

## **A Study on Competency Mapping and Its Impact on Organizational Effectiveness with Reference to it Industry in Chennai**

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### **Abstract**

Human resource management brings people and organizations together to meet the goals of each other. In recent years, highly skilled and knowledge-based jobs are increasing while low skilled jobs are decreasing. The calls for future skill mapping through proper HRM initiatives. Competency mapping was done for Confirmed employees and also for the contract workers of an organization, and it can also be extended to the job seekers who possess specific skill set which would be opt for the organization. By adopting this method, one can understand the readiness to join the job. This type of competency mapping is considered to be one of the best models to recognize and job and also to fit in an individual in an organization. The current research study was carried out with the intention to explore the competencies of IT employees in the Chennai region and also to evaluate the influence of the competencies in the organization effectiveness. Technical competencies, personal competencies, interpersonal competencies, time management and client orientation were some of the commonly used competencies used to explore the IT employees' competencies. By this study an attempt is made to identify the influence of these competencies on the variables like organization effectiveness which includes organization commitment, attachment, job involvement and motivation. Competency mapping is done in understanding the gap

between the expected versus the actual competencies possessed by the employee with that of the organization's requirement. This study uses both primary and secondary data for its analysis. Structured questionnaire was used as a tool for collecting the primary data and secondary data has been gathered from various sources like websites, journals, books, magazines. Primary data collected through a structured questionnaire with five points Likert's Scale statements for competency and Organizational effectiveness and multiple-choice details related to demographic factors. The collected information was statistically tested to calculate the coefficient, which validates the questionnaire is 94.24% reliable, i.e., (0.942). The non-probability method, Accidental sampling technique, has been adopted for the study. It is also called a Convenience sampling method. This procedure method is satisfactory. The minimum sample size is estimated at 386. The sample size for the study is 617. The data collected on factors were used to analyze and determine the competency mapping and its impact on Organization effectiveness in IT sector in India. The statistical tools like ANOVA, Factor analysis, correlation and SEM have been applied for arriving at the relevant inferences on the data. The hypothesis is formulated to achieve the objectives of the study. The researcher has given a clear road map for the employee as well as an employer how to move to their next level. It will be useful for both the side to do self-analysis to know their status and equip them, in order to make the organization to achieve its objectives. Apart from that the organizations are not considered to be machinery and building alone. It is based on the employee's welfare, which leads to the success of the organization. Hence this kind of research will help them to be on a road of success. This research is conducted through quantitative data. For future analysis, both quantitative and qualitative data can be used. As the analysis is limited to only competency mapping and organization effectiveness, more variables may be included for the future study that is affecting the competencies and the organisational effectiveness. The current research is limited in measuring the non-financial effectiveness, and further investigation can be attempted by measuring financial effectiveness as well.

## **I.INTRODUCTION**

Human resource management brings people and organisations together to meet the goals of each other. In recent years, highly skilled and knowledge-based jobs are increasing while low skilled jobs are decreasing. The calls for future skill mapping through proper HRM initiatives. Indian organizations are also witnessing a change in systems, management cultures and philosophy due to the global alignment of Indian organizations. There is a need for multi-skill development. Competency Mapping is a process of identifying essential competencies for a company or an organization and the jobs and functions within it. Every well-managed organization should have well-defined roles and a list of skills required to perform each task

effectively. Competency mapping analysis the individual's SWOT (strength, weakness, opportunities and threats) for better understanding and this helps to improve the career growth of employees. In the current scenario, all the companies were trying to achieve high efficiency to withstand in the competition. They work to a great extent in improving their system efficiency. Skill and competency is a primary factor for enhancing the performance and efficiency of their operations. Skills and competency, therefore, becomes a central point of companies, which aims at improving their performance.

Most of the companies, especially software companies, emphasizes on skill and competency. It becomes mandatory for any software company that aims at improving their performance, to map the skill level of their workers. Skills mapping is a method of studying and analyzing the powers obsessed by the persons concerned. Competency mapping evolves an outcome, which not only specifies the skill level of the persons but also identifies the Gray areas where enhancement can be made by training or by other means. In the current competitive situation, Skill mapping is essential, and it is considered to be the buzzword for any business aiming at revamping themselves.

### **Definition and Meaning of Competency**

Today, when measuring an organization's performance, its better results more and more are refereed not to material resources, but human resources and their competencies. Thus, the development of skills has become one of the critical priorities of the organization. On realizing the current scenario, the companies are hiring the professional who are capable enough and also provide adequate opportunities for the employees to scale their capabilities. In the current competitive world, every business houses requires professionals who have the desired skills and also, they provide the environment for them to exhibit their skills.

Competency is mostly considered as theoretical and practical study of applying the knowledge of an individual but the study of Zarifian in the year 1999 elaborated that the practical approach of transforming themselves for that of the organizational requirement is defined as competency. This approach was further elaborated by Boterf in the year 1995 and found that competency is neither a specific knowledge nor a state of being but it is the sum of the personal, educational and the professional experience. This study further portrayed that it is also a set of value system adopted by the educational setup which helps to enhance the social and communicational aspects of every individual who goes through the process. Other similar studies argued that competencies are the way to possess a knowledge, resources and capabilities for the required professional setup. This can be thoroughly developed by consistent learning and adoption of superior thinking pattern. This further explains the way an individual carry them within the

organization and the society where they are a part of. By knowing and moving in a desired way will create a substantial increase in their competency level. This shows that the employees must clearly have a clarity of the way they should move and work which elaborates their knowledge and skill level which will sink with the strategic objectives of the organization. This also provides an incremental in the skill set of the individual.

