could see huge variation for small and medium firms in terms of investment, turn over value and Employers

Comparison of government SME data and actual (survey) construction SME's data

	Small (government provided data)	Small (survey data)	Medium (government provided data)	Medium (survey data)
Employees	10-49	10-40	50-250	40-70
Turn over per year	< 50 crores	1 – 10 crores	< 250 crores	10 – 20 crores
Investment	1 – 10 crores	Not surveyed	11 – 50 crores	Not surveyed
Average project size	Not mentioned	Min 2000 sq.ft	Not mentioned	Min 5000 sq.ft
Average project run time	Not mentioned	3 – 6 months	Not mentioned	6 months

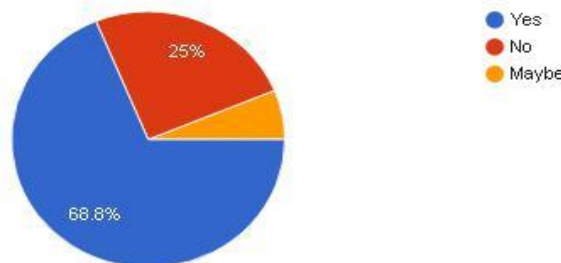
This table clearly indicates the difference between other SME's and the construction SME'S. Comparatively construction industries are varying from other enterprises in terms of employees, turnover and investment amount. And it clearly indicates classification of small and medium construction industries in terms of data needs a revamp data variation is huge between both the data. Need new classification system to classify construction SME's

4.2 Main Survey analysis

Survey response includes 75 unique Constructions and Companies with 82 unique responses. Out of which 56.8% firms are based on Design and Consultancy, 38.3% firms are based on Builders and Promoters, 3% of the firms are based on Real estate developers.

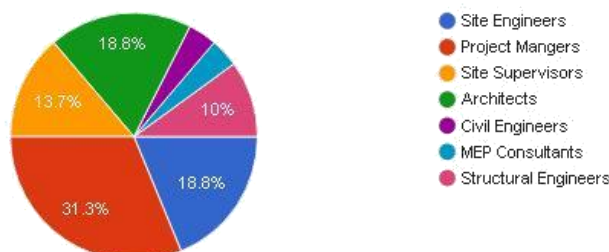
The participants spread across 21 to 57 age group. Nearly 30% people are between 24 to 29 age group and 21% people are 35 to 45. More than 97% participants are Site Engineers, Supervisors, Architects and Project Managers, Contractors, Sub-contractors and Owners which is the focused group for this Survey.

68.2% of participants admitted that in their setup some employees are multitasking they are doing excessive work

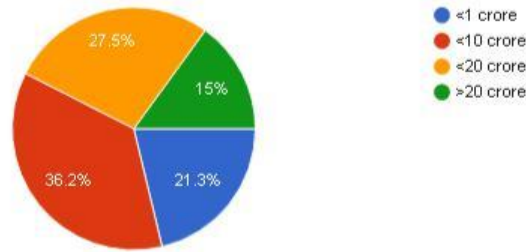


By looking this, we can say that there is a need for extra employees in their setups

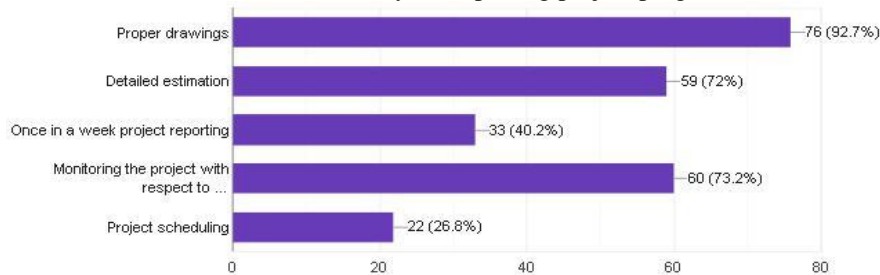
- 31.3% of participants are felt that recruiting a project manager is tougher than others
- 18.8% stating that site engineers are hard to get in
- 18.5% people stated architects and site supervisors are hard to get in respectively



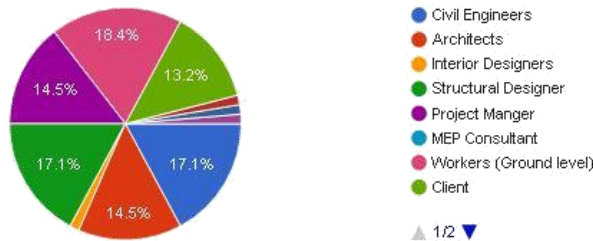
It clearly indicates that management personals like project managers, architects, site engineers are hard to fill in and they are integral part of the crew. Overall, 75% participants responded with average turnover as more than 1 crore per year. The above responses indicates that nearly 80% of the participants belongs to the category of small and medium enterprises.



From the above analysis we can also interpret that most of the firms are having shortage on the supporting staffs or other department specific staffs. While answering for the methodology and software adaptation in their respective companies 92.7% of participants are stated that they are using proper drawings in their projects. Only 26.8% participant stated they are implementing project scheduling in their projects As notable 40.2% stated that they are reporting project progress once in a week

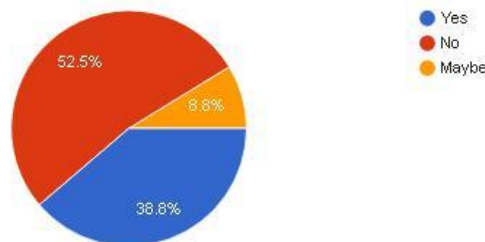


By far organizations are concerned still most of the small, medium enterprises are not adapting to PM techniques like reporting and scheduling. When asked about the project failure and the reason behind the failure 17% of the participants believe that Structural designers and Civil Engineers are responsible and 14% of the participants believed that Project Managers and Architects are responsible.

