A Rigorous Study of P-CMM in Indian IT Industry

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ABSTRACT:- This paper is an empirical study of the application of key process areas (KPAs) of People Capability Maturity Model in Indian IT industry is defined. It is found that the IT industry mostly the large-scale software enterprises, highly focuses on the KPAs in their respective organization. This project involves in identifying how the people management is done in software companies in the recent years and analyzing the roles and practices from our survey, we have proposed an approach to rectify people capability management. People Capability Management is a hugely important part of putting together and managing high performance software engineering people. It has known to make IT people more responsive, more productive and more efficient. People Capability Management has brought revolution to the IT sector after its introduction by which companies are now able to maintain a healthy relationship with all its employees, thereby encouraging them to work efficiently with less stress and achieve desired goal within stipulated time.
Keywords:- IT industry, KPAs, P-CMM, People, Survey.

I. INTRODUCTION

Human resource development and management have been the most important aspects in the organizational success of an IT industry. Various human resource models are being suggested to the companies for sustainable development. Intelligence and competencies of workers have become crucial due to the rapid changes in the global and regional markets. Lowering operational costs and enhancing organizations' facilitation becomes an important issue in determining the organizational success. As such, human resource development and management has become decisive and gain attention from numerous fields [1]. Based on the best current practices in the fields such as human resources and organizational development, the People Capability Maturity Model (PCMM) provides a roadmap and a set of guidelines sequenced with five stages for implementation. Besides, each progressive level of P-CMM clearly declares unique transformation with powerful practice for attracting, developing, organizing, motivating, and retaining its workforce, establishes an integrated system of workforce practices that mature through increasing alignment with the organizations' business objectives, performance, and changing needs. The maturity levels are decomposed into several key process areas that indicate the areas of an organization should focus on to improve its workforce capability. Each key process area is described in terms of the key practices that contribute to satisfying its goals. The key practices describe the infrastructure and activities that contribute most to the effective implementation and institutionalization of the key process area the merits of applying PCMM depends on the achieved level of maturity [2].

The standards followed, provides an objective evaluation of the HR practices of the company. It helps create a better image in the outside world that the company has consistent and stable HR policies and practices thereby creating a brand value for the same. It improves the hiring capability tremendously and helps in understanding the strengths and weaknesses from a people perspective [3].

II. RELATED RESEARCH

Curstis et. Al [1] proposed "Experiences Applying the People Capability Maturity Model." The paper discussed the key contributing and provided a summary of benefits and lessons learned from its use. They referred P-CMM as a road map for implementing workforce practices which continually improved the capability of an organization's workforce.

Boehm and Turner [4] proposed five areas where people issues are critical to successful s/w development. They are: staffing, culture, values, communications and expectation management. Alice Jing Lee [5] proposed "Exploring the Role of People Capability Maturity Model and Identifying People-Related Critical Success Factors in Large-Scale Organization with Agile Practice". It is mentioned that P-CMM is a rigorous approach is employed to the development of people factor categorization and the empirical investigation of P-CMM is a large scale organization. Lele and Vishwanath [6] proposed "Impact of P-CMM on Individual and Organizational Effectiveness with Reference to P-CMM Certified Units in Pune City". They mentioned that P-

CMM practices cannot help an organization if they have problem due to lack of loyalty, deeply entrenched complacency, missing competitive spirit and general apathy toward proactive change management and poor organization sense of bonding.

Padma and Tripathi [7] published, "Application of People Capability Maturity Model in I.T. industry". According to them "The present study was conducted to examine the implementation of PCMM in the Indian industry by analyzing the perceptions of managers regarding the reasons for PCMM implementation, people related issues and benefits of PCMM Yin Che Chen And Yeng Jung Wang [8] publishes the paper, "Application and Development of People Capability Maturity Model Level on an Organization". They mentioned, "In the Knowledge economy era, a human resources system is crucial for corporate management."

KPMG proposed a research on Indian I.T. industry and gave the proposition, "With the organization facing such concerns, KPMG proposed the adaption of People CMM model in a structured and systematic manner to establish a system based approach keeping in mind long term view of the growth."

III. THE PEOPLE CAPABILITY MATURITY MODEL

The People Capability Maturity Model (PCMM) [1] is an evolutionary framework that works continuously to improve human resource development and management. The focused set of practices called workforce practices that it incorporates guides to make lasting gains in the performance and competitiveness of organizations' workforce. The People CMM's primary objective is to improve the capability of the workforce in different maturity levels. The People CMM was first published in 1995 and updated in 2001. The Second Edition updates informative material within the model, and provides new information regarding the global use of the People CMM. Since its first release in 1995, the People CMM has successfully guided workforce improvement programs in IT industries globally.