The economic value and social value of the organization and the individual will be in the positive side when the competency levels are substantially developed. By obtaining this skill set the organization will be in the position to assess and award the knowledge, capabilities of an individual contribution towards themselves and the organization. The same type of study was further carried out by Fleury and Fleury in the year 2000. But the study carried out by Irena Bakanauskiene et. al in the year 2011 defined that competencies are three block which went to explain the earlier model like professional, personal and social where the study was conducted in the Western Lithuania. He further explained that competency is a measurable variable where it can result in the character and performance of a person on the job.

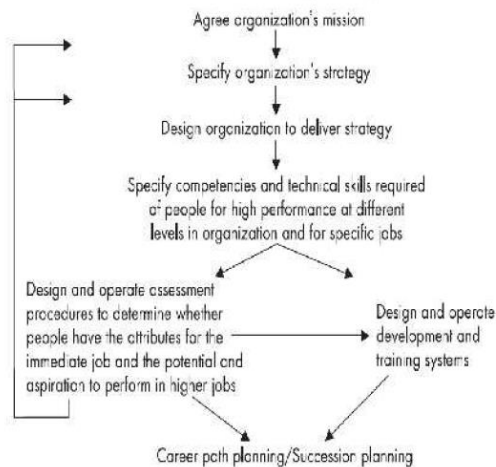
Though the competencies are considered as an important topic of discussion in the current decade, it has been under study for the past few decades. This study was mainly carried out in the human resource stream in which both organizational and personal traits, objectives and success are evaluated. In their study there have been a differentiation between the terminologies like soft competency and technical competency where the soft competency deals with the personal behaviour and the technical competency deals with the organizational required and this outcome was published in the study of Dubois in the year 1993 and Dainty et. al in the year 2005.

### **Models of Competency Mapping**

In order to complete any job, process, function or performance there is a huge requirement of an unique skill set by the employees. In order to analyze the expected with that of the required level of the skill set of the employees the competency mapping is adopted and there are various models of competency mapping available in the market. Mostly individual competency should be matched to the expectation and the competency of the organization. Even there is variety of models available there is no one perfect or concrete model. But a broad understanding is to evaluate the all the necessary competencies in all the groups associated within the organization. The groups may be of leadership level, technical level or of personal level. There can also be a framework which highlights the set of competencies of a given family matching that of the organizational requirements.

McLagan in the year 1989 said that the ability of the workforce and organization could be maximized by taking the advantages of delivery consistently in the area of superior products by using the state of the art technology. Understating of the competency level of the workforce is of crucial importance because it results in the organizational success. There are differences between business to business and in order to sustain their value each and every organization has identified their unique competency models which broadly covers the knowledge, skills and the behavior of the employees in order to deliver a superior performance in the assigned job.

### **Organizational Strategy and Linking HR processes**



**Source: Seema Sanghi, 'The handbook of competency mapping', 2007, 2<sup>nd</sup> edition**

The designing of competency model for any organization requires a set of reminders to be kept upon which will eventually result as a HR tool.

- Demonstration of competency with that of examples is mandatory.
- Behaviours of an individual can be altered even when the innate characteristics are believed to be fixed in the individual.

Wols et. al, in the year 2003 argued that any model adopted the organization should be developed with the purposed of creating an actual model which will be specific for that organization. Crawford in the year 2004 designed a model of knowledge, skills which resulted in the performance and the personality of any individual. The model proposed by Prahalad and Hamel in the year 1990 has been named as a 'Core Competency Notion' which identified the specific strategic planning done by organization to meet out their objectives in near and long term perspective. Resource ad capabilities were included into the core competency notion

model by Javidan in the year 1998 to understand and study the competencies and the capabilities of the any organization in a systematic approach. The recent studies portrayed the importance of collaborative networks into this competency model. Molina and Flores in the year 1999 framed a core competency model exclusively for manufacturing sector by using virtual organization breeding environment. The essential need of this model was to identify the need of VO with that of the constituent skill possessed. SARC model was proposed by Boucher and Leburean in the year 2005 in order to analyze the collaborative working nature. The result argued that the network organization produces a increase in the competency levels and the capabilities of the employees. To further elaborate the study Odenthal and Peters in the year 2006 developed various models on collaborative environments in order to understand the competency levels of the Virtual companies. For exclusively covering the Virtual organizations Breeding Environment (VBEs) Ermilova and Afsarmanesh in the year 2008 developed a specific model and named that model as '4C model' where it consists of 4 Cs namely Capability, Conspicuity, Cost and Capacity.

### **HR Activities and Competency Mapping Tool**



In any process of Human Resources competency mapping tool is vital whether it be a performance appraisal, recruitment, promotion, training, succession planning or job analysis. In order to evaluate this Dragenidis in the year 2006 adopted an ontology based application to evaluate the competence management also in the year 2005 Keenam projected an model of DSS to match the capabilities of the employees with the requirement of the employer. This DSS model was further explored by Huang in the year 2004 in the HR selection process which specialized in the evaluating the managerial talent through neural networking. In order to justify this approach in the year 2004 Berio came out with a case study approach in order

to evaluate the and managing the competence of an enterprise. (Vartarien, 2003) studied the competencies in a virtual organisation that can be used at work and also for lifelong learning. (Stenmark, 2003) analyzed the need for a rethinking of competence management systems for the knowledge-based organizations. Even an approach was adopted by Colucci in the year 2009 to understand the ontology based semantic matching of skills. In the other model Ranja et. al in 2007 developed a conceptual framework to study the competence management. The PAKS model described the observed competencies in the areas of skills, knowledge, personality and ability in order to analyze the assigned task independently to a desired level (Pooja Tripathi, 2010)

### **Competency Mapping as HR Tool**

- Recruitment /Selection**
- Training/Development**
- Performance Management**
- Career Planning/Development**
- Succession Planning**
- Manpower Planning**
- Human Resource Development**
- Human Resource Planning**
- Human Resource Strategic Planning. etc**

There are various methods adopted by companies to enhance the individual career development. The first among them would always remain the competency possessed by the individuals. The competency of any individual is mostly identified in the particular job assigned to them and some other cases it can also be identified from their involvement in the community activities, professional associations and spheres where there could be an individual contribution for the betterment of themselves and the society.