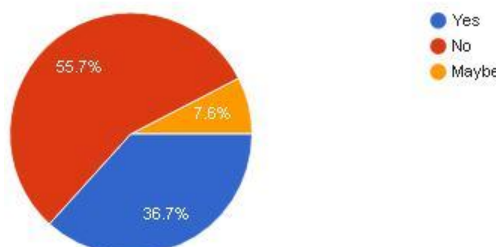


From the responses we could see that, predominantly coordinating positioned people are more responsible for project failures.

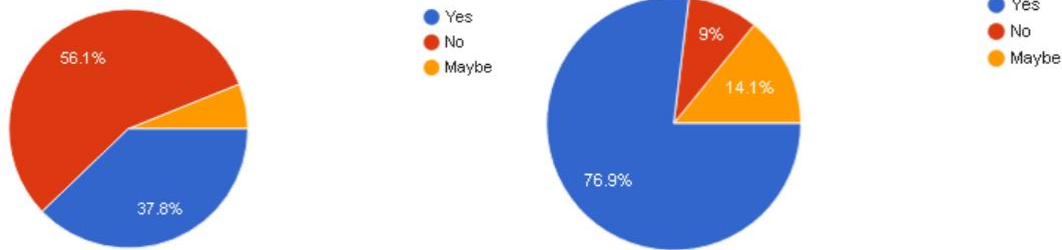
As per the employer’s perspective, project failures are happening because of the management roles people’s carelessness. Most of the Firms are not able to meet the Scheduling objectives and not able to implement the project management tools efficiently. Only 38% of firms are good at accomplishing project at the required time



Work scheduling and peaceful work experience is not achieved by most of the workers. But still most of the firms are having happy clients by following normal methodologies itself.



77% participants are interested in attending External trainings and induction programs in future to upgrade themselves in knowledge and skillset.



But it's good that most of the people are getting the awareness and wanted to participate in future, this helps in improving overall skillsets of the workers and helps in Project execution.

5. RESULTS AND RECOMMENDATIONS

5.1 Preliminary survey

The survey results indicate the variation between other enterprises and construction enterprises. Comparison of government SME data and actual (survey) construction SME's data.

	Small(government provided data)	Small (survey data)	Medium (government provided data)	Medium (survey data)
Employees	10-49	10-40	50 - 250	40-70
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This table clearly indicates the difference between other SME's and the construction SME'S.

Comparatively construction industries are varying from other enterprises in terms of employees, turnover and investment amount. And it clearly indicates classification of small and medium construction industries in terms of data needs a revamp data variation is huge between both the data. Need new classification system to classify construction SME's

5.2 main survey

This Survey helped in analysing and understanding the current status of many Firms and their workers about most of the factors like management skills, projects execution and the methodologies used. This survey outcome shows that the management skillset shortage exists in most of the small and medium enterprises.

Most of the Firms are using traditional methodologies to execute the projects rather than following improved or efficient methodologies like Project management, scheduling and Reporting. The reason behind not following new methodologies is that they don't have required skill sets, not getting funds to implement the new methodologies and not getting clients who are interested in implementing new methodologies.

Preconstruction software like BIM is not getting used by most of the people. From the survey outcome we could see that only 25% of the Firms are using preconstruction software which is very low when compare to overall Firms. However, 87% of the people are claiming that they have happy clients. But still they are accepting that they couldn't achieve project scheduling objective, Experienced the project delay and project overrun because of many factors, Worked with unskilled labours in most of the situations.

Some of the factors which has been contributing to the skill shortage has been identified and listed below from the survey responses.

Onsite factors: Following are the Onsite factors which are determining the skill shortage. Note have sufficient qualified professionals. Being more comfortable with traditional methods Unawareness of new methods. Expenses to implement new methods Lack of knowledge

Offsite factors: Following are the Offsite factors which are determining the skill shortage. Specially the workers feeling on new software adoption. They believe that their job doesn't require new technologies. Shortage on Technical skills to use new software Could not afford time to adopt to the new software Inability to cop up newer methods. Expenses to learn new software.

From the above statements we can infer that most of the people experienced management skill shortage in their project execution. As per the survey results, in small and medium enterprises are experiencing management skill shortage, skill mismatch, shortage of staffs, technical and practical problems are there in more than 60% of the firms. To overcome from this, some firms are supporting external trainings, workshops and induction programs. Also, they are very much welcoming if there is a possibility in future for the workshops and induction programs supported by Government or any other third- party organizations which will help to improve the skillset of their workers.

Moreover, if Government shows interest on improving management skill sets of the firms by making management skillset as the mandatory to renew licensing in the period of 3 to 5 years. Also, if possible, to setup Government provided software workshops, technical and practical workshops in certain interval which will help to improve overall firm skillset. Government can introduce new policies which will help in rectifying and recovering from skill shortage and upgrade the skillsets. In all above ways we can recover from the management skillset shortage in most of the small and medium industries

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