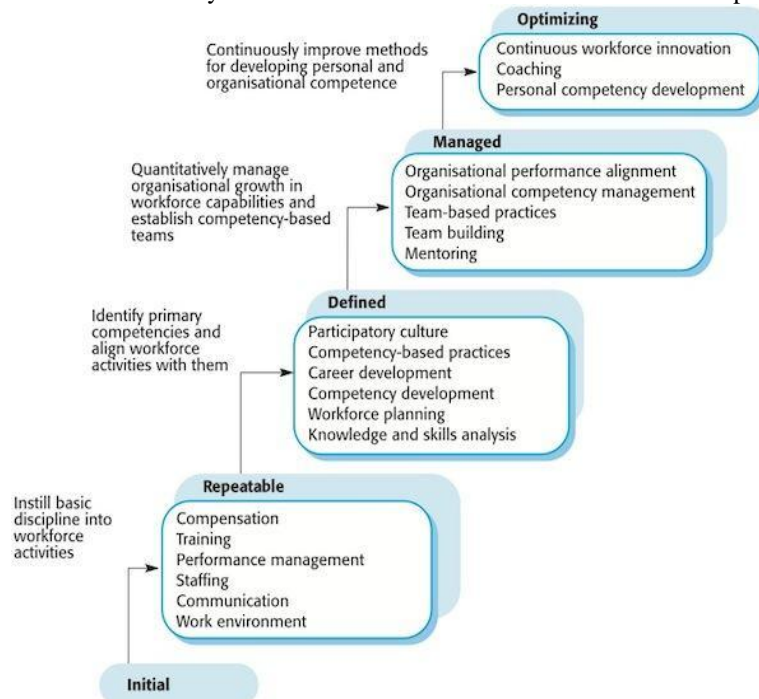The PCMM have five maturity level unlike other CMMs and each level have specific process areas [9].

Fig.1.1: Maturity Level of P-CMM

Maturity Level 1: Initial**:-**In the Initial Level, there are no process areas. Workforce practices tend to be traditional or inconsistent but organizations perform processes that are described in the Maturity Level 2 process areas which may be legally mandated. Organizations that do not achieve the goals of each of the Maturity Level 2 process areas are performing as Maturity Level 1 organizations.
Maturity Level 2: Repeatable**:-**In the Managed Level, the disciple such as staffing, management of performance, training, compensation criteria are monitored by the managers. Work commitments of people are considered by ensuring development to manage skills and performance at the unit level. The process areas here include Staffing, Communication and Coordination, Work Environment, Performance Management, Training and Development, and Compensation.

*Maturity Level 3: Defined***:-**In the Defined Level, the organization identifies and develops the knowledge, skills, and process abilities that constitute the workforce competencies. The organization develops a culture of professionalism based on well-understood workforce competencies and develops the capability to manage its workforce as a strategic asset. The process areas here include Competency Analysis, Workforce Planning, Competency Development, Career Development, Competency-Based Practices, Workgroup Development, and Participatory Culture.

*Maturity Level 4: Managed***:-**In the Managed Level, the organization quantifies and manages the capability of its workforce and competency-based processes, in addition to exploiting the opportunities afforded by defined workforce competencies. The organization creates a culture of measurement and exploits shared experience and has the capability to predict its performance and capacity for work. The process areas here include Competency Integration, Empowered Workgroups, Competency-Based Assets, Quantitative Performance Management, Organizational Capability Management, and Mentoring.

*Maturity Level 5: Optimizing***:-**In the Optimizing Level, everyone in the organization is focused on continuously improving his or her capability and the organization's workforce practices. The organization creates a culture of product and service excellence and continuously improves its capability and deploys rapid changes for managing its workforce. The process areas here include Continuous Capability Improvement, Organizational Performance Alignment, and Continuous Workforce Innovation.

IV. METHODOLOGY

Two terms quantitative and qualitative are defined to differentiate research paradigm [10]. Quantitative research is defined as research that emphasize on deductive approach, more on natural scientific model, positivist research and view of social reality as an external objective reality [11]. On the other hand, qualitative method have detail information on human, social and cultural phenomena that could reduce generalizability as in quantitative method. The quantitative method is applied on an identified problem which is based on testing theory, measured and analysed using number and statistical techniques. Quantitative research is used in this study.