The first and foremost competency encounter faced by individuals would mostly be of securing a job in a reputed company where most of the reputed companies are adopting a competency based interviewing model. This approach is not adopted by the companies for recruitment but also for the appraisal of their performance and even for the succession planning. This proves the vitality of the individual employees to map their competencies with that of the ongoing need of the organization. Up to this point, it is implied that the main need for identifying and mapping competencies is for individuals who may be pursuing full-time employment with an organization.

### **Steps in Competency Mapping**

The steps in competency mapping with an end result of job evaluation include the following:

- Step1: Identify departments for competency profiling.
- Step2: Identifying hierarchy within the organization and selection of levels.
- Step3: Obtain the job descriptions
- Step4: Preparation of semi-structured interview.
- Step5: Recording of interview details.
- Step6: Preparation of a list of Skill.
- Step7: Indicate proficiency levels.
- Step8: Validate identified competencies and proficiency levels with immediate superiors and other heads of the concerned department.
- Step9: Preparation of competency.
- Step10: Mapping of competencies.

### **Role of Competency Mapping**

Competency mapping helps both the individuals and the organization to map the strengths and weakness of individual with the motto to understanding themselves which will in return result in the career advancement. Skills like strategic decision making, emotional intelligence, relationship building, and leadership issues are grouped together and analyzed by the organization.

### **Competency Model**

Though the competency model has been widely used in this competitive scenario, the organization of these models happened to be in early 1900s. Initially the model possessed the competencies required by the individual for a specific job or function assigned the organization to that particular individual. This also gave a substantial proof for the organization to discuss the fit of the people for the organization. The end result of those studies portrayed the performance of the workforce. Then in later stages a typical methodology was adopted to recognize the few unique skills required for other employees with the organization. Mostly leadership, technical and personal are the levels adopted in mapping of competencies. In other types of competency models there may be a framework based on an employee work level, with an essential set of skills for a given job family and additional competencies added cumulatively for each higher job level within the job family.

**Skills + Knowledge + Ability = Competency = Observable Behavior  
= Effective Outcomes [Performance on job] = Strategic Success Modeling.**



## **Organization Effectiveness**

Currently organizations are considering motivation, effective teamwork and organizational effectiveness are paramount for the survival in a longer term. In this terminology organization effectiveness has been measured under two parameters via financial efficiency and non-financial efficiencies. It also helps the organization to understand the goal attainment level apart from the growth, productivity and profitability of the organization by also considering the employee satisfaction level.

Initially SP Robbins stated that when the goals of the organization is achieved then the organization is said to effective whereas Jackson, Morgan and Paolillo found that goal achievement are paramount degree in referring the effectiveness of an organization. But the organization effectiveness could not be measured by single criteria as it multidimensional in nature. Kondalkar described leadership style, citizenship, satisfaction level of employee and customer, quality management and skill variety lead to organization effectiveness. This helps the organization to care about the human interface with of the organization. But the growing competition forces the organization to emphasize the need of high caliber workforce in order to attain the organizational goals.

Even there have been various researches conducted to evaluate the organization effectiveness Campbell in 1973 and Steers in 1975 found in their research that there was variety of perspectives in evaluating the organization effectiveness. This also concluded that there were no single ultimate criteria to evaluate the organization effectiveness. Warner in 1967, Perrow in 1970m Gakk ub 1972, 1978 abd Dubin in 1976 carried out relevant studies to change over the life cycle of organization. Yuchtman and Seashore in 1967, Kimberly in 1976 and Miles and Cameron in 1977 founded that constituencies had an importance with respect to the organizational aspect and definitely not the other factors.

Friedlander and Pickle in the year 1968, Scott in 1977 and Barney in the year 1978 discussed relationships among various effectiveness dimensions may be challenging to discover whereas Seashore, et.al in 1960, Mahoney and Weitzel, in 1969 and Kirchhoff, in 1975 tested the organization effectiveness that includes various factors such as job satisfaction, organizational commitment, and employee turnover as per Mowday, Porter & Steers in 1982 and Mayer & Schoorman in the year 1992).

Thus, organizational effectiveness is to be understood as mutable (composed of different criteria at different life stages), comprehensive (including a multiplicity of dimensions), divergent (relating to various constituencies), trans-positive (altering relevant standards when different level of analysis is used) and complicated (having non parsimonious relationship among dimensions).

## **Approaches to Organization effectiveness**



## **IT Industry**

The Indian information technology (IT) industry has played a vital role in putting India on the global map as a significant knowledge-based economy and outsourcing hub. The information technology industry in India has gained a brand identity as a knowledge economy due to its IT sector. This sector has helped India transform from a rural and agriculture-based economy to a knowledge-based economy. Besides this, the lives of people have been positively influenced by the direct or indirect contribution of the IT sector to various parameters such as employment, the standard of living, per-capita income etc.

The IT industry in India has two major components: IT and ITeS. This includes hardware peripherals, networking, training, and domestic and export market for IT services and software; and ITeS-BPO (IT-enabled Services-Business Process Outsourcing).

