A STUDY ON THE COMPETENCY MAPPING IN SOFTWARE INDUSTRY WITH SPECIAL REFERENCE TO COIMBATORE CITY

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ABSTRACT :
Employees who belong to software industry, they need some basic competencies to sustain in the organization. In software industry, employees roles and responsibilities are different according to the functional area such as marketing, human resource, finance, production, research and development, purchasing. In each department the employee's competencies is different. Here the competency mapping plays a vital role. Competency of employees helps to achieve the organizational goal. Competency mapping is excessively used in the organization to determine the critical elements and activities. The basic reasons due to which the mapping of the competencies is done are as follows:

- Once the competencies are determined, proper training can be provide to the individuals to work more efficiently on the processes.
- Individuals get a broader perspective of how they are perceive by others than previously possible.
- Through competency mapping, the individual can prepare himself for the next set of responsibilities.
- With the help of the competency mapping the individual can alter the style of work and fill in the gaps in their performance.

Keywords: software industry, Employees, competency mapping, organizational goal, etc

INTRODUCTION:
The software industries are the main focus of the study, where all the research units taken into consideration belong to the top most software companies based in India. With respect to India, software sectors play a pivotal role as the chief wealth generating and growing sector in the economic system. Various technological mechanisms are widely employed by these industries for product development operation management. A huge share of the labor force and software materials is required by this sector, which generates both positive and negative externalities with huge social costs. Since, software industries have such a huge impact on the national workforce and the economy as a whole, therefore it was considered to be an appropriate sector for conducting this study.

COMPETENCY MAPPING:
A competency is defined as a behavior (i.e. communication, leadership) rather than a skill or ability. Competencies are recommended, deployed in organizations for varied reasons : as a means to provide organizational focus; as building-blocks for HR systems (viz. Recruitment and Selection, Training & Development, Compensation & Benefits, Performance Management Systems etc.) and also as a method for certifying accomplishment of desired job skills. Competencies are not a tool to be used for

evaluating people for layoffs. Competencies are only a way of talking about what helps people get results in their jobs. What matters is performance being effective and meeting job expectations.

Some examples of competencies required by the employees are: -
- daptability
- Commitment
- Creativity
- Motivation
- Leadership
- Independence
- Emotional Stability
- Analytical Reasoning and
- Communication Skills

NEED FOR COMPETENCY MAPPING:

An ever changing and highly dynamic environment impacted upon by forces such as liberalization, world-wide competition marked by new entrants, fast changing technologies, new models of business and converging industries, thrust on operational efficiency and effectiveness ably supported by technological advancements, increased sensitivity to stakeholders and a trend towards rights-based entitlements - created an impetus to the organizations to reform and adopt new practices to manage their humanresources.

In addition to this, it has been widely acknowledged by experts and industry captains that an Organization aspiring for success in such complex times needs to be better oriented towards the needs of the customers and requires highly efficient systems and procedures to assure the fit between the competencies of its workforce and the achievements of its overarching organizational objectives as well as tasks at hand.

The past two decades thus witnessed development of various competency models and competency-based Human Resource Management (HRM) frameworks which have now culminated in the form of these processes becoming a much needed practice in Corporates and Public Sector Organizations alike. The reasons for need ofCompetency based approach are not far to seek.

Environmental Dynamics: There are three distinct drivers driving the need / demand for

CM in India today:

Metamorphosis of the IT, telecom and BPO sectors in the last decade or so, leading companies within to evolve into Consultancies, Corporate Services providers and Knowledge Processors Explosion in the scope, size and number of Indian foot-prints of global enterprises Formalization and rapid expansion in retail financial services, retail banking and insurance sectors due to aggressive penetration by private players as well as overhaul and professionalization of public sector players players

METHODS OF COMPETENCY MAPPING:

Job Analysis
Interview
Develop Competency Based Job Description (JD)
Mapping the Competencies

OBJECTIVE:

- To identify the competency level of employees.
- To design the competency mapping of employees under each departments.
- To identify and describe the factors which are critical functioning of a particular job work so that a match can be established between the skills required to perform a job and actual talent of job holder.