V. ANALYSIS

Based on the responses that we have received from some software companies of India, we indicate that (1) Workforce planning is a very important matter to be taken into consideration while collecting resources for an organization (2) Strategic business performance enables a business to define strategic goals and then measure and manage performance against those goals (3) Combining many conceptual elements of an employee's life cycle through an organization focusing on that people are a company's most important assets (4) To ensure ongoing effort to improve products, services or processes (5) Providing redistribution of work among members of a practice team.1.

1. Workforce Planning:
Feature 1: Identifying the involvement of the physical geographical location as well as the immediate surroundings of the workplace.
Feature 2: Ensures effective communication and provision of information.
Feature 3: Management and placing of staff.
Feature 4: Identification of the needs and priorities of the organization with those of its workplace to ensure it can meet its legislative, regulatory, service and production requirements and organizational objectives.
Feature 5: Ensuring that all workforce practices are based in part on developing the competencies of the workforce.
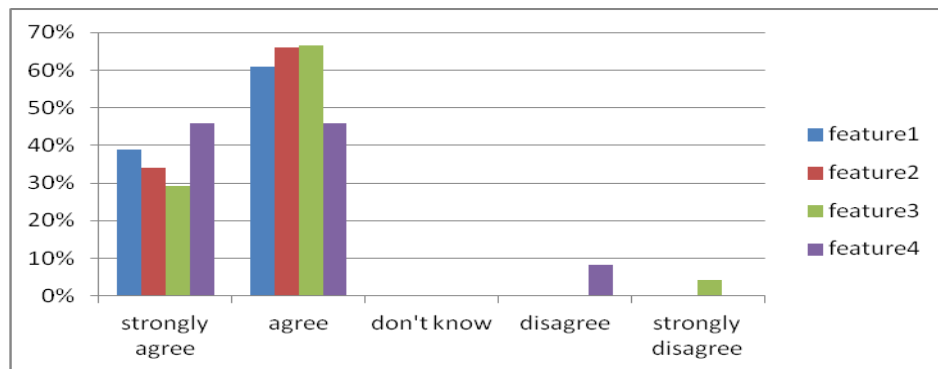

Fig 2.1: Workforce planning

Our first findings concerns with the workforce planning that are involved in building the organization. According to our survey we have noticed that (Feature 1) has nearly 39% strongly agreed and 61% agreed on identifying the involvement of the work environment. The major part of the first feature (Feature 1) is managed by the organization. Feature 2 has nearly 34% strongly agreed and 66% agreed on ensuring effective communication between each individual and between the individuals and the organization. The Feature 3 has nearly 29% strongly agreed, 67% agreed and 4% strongly disagreed on identification of the needs and priorities of the organization with those of its workplace to ensure it can meet its legislative, regulatory, service and production requirements and organizational objectives. There is a involvement of nearly 46% strongly agreed, 46% agreed and 8% disagreed in ensuring that all workforce practices are based in part on developing the competencies of the workforce in Feature 4.

2. *Strategic Business Performance:*
       Feature 1: Monitoring the performance of an organization, department, employee, or even the processes to build a product or service, as well as many other areas.
Feature 2: Ensuring the capability of the workforce to perform its assigned tasks and responsibilities.
Feature 3: Encouraging the workforce's full capability for making decisions that affect the performance of business activities.
Feature 4: Managing the combination of observable and measurable knowledge, skills, abilities and personal attributes that contribute to enhanced employee performance and ultimately result in organizational success.
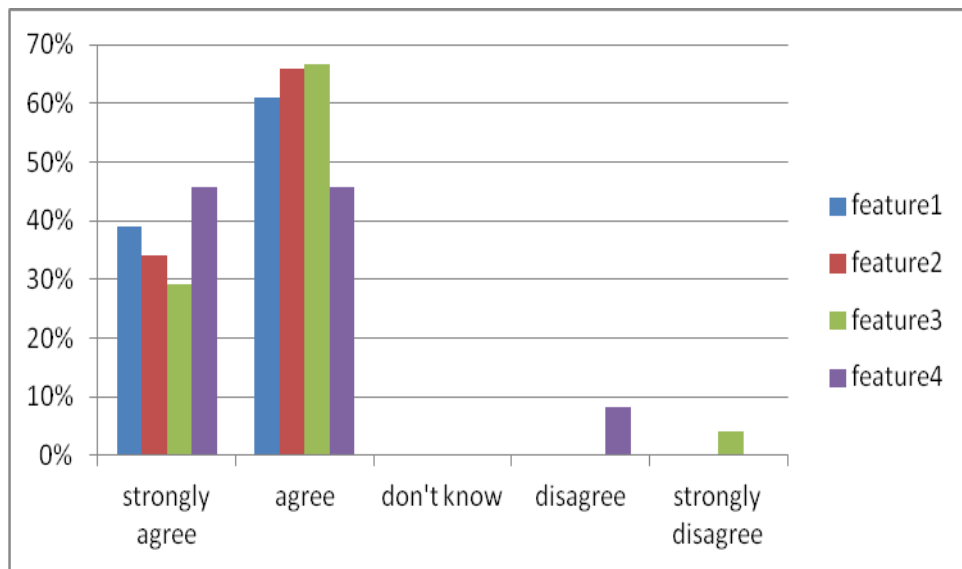