The growth in the service sector in India has been led by the IT–ITeS sector, contributing substantially to the increase in gross domestic product (GDP), employment, and exports.

### **(a)Role of IT – ITeS Sector in India**

The Indian IT Industry is one of the highest profiles and widely tracked industries of the economy. The industry has grown at a scorching pace over the past few years, showcasing Indian technical and managerial talent to the world. It has been instrumental in giving India some serious economic leverage in today's highly globalized world. With its low cost and high skills base, India has been the destination of choice for global corporations looking to cut costs and become more competitive through creating a sustainable competitive advantage by the strategic deployment of technology in their respective organizations, which is in sync with their overall business objectives. In this regard, the top-rung companies are making

sincere efforts to start providing better services to their clients and delivering more 'returns per IT rupee/dollar of investment' to them. Taking Infosys just as an example, a close look at its annual report reveals that an increasing proportion of its revenues are being earned from providing 'high-end' services like package implementation, systems integration and IT consulting. Services like IT consulting are where the industry needs to aim at, not only to grow in scale and size but also because of the fact that competition at the higher end of the value chain is lower, since the entry barriers are high, owing to the fact that these services require a high level of skills to provide. It is due to this reason that many organizations testify that their employees are their most valuable resource. This is especially relevant in the service industry.

The Indian IT Industry has made a marked shift by offering services in IT consulting, system integration, remote infrastructure management, network consulting, KPO (Knowledge Process Outsourcing) and integration processing services. The IT R & D services currently account for more than 15 per cent of the total IT exports. India's strengths have been its enormous growth potential, increasing outsourcing trend, large talent pool availability, high-quality educational infrastructure, low operating costs, R & D advantages, and the government initiatives. Around 175 of the Fortune 500 companies have R & D operations in India. A vast network of state-owned national research laboratories provides world-class support.

### **(b)HR Challenges in the Indian IT Industry**

IT industry is considered to be a knowledge-based industry, and a high intellectual capital lends a competitive advantage to a firm. Intellectual capital comprises of human capital and intellectual assets, the latter being any created bit of knowledge or expertise.

The unique characteristics of IT industry pose many HR challenges for this industry. With a global explosion in market-opportunities in the IT sector, the shortage of manpower both in numbers and skills is a prime challenge for HR professionals. The related issues are varied indeed: recruitment of world-class workforce and their retention, compensation and career planning, technological obsolescence and employee turnover. This section presents some of the significant HR challenges posed by the IT sector.

**(1) Recruitment:** The Indian software industry suffers from a shortage of experienced personnel for critical positions such as systems analysts, project managers and many more, and attracting them is a crucial challenge. Software companies are striving to understand which organizational, job, and reward factors contribute to attracting the best talent. The HR professionals handling the recruitment function of the organization are continually facing new challenges like

putting in place systems that assemble a talent pool with the right blend of technical and person-bound skills that fit the specified job.

Therefore, in a pressure to recruit a large number of people that the organization requires, the HR department may land up making 'false promises' that lead later into employee dissatisfaction. Problems often result from mismatched expectations created at this early point in an individual's relationship with the company. They can induct 'right' people in the company whose career aspirations are in tune with the company's work and reward systems.

**(2) Workforce retention and motivation:** Retention and motivation of personnel are major HR concerns today. It has been observed that the average tenure for an IT professional is less than three years. Further, the use of new technologies, the support of learning and training, and a challenging environment ranked higher than competitive pay structures as effective retention practices. Attrition has always been a sensitive topic for IT firms. Despite offering high salaries across all business segments, the industry has been plagued with attrition across the board, particularly in the past few years. In fact, this has brought about a reality check among a number of Indian companies with the discovery that it is increasingly harder for them to hire and retain the employees they need, to meet the booming demand in business.

Organizations, the world over have now acknowledged the fact that HR is their most strategic and critical resource. And no other industry has felt the heat on this count more than IT and ITeS industry, which are almost entirely comprised of knowledge workers. Apart from causing the company a monetary loss and breaks in their day-to-day operations, attrition contributes to knowledge transfer, which is a loss that is horrific and adversely affects business. In the war for talent, the company suffers and requires a focused strategy to keep workers on the job.

**(3) Coping with the demand-supply gap:** Shortage of IT professionals are global in nature and not peculiar to the Indian software industry alone. Consequently, recruitment managers are exploring new sources of IT manpower from non-IT professional sectors, as well as fresh, trainable science graduates. In the last few years, it has been seen that the significant gap between demand (driven by IT industry) and supply (driven by academic institutions) is getting increased and further to this, not all graduates are employable as per industry requirement.

**(4) Compensation and reward:** Increasing demands of technology coupled with a short supply of professionals (with the requisite expertise) has increased the costs of delivering the technology. This makes the incentive compensation a significant feature, with the result that software companies have moved from conventional pay-for-time methods to a combination of pay-for-knowledge and pay-for-performance plans. With the determinants of pay being profit, performance and value-addition, the emphasis is now on profit sharing (employee stock option plans) or performance-based pay, keeping in view the long-term organizational objectives

rather than short-term production-based bonuses. Skills, competencies, and commitment supersede loyalty, hard work and length of service. This pressurizes HR teams to devise optimized compensation packages, although compensation is not the motivator in this industry.

**(5) Integrating HR strategy with business strategy:** The strategic HR role focuses on aligning HR practices with business strategy. The HR professional is expected to be a strategic partner contributing to the success of business plans, which, to a great extent, depend on HR policies pertaining to recruitment, retention, motivation, and reward.