STATEMENT OF THE PROBLEM :

In the power backup sector the higher cadre employees (managerial, supervisory and administration categories), needs and job roles becoming a challenge day by day. With their profile to manage their subordinates / employees and to improve the efficiency levels they have to focus on leadership development and succession planning to achieve the productivity to maintain the required competence levels. Therefore, it is absolutely essential for the organizations to adapt to the situation and these employees' role and responsibility also taken for a task. It is essential to obtain information about the awareness level of competency that is in practice and the communication about competency.

REVIEW OFLITERATURE:

Thamaraiselvi, visagamoorthi, sridevi, 2018 conducted a study on competency mapping in manufacturing MSME sector in Tamil Nadu. the researcher tries to find out the competency mapping in Tamil Nadu based manufacturing industry, India. It is a descriptive type of research, simple random sampling was adopted, and self-prepared, structured questionnaire with the five point scale was used to collect the primary data. The finding is the socio demographic factors and the overall competency of the employee has the influence.

Jeevarekha and hariharan(2018) titled "Competency mapping in banking sector" it states the concept of competency mapping and the process of competency mapping. As a result the HR professionals as a tool for improvement in recruitment and selection, performance management, training and development, succession planning, organizational development analysis, etc.

Sandhya and sundari dadhabai, 2017 conducted a study on employees' competency mapping. The purpose of the study is used to find the level of competency among employees. The researcher used the questionnaire to collect information. The questionnaire contain demographic and competency factor questions. It is used find analysis using tools.

RESEARCH METHODOLOGY:

RESEARCH DESIGN

Research design is a set of procedures that guide the gathering of research data. A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with the economy in procedure. Research design differs depending on the research purpose.

DESCRIPTIVE RESEARCH DESIGN:

It is used to describe characteristics of a population or phenomenon being studied. To identify the patterns or trends in a situation.

SOURCE OF DATA COLLECTION:
Source of data is the primary location from where data comes. The data source can be a database, a data set. The date collection are both,

- **Primary data**
- **Secondary data**

TYPE OF RESEARCH:
The type of research used in the study is descriptive which includes surveys, fact findings, and enquiries of different kinds. The major purpose of the descriptive research is description.

SAMPLING PROCEDURE:
Non-probability sampling method involves a deliberate selection of particular units of the universe for constituting a sample which request the universe. Non probability sampling is any procedure in which elements will not have the equal opportunities of being included in a sample.

SAMPLE SIZE:
The sample size of 120 is considered for the current study. The study data is based on primary data. The data is collected through questionnaire method.

DATA ANALYSIS AND INTERPRETATION:
The term analysis refers to the computation of certain measures along with searching for patterns or relationships that exist among data groups. After collection of data, the data has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. Interpretation refers to the task drawing Interpretations from the collected facts after an analytical and or experimental meaning of research findings.

Age is a demographic factor that shows the number of employees working in each specific age group. Age indicates the level of maturity in each individual.

Age of the respondents	Number of Respondents	Percentage
Less than 30 years	44	37
31 - 40 years	45	38
41-50 years	20	17
51-60 years	11	9
Total	**120**	**100**

It is inferred that 38% of the respondents are coming under the age group between 31-40 years, 37% of the respondents are coming under the age group less than 30 years, 17% of the respondents are coming under the age group between 41-50 years and 9% of the respondents are coming under the age group between 51-60 years

Gender role attributes are important around the world. It determines the cultural values, norms and belief at all levels. It also includes equal participation.

Gender of the responders	Number of respondents	Percentage
Male	45	38

Female	75	62
Total	**120**	**100**

It is inferred that 62% of the respondents are female and 38% of the respondents are male.
Education qualification is a demographic factor that shows the number of employees working in each specific education qualification such as HSC, graduate, post graduate, others . it indicates the level of knowledge in each individual.