Fig 2.2: Strategic Business Performance

It is clearly seen that Feature 1 is strongly agreed by 39% and agreed by 61% which is to establish objectives related to committed work against which unit and individual performance can be measured, to discuss performance against these objectives, and to continuously enhance performance. Feature 2 is only strongly agreed by 34% and agreed by 64% on competency development of the organization. 29% are strongly agreed, 67% agreed and 4% strongly disagreed on encouraging the workforce's full capability for making decisions that affect the performance of business activities for Feature 3. Feature 4 is strongly agreed by 46%, agreed by 46% and disagreed by 8% on personal competency management.

3. *Human Assets:*
       Feature 1: Ensuring that all individuals have the skills required to perform their assignments and are provided relevant development opportunities.
Feature 2: Providing all individuals with remuneration and benefits based on their contribution and value to the organization.
Feature 3: Scope of knowledge and skill development.
Feature 4: Providing individuals opportunities to develop workforce competencies that enable them to achieve career development.
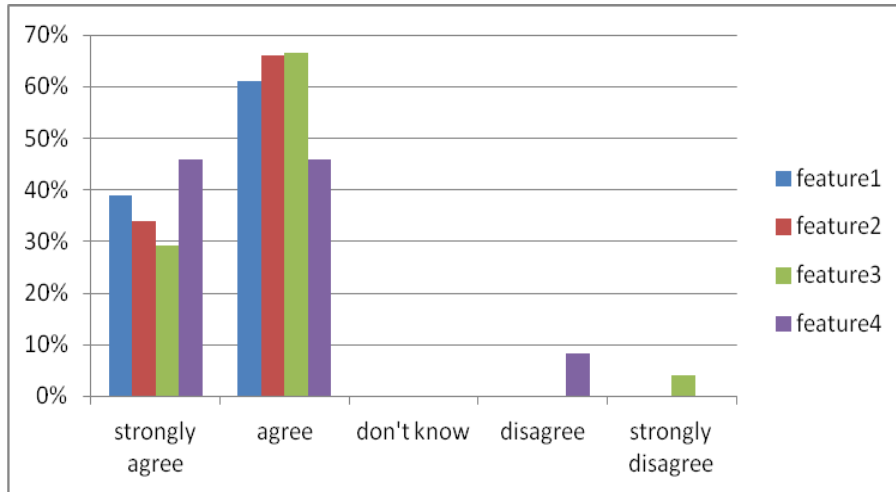
Fig 2.3: Human Assets

The Feature 1 is strongly agreed by 39%, agreed by 50% and strongly disagreed by 11% in ensuring that all individuals have the skills required to perform their assignments and are provided relevant development opportunities. Feature 2 is 31% strongly agreed and 69% agreed on providing all individuals with remuneration and benefits based on their contribution and value to the organization. Scope of knowledge and skill development in Feature 3 is strongly agreed by 25% and agreed by 75%. Ensuring that individuals are provided opportunities to develop workforce competencies that enable them to achieve career objectives is strongly agreed by 30%, agreed by 68% and disagreed by 2% for Feature 4.

VI. CONTINUOUS IMPROVEMENT OF MANAGEMENT

Feature 1: Mentoring to transfer the lessons of greater experience in a workforce competency to improve the capability of other individuals or workgroups.

Feature 2: Ensuring that the goals of coaching are successfully achieved.