**(6) Up-gradation of skills through retraining:** New behavioural approaches are required in creating better competencies and sustaining those competencies. There is a constant need to upgrade the skills of candidates through training and re-training. Rapid and unpredictable technological changes and the increased emphasis on quality of services are compelling software businesses to recruit adaptable and competent employees. Software professionals themselves expect their employers to provide them with all the training they may need in order to perform not only in their current projects but also in related ones that they may subsequently hold within the organization. As observed by Watts Humphrey, Fellow of the Carnegie Mellon University, “as software professionals gain competence, they do not necessarily gain motivation. This is because a creative engineer or scientist who has learned how to accomplish something has little interest in doing it again. Once they have satisfied their curiosity, they may abruptly lose interest and seek an immediate change”.

### **Statement of Problem**

Kothari in 2004 has stated that a research problem is some sort difficulty that a researcher possesses in order to obtain a solution. Sales competencies and competency mapping has been discussed by the top management for the substantial period of time. But the organizational effectiveness with that of competency mapping will help the organization to identify and evaluate where they and the candidate stand in the term of competency levels which will fulfill the requirements of the organization.

In this current study the researcher will try to make an effort to evaluate the relationship between the organization effectiveness and the competency mapping. In order to summarize the problem of the study may be stated as ‘the influence of competency mapping on the organizational effectiveness with reference to IT industry in the Chennai region’.

### **Significance of the Study**

Reviewing previous studies related to IT industry, this study mostly examines the general environment and the traits of the employees. However, it barely examined more in-depth information regarding the roles and tasks of IT employees, their competencies and its impact on the organization effectiveness. Even the organizational effectiveness is studied in this study based on the individual skillset of the employees and this study has been carried out via survey method in the Chennai region. The respondents were selected from the IT companies located in the Chennai region. The research subjects contained three different positions of IT Companies which preset complete and overall viewpoint regarding research purposes.

Besides, in order to study the effectiveness of the organization most of the IT companies lack the concept of competencies (the definition and difference of knowledge, skills and personality attributes), competency profiling, and competency implementation.

The insightful information from this study, provides a clear information on the four dimension of the research area viz roles and tasks, competencies required, most essential competencies which has a substantial impact of the organizational effectiveness in the IT companies in the Chennai region.

The current study highlights the business practitioners and the HR managers to assess and provide training and platform for the enhancing the skill set of the employees in the IT industry.

### **Scope of the Study**

The overall intention in carrying out this research work is to evaluate the competency levels of the IT employees, competency mapping and its influence of the same in the organizational effectiveness. This study focuses the IT employees within Chennai region. By this study there is an attempt to evaluate the significant competencies required for the IT employees which would result in the effectiveness of an organization. Competency mapping is done in understanding the gap between the expected versus the actual competencies possessed by the employee with that of the organization's requirement

### **Objectives of the Study**

1. To measure the current level of competencies among the IT industry employees.
2. To identify the level of organizational effectiveness of IT industry
3. To determine the impact of competencies on the level of organizational effectiveness.

4. To find out the IT employees most possessed and least possessed competencies.

### **Literature Review on Competency Mapping**

**John Flanagan (1954)**, carried out the research in the US Air Force to assess the performance and concluded that success and failure of the job is assigned to a number of significant instances like the procedures, determination of critical requirements, job demonstration, etc., This outlined the critical incident technique and this technique is defined as a set of process and procedures that were used to systematically identify the behaviour of success or failures of organizations or individuals. Though his work was not related to competencies but laid the foundation for the new approach for examining the way the people do the work. In later stages this technique evolved to include behavioural parameters to distinguish between successful and exemplary performers. This technique later inspired David McClelland in order to discover and develop competency models. Benjamin Bloom of US in his mid-fifties laid the research foundation for classifying the educational objectives for KSA which was very helpful in defining cognitive domain in the education objectives. He further explained that a competency is a capability of applying skills, knowledge, abilities and behaviors to successfully perform the assigned tasks or functions. Personal characteristics namely mental, social and physical would result to perform the job more effectively.

**David McClelland (1970)**, carried out a study on competence and showed the implication of superior performance in professional, technical, manufacturing and other endeavors by development of the competence levels of the employees who were employed in the respective domain.

**McClelland (1973)**, in his study founded that intelligence and traditional achievement didn't result in the job success of a particular profile. This has been concluded by adopting various tests. Even traditional intelligence tests, scholastic grades failed to improve the job performance and increase the competency level of the employees. He concluded that certain level of competency tests should be performed to assess and measure the effectiveness of the job given with that of the profile of the employee.

**Deb (2006), Hogg B (1989)** described in their studies that skills and abilities are the competencies possessed by the manager who helps to bring out the effective result from the subordinates in the occupational area. It also portrayed the capability of the abilities and transfer skill of an individual within the organization.

**Klemp (1980)**, in his study explained that skills, knowledge and understanding, values, beliefs and attitudes of an individual person results in the effective or superior performance of that person. He also concluded that various studies have various approaches towards addressing competency evaluation.



**Bovatzis (1982)**, explained in his study that competencies were reflective variables on the performance and this result was also supported by Albanese in 1989. Apart from that Verma in 2008, founded that, the competencies in education results are a result of creating an environment fostering empowerment and accountability.

**Bovatzis (1982)**, in his study described that competencies were individual characteristics that defines the effective performance of the job. He identified 19 generic level competencies that the outstanding managers have in order excelled in their jobs. These 19 management competencies were classified under five distinct clusters like leadership, HR management, goal and action management and directing subordinates and focus on others as the clusters. In addition to that a HR manager has to upgrade the functions like process, systems, skills practices and internal training in order to produce effective output. He also portrayed that upgrading the HR functions was of paramount importance by constantly formulating and implementing the new structure, systems, policies and practices. This is dynamically improving the knowledge of the business environment and other functional challenges that were faced the employees.

