

People CMM Implementation
in
Indian Construction Industry

An Overview

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P-CMM an Overview

The People CMM was designed by Dr. Bill Curtis, TeraQuest, for the knowledge centric organizations in order to improve the capability of the employees. This was developed for this industry as the most important aspect here is the skills of the employees, their talent, due to the constant threat of losing the good performers to its competitors. Therefore, the HR practices come into picture to address the requirements of the employees that has its focus on the needs & the aspirations of the employees.

This is implemented in a phased manner, in five levels. The levels provide a scale for measuring an organization's capacity to effectively use its software technologies. They also help prioritize software improvement efforts. The more an organization depends on formal rules to keep software projects relevant, within budget and on schedule, the more advanced the organization's software development "maturity."

The P-CMM's primary objective is to improve the capability of the talent pool. Talent pool capability can be defined as the level of knowledge, skills, and process abilities available for performing an organization's business activities. It also helps address critical people issues based on current best practices in HRM, Knowledge Management and organizational Development. P-CMM provides a guideline for developing and managing their workforce.

Before P-CMM there were no strategies that would stand as a framework for the HR to benchmark its practices/processes. Hence, there was no way in which an organization could comprehensively measure its HR policies and align employee development with the business process. People CMM acts as a tool that helps an organization to successfully address the critical HR issues in their organization and align the employee needs with that of the market or the customer's needs.

The People CMM helps organizations characterize the maturity of their workforce practices, establish a program of continuous workforce development, set priorities for improvement actions, integrate workforce development with process improvement and establish a culture of excellence.

As its focus is on driving the relationship from meeting the organizational goals to the customer goals, it helps the employees to build their career paths better as they would focus on the customer needs. This career mapping within the organization would lessen their propensity to leave the organization and hence would help in controlling attrition as well as there would be less delays.

Construction Industry in India

"CRISIL Research expects the overall steel consumption, to grow at a compounded annual growth rate (CAGR) of around 18%, over the period 2005-06 to 2009-10 and researchers here expect Automobiles, Pipes & Tubes, Construction sectors to be the key growth drivers".
(www.crisil.com)

The manufacturing exports from India is likely to grow to USD 300 Billion in 2015 from USD 48 Billion in 2003. In the manufacturing sector there has been progressive reduction in taxes & tariffs.

The Indian construction industry is one of the largest employers in the country. In 1999-2000 it employed 17.62 million workers, a rise of 6 Million over 1993-94. This sector has recorded the highest growth rate in generation of jobs in the country. (www.planningcommission.nic.in).

Today there are abundant opportunities for the Indian construction companies due to improving living conditions, booming economy, policy & tax reforms & rise in gross capital formation. The industry is projected to further grow by 7-8% annually-faster than the country's projected GDP growth. The Indian construction industry can be put under the high growth & high risk segment if represented pictorially. (www.globalinsight.com), and the Construction industry has recorded a CAGR of 8.4% over the last two decades. (Source:www.ficci.com).

Construction industry's growth is expected to drive the demand for long products at a CAGR of around 8%. Triggers include the declared spending on new houses, which is currently estimated at Rs. 1700 billion in the Urban Pucca Non Slum segment and is expected to grow at CAGR of 18% over the next 5 years to Rs. 4000 billion by 2009-10. Also the investment in the Real estate construction space, over the next 5 years, is expected to grow upto Rs. 319 billion at a phenomenal growth rate of over 300%. (www.crisil.com)

Many research companies tend to believe that here there would be a polarization of the industry with larger players focusing on large size projects and smaller and medium players on low end of the spectrum. The Indian construction industry recorded a consistent double-digit year-on-year growth of 12% during 2000-2005, and can be is expected to grow at 25-30% during 2005-2010 than the research studies that say it to be 18-20%.

In the 1940s, it took 30 weeks and 2,400 hours of on-site labor to build a house. The average size for a new home was 800 square feet. Four decades later, construction time dropped to 8 weeks with only 800 on-site hours, while the average size had grown to 1,230 square feet. The research data further noted that the construction order book in relation to the present revenue size was robust and with timely implementation of contracts most of these companies has reported in an increase in EBDITA levels. However, margins have shown a downward trend on account of increasing price war and a higher proportion of costs being shared by the industry in comparison to the past trends of merely executing contract work.