Educational qualification	Number of Respondents	Percentage
Diploma	7	6
Graduate	54	45
Post graduate	29	24
Others	30	25
Total	**120**	**100**

It is inferred that, 45% of the respondents educational qualification is graduate, 25% of the respondents educational qualification is others, 24% of the respondents educational qualification is post graduate and 6% of the respondentseducational qualification is diploma.

EXPERIENCE:
Experience in the organization provides them many tactics used in the organization and it provides them to stay in the organization forever.

Experience	Number of Respondents	Percentage
Less than 5 years	50	42
5 years to 10 years	60	50
10 years to 15 years	10	8
Total	**120**	**100**

It is inferred that 50% of the respondents have experience between 5-10 years, 42 % of the respondents have experience less than 5 years and 8% of the respondents have experience between 10-15 years.

MEAN SCORE VALUE ANALYSIS:
Mean score analysis is used to find the average value for each factor. In thisstudy it helps identify the level of employee's competencies.

ADAPTABILITY:
This factor measures the Adaptability of the Competency mapping of employees in terms like following instruction, best job possible, attendance and punctuality guidelines.
It shows the ability to adjust one's behavior to suit changing situations. personal eagerness for adapting to change to achieve desired results. Actively participates in contributing to change by making changes in his behaviour and plans.

Factor	Strongly	agree	Neutral	Disagree	Strongly	Mean

	agree				disagree	score
Follows instructions, responds to management direction.	**33**	**41**	**21**	**13**	**12**	**3.5**
Commits to doing best job possible.	5	51	34	18	12	3.1
Meets attendance and punctuality guidelines.	28	25	25	14	28	3.3
Average Mean Score Value = 3.3						

It is concluded that the Employee follows the management instruction to develop their competency. Adaptability is meant to be adjusting to the situation and changes. It is important for an employee to adaptable to the situation which helps to work consciously. Following the instruction built for the employee. Attendance and punctuality takes place under adaptability. The average mean score value of employee'sadaptability is 3.3

COMMUNICATION:
This factor measures the Communication of employees in terms like listening to others view, sharing ideas, developing reports.
Presents information in a clear and concise manner. Listens actively and objectively. A two-way communication through open and constructive discussions. eliminates misunderstandings between employees. Takes others perspectives into consideration, is open to other ideas and gives them due respect.

Factor	Strongly agree	Agree	Neutral	disagree	Strongly disagree	Mean score
listen to others views with patience	35	44	13	21	7	3.6
express the idea with clarity andprecision	**51**	**36**	**14**	**10**	9	**3.9**
good in developing reports	30	20	27	15	20	3
Average Mean Score Value = 3.5						

The table projected that the employees express their idea with clarity and precision inside the organization. Communication used to share information from one person to another. In an organization good and clear communication is mandatory. Listening to others point of view and responding them in a kind manner.
Employee need an essential skill that is expressing ideas with clear and clarity. Q2 Apple company employee's average mean score of communication is 3.5.

INITIATIVE:
This factor measures employee's initiatives in terms like using opportunities, asking helps. Action is taken when there is an apparent need for doing so. Action is taken as required despite personal inconvenience. Action is taken to overcome obstacles and alerts others to impending problems.

Volunteers to perform challenging or undesirabletasks. Eager and willing to "go the extra mile" in terms of time and effort. Follows through from beginning to end.

Factor	Strongly agree	Agree	Neutral	disagree	Strongly disagree	Mean score
Volunteers readily.	27	29	49	6	9	3.4
Looks for and takes advantages of opportunities	**44**	**43**	**19**	**10**	**4**	**3.9**
Asks for help when needed	27	44	11	18	20	3.3
Average Mean Score Value = 3.5						

It shows that the employees use the opportunities at a right time . Initiative whichis voluntarily involving into an opportunity or anything. And also using the advantages of opportunities. Asking help to others is also kind of initiative and it is able to identify the need and takes initiative only in the absence of resources. And the average mean score of employeesinitiative in Q2 apple company is 3.5.