**Spencer and Spencer (1993)**, in their study founded the characteristics of five types of competencies namely traits, motives, self-concept, skills and knowledge. Motives were mostly dealt with psychological features of an individual which result in stimulate action. Motives also drive behaviour an individual towards a particular action or goals. Responses to situations based on traits were scheduled towards physical characteristics. Attitudes, self-image and values were considered a self-concept trait and information is considered to knowledge concept whereas the ability to perform was of physical or mental task. Skill and knowledge competencies were explicitly visible whereas self-concept, traits and movie competencies were hidden deeper in the personality of the individual. Developing of knowledge and skill competencies is comparatively easy and training of these competencies can be adopted in a cost-effective way to secure employee abilities.

**Gilbert (1996)**, in his research explained that competence is the ability to produce consistent results which an organization expects from an individual. This contribution will eventually result in the effective achievement of the larger organizational goals possessed by the organization.

**Rainbury, Hodges, Burchell and Lay (2002)**, in their research work suggested that there was insufficient importance given by may higher education institutions towards the development of the soft skills which renders the employability of the students.

**Bath et. al., (2004)**, argued in this research that competencies should be integrated and contextualized in the curriculum rather than being taught as a subject.

**Rice (2006)**, in his study of leadership development among healthcare industry portrayed competency-based leadership development not only drifts but



has a clear focus on the career aspirations. He also insisted that a clear and disciplined approach towards career growth would result in the organization performance. Innovative strategies should also be developed in career planning towards health care leaders.

**Deb (2006)**, stated in his research that HR manager should not only assist all other functional areas to upgrade their skills, process, practices and systems but also provide internal and external training and towards for their upgradation. The HR functionaries should formulate and implement structures, systems, policies and practices in order to upgrade the competency levels of employees at all point of time. This will help them face the business environment and other functional challenges in a positive way.

**Bovatzis (2007)**, in his study adopted and used the term competency as an effective and superior performance indicator for the success of the job. In his study he suggested 19 generic competencies that each successful manager possessed. The 19 generic management competencies were divided into five distinct clusters as goal and action management, human resource management, leadership, directing subordinates and also the focus on others.

**Lucian Cernusca and Cristina Dima (2007)** in their studies developed some models of competency mapping and appraisal tools for performance management. In spite of having extremely vibrant human resources the job will not be accomplished if the position of job didn't suit them. There are tools for appraisal and competency mapping to choose the position of the work and this was highlighted by **Hind et al. (2007)** that employability skills should be embedded in the curriculum of students at all levels.

**Kodwani and Amitabh Deo (2009)**, explained in their study that performance is the vital requirement in the today's business set up. This can be fulfilled by hiring the retaining the right employees to accomplish a task. Skills and abilities are the competencies that were required by the employees for a superior performance. In current setup most of the business organizations are without proper competency mapping model.

**Smita Nigam, Poonam Pandey, Dhruv Kumar Pandey (2009)** in their research explained the employee competency mapping is one of the most innovative practices followed by successful organizations. Assessing of human capital value to that of requirement is called competency mapping. Apart from that the needs of the employees should be taken care of. Monitoring the competence of the employees are considered to be key ingredient adopted by most organization in the current scenario.

**Yuvaraj R (2011)**, carried out research by stated that competency mapping is the procedure for evaluating the key competencies of any organizations. It is also considered as one of most important and vital activity. List of competencies required

should be well defined even by good performing companies. It helps to evaluate the individual's strength and weakness and provides a better understanding for them towards the career advancement.

**Sawant and Avinash Dhavan (2012)**, in their research article articulated that competency mapping is a procedure adopted by HR department in order to identify and evaluate a particular person toward his aptitude and temperament. It was also considered as a framework of skills, knowledge and characteristics needed to perform any given profile effectively and also helps in identifying the required education, training and experience towards the effective completion of the jobs assigned. This breeds the clarity amongst HR profession in an organization.

**Jayachandran Nair (2012)**, explained in his article that competency mapping could be called as talent management strategy which would specializes in effective recruitment, training, development, succession planning and development of organization. The result portrayed that there was an alignment of the employee competencies with the job description and effective work.

**Cellia B R and Karthick M (2012)**, made an attempt in their research that competency as a variable consists of knowledge, behaviour and skill of an individual and the group and the demonstration of the task or job responsibility. They are considered to be the foundation for any sort of performance. It included the core values of all the staff members which help the managerial people to effectively delegate work to the functional or technical people of different functional areas. In nut shell it an ability of an individual to accomplish a work.

**Gaspar (2012)**, founded in his research that competency-based recruitment would result in a healthy and comprehensive work culture. Candidates should be evaluated based on the competencies they should exhibit in the organization and the necessary training and development should be provided to the deserved employees to perform better with the help of HR professionals.

**Sreedevi S V (2013)**, highlighted the employees' competency attributes, interdepartmental competencies and the suggestions towards the advance of the skill and competency level. The major idea to conduct this research was to identify the existing competency level of the employees.

**Jaideep Kaur & Vikas Kumar (2013)**, in their research highlighted the importance of identifying the process of key competencies for a particular company or institution. Competency depends on many factors like socio culture, nature of business, structure organizational culture, work environment, duties and responsibilities. Few of these factors has changed over time and making competency requirements the same across organization.