The Indian construction industry today is facing the challenges of outdated land and property ownership regulations, infrastructural bottlenecks and a shortage of civil engineers. (www.biz.yahoo.com)

In other words, despite the challenges construction industry is beginning to play an important role in India's development. If the government's focus on improving infrastructure stays, then this industry's importance is likely to only increase in future.

Some key findings:

- India recorded the highest construction spending growth in 2005, driven by the infrastructure and real estate sectors.
- The introduction of REITs (Real Estate Investment Trusts) by mobilizing capital markets will further accelerate real estate growth.
- Technological developments like ready-mix concrete, 3-D modeling and mobile computing are gradually being adopted.
- Construction Industry has recorded a CAGR of 8.4% over the last two decades.
- Compounded Annual Growth Rate of around 18% is expected over the period 2005-06 to 2009-10.
- Declared spending on new houses alone is expected to grow at Compounded Annual Growth Rate of 18% over the next 5 years.
- Investment in the Real estate construction space is expected to grow at phenomenal growth rate of over 300% over the next 5 years.

- Its challenge is of outdated land and property ownership regulations, infrastructural bottlenecks and a shortage of civil engineers.

P-CMM in Construction Industry: Our Views

We are initiating the *implementation of P-CMM* principles in the *construction industry* for an Indian company.

The Construction activity in India is worth \$50 billion per annum and accounts for around 6% of Indian GDP. The construction sector in India employs around 40 million people.

However, the Indian construction process has traditionally been characterised by bureaucracy, red tape and erratically enforced regulations. Time and cost overruns are prevalent in the industry. Years of government monopoly over construction have meant that management and performance standards are often out-moded.

The construction industry in India has very recently moved into the segment of an organized set up. Till date it was very disorganized in its approach. Today, we see the application of many certifications in the companies like ISO & OSHAS being applied.

There are only a few Indian contractors well-organised and capable enough to undertake significant national capital asset projects. Other contracting workforce is largely informal and untrained, consisting of many small-sized firms with low skill levels. These mainly consist of the contracted workforce too. Execution of the standard policies for these set of labourers that are not permanently employed with the company brings forth a major challenge for deploying any policies &/or procedures as this would require a level of understanding and implementation of the policies of the organization within this segment.

The workforce is spread across various sites for deploying their work commitments. The intensity of the personal touch among the employees & the superiors is very dependent on the workforce at the site, making it difficult to assess the level of performance measurement to be applied. Also, because of the fact that the workers like the store keepers, carpenters, crane drivers, mechanics have uncoded knowledge the conversion into codified knowledge is very difficult and thus is their appraisal & setting up of policies for this segment.

Toughest challenge in assessing People CMM is ensuring sensitive areas like compensation, promotions, etc are conducted in a systemic fashion, but without becoming 'impersonal/inhuman'. The level of workers in this industry range from unskilled, uneducated to highly educated. So, this gap between the range makes it difficult to apply uniform set of policies and procedures between all the hierarchies. Also, the fact that the managers and the subordinates might not be able to meet in person at regular intervals could create a gap between the performance & the measurement system. Hence, the performance measurement system to be performance based needs effective strategies to be applied. These difficulties incline towards a need to develop standards for the industry.

The level of motivation required for the personnel becomes a challenging task as well. This is due to the fact that this sector does not require a lot of seed money or manpower. The initiation can be done at a small levels so the experienced industry workforce is influenced to get involved in an entrepreneurial set up draining all the efforts of the company resources.

The non-permanent nature of the projects as well as the need to work in different climatic conditions involves a need to look at the HR practices in order to acquire & retain the talented workforce. Unlike the software firms that have their set up under the same roof, the work

environment and the work climate in construction set up need an enhancement but under various constraints.

It calls for a lot of effort to be diverted towards training in order to make the workforce appreciate and follow the principles, policies & procedures within the organization. The training requirements become higher especially in a country like India as not only the education and literacy rate is low but also the conversion of the learning and understanding into knowledge.

Another concern is the disparity of the languages spoken & understood. The languages used by the workforce are diverse and thus conducting a training program only in a certain language is not acceptable. While talking of training another important aspect is the use of technical terminologies by the trainer. This initiates a need to train the workforce by the usage of varied languages for their better comprehension to address the disparity of comprehension.