PROBLEM SOLVING:
This factor measures the Problem solving of employees in terms like information gathering and analysing, group problem solving, problem solving in earlierstage.
Identifies and defines problem situations clearly. Identifies discrete action stepsand timing considerations. Makes sequential links between component steps within a task or problem. Prioritizes problems so that major issues are solved in a timely way.

Factor	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean score
Gathers and analyses information skilfully	**56**	**37**	**15**	**6**	**6**	**4**
Works well in group problemsolving situations	42	32	25	12	9	3.7
Resolves problems in early stages	19	34	38	17	12	3.2
Average Mean Score Value = 3.6						

It projects that the employees gather information and analyse it skilfully. problem solving is one of the important factor in competency mapping of employees. Every employee carries the skill called problem solving to gain profit to the organization. Any kind of information is to be gathered and analyse by the employees.Sometimes problem comes for the whole team, in that instance employee plays with group problem solving skill. Initial stage of problem solving is better. Its Average meanscore value is 3.6

Age Of The Respondents * Work In An Organized MannerTABLE

AGE OF THE RESPONDENTS	WORKS IN AN ORGANIZED MANNER					Total
	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	
LESS THAN 30YEARS	18	11	15	0	0	44
31 - 40 YEARS	8	6	6	9	16	45
41-50 YEARS	9	11	0	0	0	20
51-60 YEARS	7	4	0	0	0	11
Total	42	32	21	9	16	120

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	71.315(a)	12	.000
Likelihood Ratio	82.124	12	.000
Linear-by-Linear Association	3.713	1	.054
N of Valid Cases	120		

Since the Pearson Chi-square value is .000 which is less than the p value 0.05 at 12 degrees of freedom, we reject the Null hypothesis. Hence it shows there is a significant association between work experience and they can handle different task.

Here it seems that there is a significant relationship between age of an employees and work in an organized manner.

To find the significant difference between experience of the respondents and resolves problems in early stages

This analysis is based on experience of the respondent and resolves problems in early stage. Each employees have separate work experience. According to their experience they can solve problems in an organization. chi square test analysis is usedto analysis significance between experience of the employee and their skill to resolvesthe problem in early stages.

HYPOTHESIS :

Null hypothesis: There is no statistical significant difference between experience ofthe respondents and resolves problems in early stages

Alternate hypothesis: There is statistical significant difference between experience ofthe respondents and resolves problems in early stages

Experience Of The Respondents * Resolves Problems In Early Stages

EXPERIENCE OF THE RESPONDENTS	RESOLVES PROBLEMS IN EARLY STAGES					Total
	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	
LESS THAN 5YEARS	19	17	12	2	0	50
5 YEARS TO 10YEARS	0	17	17	15	11	60
10 YEARS TO 15YEARS	0	0	9	0	1	10
Total	19	34	38	17	12	120

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	61.086(a)	8	.000
Likelihood Ratio	73.150	8	.000
Linear-by-Linear Association	30.466	1	.000
N of Valid Cases	120		

Since the Pearson Chi-square value is .000 which is greater than the p value 0.05 at 4 degrees of freedom, we reject the Null Hypothesis. Hence we infer there is a significant association between work experience and they can handle different task.

Here there is a significant relationship between experience of an employee and resolve problems in early stage.