**Gilbert (1996)**, in his research explained that competence is the ability to produce consistent results which an organization expects from an individual. This

contribution will eventually result in the effective achievement of the larger organizational goals possessed by the organization.

**Petro Skill Alliance (2001)**, this highlighted the competency-based training through specific competency maps which are considered the industry benchmark. in their research explained the employee competency mapping is one of the most innovative practices followed by successful organizations. Assessing of human capital value to that of requirement is called competency mapping. Apart from that the needs of the employees should be taken care of. Monitoring the competence of the employees are considered to be key ingredient adopted by most organization in the current scenario.

**North American Life (1995)**, this research developed a competency model. Competency mapping is a new buzz word in the HR domain and it is not complicated as it appears. He further explained that for any successful activity there is a substantial requirement of skill or competence. In the latest students various researchers emphasized the necessity of various competencies to satisfy the business needs in a given environment. He also argued of redesigning the organizational competencies to organization success.

### **Confirmatory Factor Analysis for Competency and Organizational Effectiveness**

Confirmatory Factor Analysis was performed for Competency, using Analysis of Moment Structure (AMOS 21) to verify the factor structure of the variables.

Confirmatory Factor Analysis was used for determining the validity of the instrument for above-mentioned parameters. Several Indicators are used to measure the fitness of the model viz., Chi-Square, GFI, AGFI, NFI, CFI, RMR and RMSEA. The results of the CFA are presented below.

#### **Confirmatory Factor Analysis for Competency**

<b>Indices</b>	<b>Competency</b>	<b>Suggested Value</b>
Chi-Square value	4.53	-
P value	0.080	>0.05 (Hair et al., 1998)
The goodness of Fit Index (GFI)	0.917	>0.90 (Hu and Bentler, 1999)
Adjusted Goodness of Fit Index (AGFI)	0.911	>0.90 (Hair et al. 2006)
Normed Fit Index (NFI)	0.954	> 0.90 (Daire et al., 2008)
Comparative Fit Index (CFI)	0.988	≥ 0.90 (Hu and Bentler, 1999)

Root Mean Square Residual (RMR)	0.028	< 0.08 (Hair et al. 2006)
Root Mean Square Error of Approximation (RMSEA)	0.025	< 0.08 (Hair et al. 2006)

From the above table, it is found that the calculated P-value for Competency is 0.080, which greater than 0.05 (Hair et al., 1998) which indicates the model is perfectly fit. The Goodness of Fit Index (GFI) value and Adjusted Goodness of Fit Index (AGFI) value are 0.917 (>0.90 (Hu and Bentler, 1999)) and 0.911 (>0.90 (Hair et al. 2006)) respectively which represent the model is a good fit. The calculated NormedFit Index (NFI) and Comparative Fit Index (CFI) are 0.954 (> 0.90 (Daire et al., 2008)) and 0.988

(>0.90 (Hu and Bentler, 1999)) correspondingly, the model is fit. It is found that Root Mean Square Residual (RMR) and Root Mean Square Error of Approximation (RMSEA) value are 0.028 and 0.025 which indicates it is perfectly fit (< 0.08 (Hair et al. 2006)).

#### **Confirmatory Factor Analysis for Organizational Effectiveness**

<b>Indices</b>	<b>Organizational Effectiveness</b>	<b>Suggested Value</b>
Chi-Square value	3.521	-
P value	0.086	>0.05 (Hair et al., 1998)
The goodness of Fit Index (GFI)	0.911	>0.90 (Hu and Bentler, 1999)
Adjusted Goodness of Fit Index (AGFI)	0.902	>0.90 (Hair et al. 2006)
Normed Fit Index (NFI)	0.955	> 0.90 (Daire et al., 2008)
Comparative Fit Index (CFI)	0.989	≥ 0.90 (Hu and Bentler, 1999)
Root Mean Square Residual (RMR)	0.011	< 0.08 (Hair et al. 2006)
Root Mean Square Error of Approximation (RMSEA)	0.027	< 0.08 (Hair et al. 2006)

From the above table, it is found that the calculated P-value for organizational effectiveness is 0.086, which greater than 0.05 (Hair et al., 1998), which indicates the model is perfectly fit. The Goodness of Fit Index (GFI) value and Adjusted Goodness of Fit Index (AGFI) value are 0.911 (>0.90 (Hu and Bentler, 1999)) and 0.902 (>0.90 (Hair et al. 2006)) respectively which represent the model is a good fit.

The calculated Normed Fit Index (NFI) and Comparative Fit Index (CFI) are 0.955 ( $> 0.90$  (Daire et al., 2008)) and 0.989 ( $> 0.90$  (Hu and Bentler, 1999)) correspondingly, the model is fit. It is found that Root Mean Square Residual (RMR) and Root Mean Square Error of Approximation (RMSEA) value are 0.011 and 0.027 which indicates it is perfectly fit ( $< 0.08$  (Hair et al. 2006)).

### **Reliability Score for Competency and Organizational Effectiveness**

The reliability of an instrument refers to the degree of consistency between multiple measurements of variables. Reliability was estimated through an internal consistency method which is applied to measure the consistency among the variables in a summated scale. The Reliability test was tested by applying Cronbach's alpha using SPSS 21.0, which confirms the reliability of the instrument. Cronbach's Alpha values were presented below.

The reliability of each construct in question is examined using Cronbach's alpha (Cronbach, 1951). It measures the interrelatedness of a set of items, the alpha scores, which greater than 0.7 is generally accepted as sufficient accuracy for a construct (Nunnally, 1978). The composite reliability for internal consistency of the constructs was tested and was above 0.7. The value of Cronbach's Alpha for the whole items was found and represented in the below table, which means that the instrument has a high level of consistency. The Cronbach values were tabulated along with confirmatory factor analysis in table 3.3.