Feature 3: Identifying and evaluating improved or innovative workforce practices and technologies, and implemented the most promising ones throughout the organization.
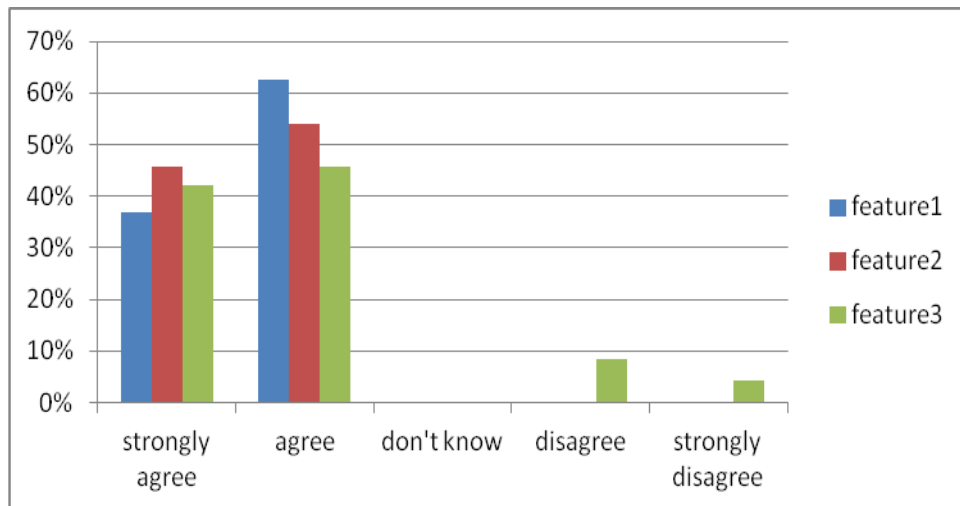

Fig 2.4: Continuous Improvement of Management

We can clearly see that Feature 1 is strongly agreed by 37% and agreed by 63% to transfer the lessons of greater experience in a workforce competency to improve the capability of other individuals or workgroups. Feature 2 is strongly agreed by 46% and agreed by 54% on ensuring that the goals of coaching are successfully achieved. 42% strongly agreed, 46% agreed, 8% disagreed and 4% strongly disagreed in identifying and evaluating improved or innovative workforce practices and technologies, and implemented the most promising ones throughout the organization for Feature 3.

5. Team Based Practices:
Feature 1: Ensuring teams are formed to improve the performance of interdependent tasks and team assignments are made to integrate complementary knowledge and skills.
Feature 2: Adjusting its workforce practices and activities to motivate and support the development of team-based competencies within the organization.
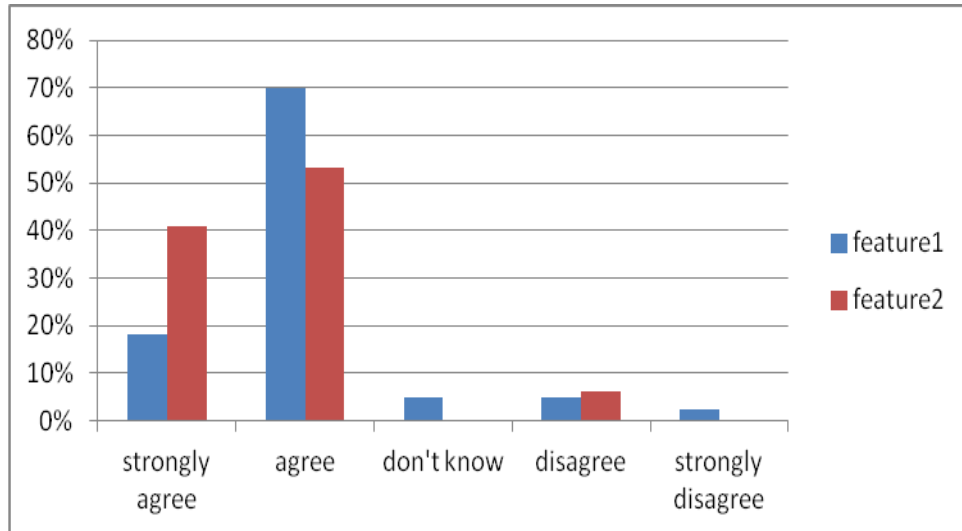

Fig 2.5: Team Based Practices

Feature 1 is strongly agreed by 18%, agreed by 70%, didn't know by 5%, disagreed by 5% and strongly disagreed by 2% for ensuring teams are formed to improve the performance of interdependent tasks and team assignments are made to integrate complementary knowledge and skills. Adjusting its workforce practices and activities to motivate and support the development of team-based competencies within the organization for Feature 2 is strongly agreed by 41%, agreed by 53% and disagreed by 6%.

VII.   CONCLUSION

The pivotal features anticipated in these observations identify the roles in various software organizations' projects. It is seen that most of the level 5 Indian companies are improving day by day. However, lower level companies are not performing consistently because they don't follow the PCMM extensively. In maturity level 2 and 3, companies do not tend to follow training programs of the model and they prefer experience employees trained by other higher level companies. In these companies, workforce planning is very tradition which leads to lower strategic performance, lower human assets development, lesser improvement of management and scattered team based practices. Thus, it can be concluded that explicit implementation of PCMM is important to achieve the highest maturity level which is elemental in organizations' success.

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