ANOVA :

Difference Competencies across departments

		Sum of Squares	Df	Mean Square	F	Sig.
Hard Work	Between Groups	.845	1	.845	.678	.0412*
	Within Groups	147.147	118	1.247		
	Total	147.992	119			
Problem solving	Between Groups	20.629	1	20.629	17.174	.000*

	Within Groups	185.564	118	1.573		
	Total	186.367	119			
Communication	Between Groups	12.85	1	12.85	9.961	.002 *
	Within Groups	166.898	118	1.414		
	Total	166.992	119			
initiative	Between Groups	117.157	1	11.716	3.021	.005 *
	Within Groups	422.709	118	3.878		
	Total	539.867	119			
	Between Groups	9.330	1	.848	1.994	0.043*
	Within Groups	16.592	118	.425		
	Total	25.922	119			

(*) represents the significance at 5% level. It is observed that department and Hard work, problem solving, communication, initiative, planning has <0.05 and the alternative hypothesis were accepted. So there is significant difference between the department and each factor.

Significant difference between department and productivity

Since the significance value is 0.0412 which is lesser than 0.05, it shows that the null hypothesis is rejected. And it conclude that there is Significant difference between department and productivity.

Significant difference between department and problem solvingSince the significance value is 0.00 which is lesser than 0.05, it shows that the null hypothesis is rejected. And it conclude that there is Significant difference between department and initiative

Significant difference between department and communicationSince the significance value is 0.002 which is lesser than 0.05, it shows that the null hypothesis is rejected. And it conclude that there is Significant difference between department and communication.

Significant difference between department and initiative

Since the significance value is 0.002 which is lesser than 0.05, it shows that the null hypothesis is rejected. And it conclude that there is Significant difference between department and communication.

Significant difference between department and planningSince the significance value is 0.043 which is lesser than 0.05, it shows that the null hypothesis is rejected. And it conclude that there is Significant difference between department and planning.

From the above tables it helps to identify the competency mapping of employees under department.

FINDINGS :
Competency mapping of employee
The table examines the competency mapping of employees working in an Q2 Apple company. By using mean score value the top five competencies are taken. Mapping of employees is done through ANOVA testing.

Competencies (top five)	Overall	Production (1)	Marketing (2)	HR (3)	Finance (4)
	Hard Work	Productivity	Communication	Planning	Problem solving
	Problem solving	Planning	Planning	Problem solving	Planning
	Communication	Communication	Hard Work	Initiative	Communication
	Initiative	Problem solving	Problem solving	Communication	Initiative
	Planning	Initiative	Initiative	Hard Work	Hard Work

Out of the 7 competencies evaluated the top five competencies in terms of overall mean score value were productivity (4) topping the list followed by problem solving (3.5), communication (3.5), initiative (3.5) and planning(3.5). This is based on the research and questionnaire.

Out of the 7 competencies evaluated, it was found that the top five competencies which is mapped for the Employees were Planning (0.043), productivity (0.412), initiative (.005), Communication (.002), and problem Solving(.000).

The ANOVA model on competencies across employees reflects that there is significant difference in the competencies across the employees. It reflects that there is significant difference between the department across planning, productivity, initiative, communication and problem solving.

Based on factor analysis competency is mapped for the employees according to the department. This table is used as a suggestion for the company to follow.

CONCLUSION :
Human Resource in the organization has to give importance to the process of competency mapping although competency defines the organization's effort to compete with quantity and quality in every aspect of the organization. The study on "**Competency Mapping Of Employees**" with survey has conducted. The study is based on manufacturing industry which needs employees with competencies such as skill, knowledge and ability. The main aim of the project is to determine the level of competency among employees and to mapping the competency of employees. Questionnaire was used to collect the data from the employees. The finding was analyzed using percentage analysis, mean score, chi-square, Anova, regression.

Employees should develop their competencies according to the role. The competencies such as ability to adopt according to the work environment, communication, planning, productivity, problem solving, initiative and use of technology by the employees of Coca-cola, are satisfactory. This research examines Knowledge, ability and skills are there in employees to play their role in the organization. As competency mapping is an essential task for all the organization and employee development, which enables an organization to better understand their employees' strengths and weakness and particular measures to enhance their performance. To develop employee's competency, additional training can be provide by the company.

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