### **Reliability Score for Competency and Organizational Effectiveness**

S.No	Construct	Dimension	Cronbach's Alpha
1	Competency	Communication skill	0.932
		Presentation Skill	0.944
		Technical Skill	0.912
		Personal skill	0.928
		Commercial Awareness	0.963
		Team player	0.949
		Client servicing	0.954
		Passion	0.945
		Regular touch	0.956
		Inter personal	0.953
		Time management	0.959
2	Organizational effectiveness	Commitment	0.963
		Organizational attachment	0.967
		Job Involvement	0.971
		Self-control	0.975
		Legitimization	0.945
		Organizational commitment	0.956

		Innovation	0.953
		Independence	0.959
		OE satisfaction	0.978
		Job satisfaction	0.988

**Source: Primary Data**

### **Concept of P Value**

- Given the observed data set, the P-value is the smallest level for which the null hypothesis is rejected (and the alternative is accepted)
- If the P-value  $\leq \alpha$  then reject  $H_0$ ; Otherwise accept  $H_0$
- If the P-value  $\leq 0.01$  then reject  $H_0$  at 1% level of significance
- If the P-value lies between 0.01 to 0.05 (i.e.  $0.01 < \text{P value} \leq 0.05$ ) then reject  $H_0$  at 5% level of significance
- If the P-value  $> 0.05$  then accept  $H_0$  at 5% level of significance
- To fit the data to the nearest distribution which represents the data more meaningfully for future analysis, such fitting of data to the nearest distribution is done using the goodness of fit test

### **Conclusion**

A research analysis requires a good research design to arrive at the desired results. Since the survey method needs a good sampling technique together with proper selection of sampling area and sample size to effectively study the population, appropriate steps were taken to ensure that a proper research design is drawn with statistically reliable sampling with the tested questionnaire. The requisite variables were chosen for study, relevant hypotheses were set, and specific statistical tools were applied for arriving at inferences on the data.

### **Limitations of the Study**

The study is a sample-based study and the inferences derived from the analysis and interpretations are expected to be representative of the total population. However, the study is subject to the following limitations:

1. The area of the study is limited to the city of Chennai, State of Tamil Nadu, India. Hence the sample may have the limitations pertaining to the area, tradition, custom and culture of the people in that place.
2. The respondents belong to the IT companies taken for study. Hence the data may represent only to the general to the IT sector, not to the specific company.

3. The survey was conducted during the period of 2016-18, in which the inference also based on the period only not able to implement in the future IT environment.
4. The sample size of this study and area is also limited. Hence, the result may bias when it is implemented in a huge population and also other than Chennai

### **Suggestions**

- Organisations have challenges to identify Right Person to the Right Job.
- In the IT Industry employees, Technology skills are not tracked impeccably.
- In the current competitive and globalized market, building and maintaining a deployable workforce is a challenge.
- Associates are required to multi-skill their technical knowledge constantly to survive in the industry.
- Training programs to Reskill in the New technology will help the associates to retain in the Organisation.
- Internal competency Mobilisation will motive the associates for a longer duration
- Identifying personal behaviour competence
- There is a lack of well-established systems for mapping the competency
- Artificial intelligence can help to plan the associates based on their skill, demand and supply.
- Companies have to set the expectations based on their qualification, Technical and behavioural skills after joining the organisation.
- This should be monitored and reviewed during the appraisal cycles. Supervisors should provide feedback on regular intervals instead of waiting for an annual appraisal meeting. Address employee's incompetency of doing a job and provide necessary training programs to be enhanced.
- Employees must be given a chance to improve their performances based on their incompetent areas. The same can be reviewed on monthly and quarterly.
- Engage employees in Certification programs to enhance their Knowledge and Organisation need. (Eg Functional Testers can be multiskilled to the latest technology of selenium and Selenium Testers to Protractor).
- Each and every associate should update their technical knowledge to achieve organizational growth.
- Engagement programs like rewards & recognition, Training, Certification programs, Promotions will keep an employee motivated and keep them retained with the organisation for a more extended period.
- If an employee retained with good competency, he/she will be considered as an asset to the organisation.

- They will be brand ambassadors to attract new talents in the market through a buddy referral program. Here both the employee and employer are benefited.
- Quarterly appraisal cycle to be implemented for Young Talents, this enables them to retain their competency's.
- Computers can be there, Machines can be there, Buildings can be there, but without PEOPLE nothing is there. PEOPLE are the only assets in the IT Industry.

## **II.CONCLUSION**

Development in the computer field is increasing day by day. Whatever may be the core area like automobile sector, electronics or communication engineering, computer knowledge in the core area will enhance their career for a long period, and it will help them to sustain in the field. Success alone is not enough to continue in the field continuous development also consider as an essential factor. Competency mapping has become inevitable in all the area in this 21<sup>st</sup> century. An update is must; otherwise, we will be outdated from the industry; otherwise, we will not be in the race at all. Hence, this study has given insight to the freshers as well as the mid-level employees how they have to be in the mapping part. At the same time, the survey is highlighting the necessity of creating the right environment from the employer side for smooth development.

The researcher has given a clear road map for the employee as well as an employer how to move to their next level. It will be useful for both the side to do self-analysis to know their status and equip themselves, in order to make the organization to achieve its objectives. Apart from that the organisations is not considered to be machinery and building alone. It is based on the employee's welfare, which leads to the success of the organisation. Hence this kind of research will help them to be on a road of success.

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