This made us initiate a change and pioneer the P-CMM training modules in **Kannada**, the local language of the Karnataka.

Both the industries - Software & Construction work on parallel lines as both have their strict timelines, the level of stress, important assessments for acquiring & retaining talent and so on but the nature of the workforce involved in these makes it challenging to achieve the levels of People CMM in this industry. Therefore the application of People CMM in the non-IT segment like Construction becomes as vital as its application in the software industry.

It is an essential requirement for the developing infrastructure industry also because, **85% of a company's value** is now composed of non-tangible, off balance sheet items, **primarily human capital**. (Source: Corporate University Exchange).

Some key findings:

- Construction activity in India is worth \$50 Billion per annum and accounts for around 6% of Indian GDP.
- The construction sector in India employs around 40 million people.
- Construction Sector traditionally has been characterised by bureaucracy, red tape and erratically enforced regulations.
- It has recently moved into the organized industry bracket.
- The contracting workforce is largely informal and untrained.
- The knowledge conversion of the workers (like the store keepers, carpenters, crane drivers, mechanics, etc) into codified knowledge is a challenging task.
- Both the industries - Software & Construction work on parallel lines
 - Both have their strict timelines
 - There is high level of stress
 - Important assessments for acquiring & retaining talent is tough as well as there is high scope of unsatisfied or demotivated employees setting up their own venture.

Concluding Thoughts: India an overlook

"India is making progress on both Software CMM and People CMM faster than any other nation in the world. The pinnacle will be reached when Americans seek visas so they can learn and work in India," says Bill Curtis, former director of SEI's process program, author, CMM, and chief [architect](#), PCMM.

India has already made a mark in P-CMM by having the first P-CMM certified company - Wipro Technologies. Also, Wipro today is the only company in the world that has both PCMM-5 and CMM-5 certifications. A Six Sigma wave is now sweeping India's services community. The quality journey continues. [Investments](#) in improvements continue to be made, processes continue to be improved.

The creative, entrepreneurial and innovative spirit of our people and our single-minded focus on quality influences yet another attempt, of applying the P-CMM principles in a non-software, especially to a Construction Industry which has recently moved into the organized industry bandwagon in India.

Take a look at the numbers again, and then take a look around. Outside the "First World offices" of the Indian software and BPO firms is a huge and crowded Third World country with all its challenges and limitations. You'd immediately sense and experience the issues and problems of a developing economy. And yet, surrounded by the sea of "non quality" there are these hundreds of world-class organizations in the software, systems engineering, the BPO space, construction and others, epitomizing excellence here. These are routinely visited by foreign delegations and even country leaders; these are the temples, the Taj Mahals of modern India, proud showpieces for a not-so-otherwise proud population.

While comparing the world construction statistics, it is shown that the "Worldwide demand for construction aggregates is projected to rise close to five percent per annum through 2007 to over 21 Billion metric tons. China, which is already the largest national market would record some of the strongest increases. A number of other countries **including India**, Poland, Russia, Taiwan, Thailand and Turkey will also register strong sales gains, fueled by an acceleration in infrastructure construction activity and industrialization". (<http://www.the-infoshop.com/>)

Growth in aggregates demand will be less robust in the US, Japan and Western Europe. The physical infrastructures in these nations are well developed, and maintenance and repair construction will account for much of the gains through 2007. Construction spending in Western Europe will pick up as economic conditions in the region improve, contributing to overall market advances. Japanese aggregates demand will finally stabilize and begin to recover following an extended period of decline. (<http://www.the-infoshop.com/>)

The level of growth within the country in all aspects is high, so is the boom of the construction industry in India. The level of infrastructure development in the country is developing also due to the growing economic boom! And hence this is right time to implement a process as specific as P-CMM for the industry that is blooming in a country like ours.

In our paper for the next quarter we would focus on the problems and the challenges that we are facing in its implementation as well as the various aspects that needs to be considered before its implementation and our process of implementation. The factors that don't blend within the two industries - Software & Construction need to be developed and enhanced to adapt as per industry specifics. We shall also consider if there can be a P-CMM version M for the Manufacturing or the non-IT segment for its better adaptability, as the focus of P-CMM versions mainly in its 4th & 5th phase is on the Software industry.

