

## THE USE OF CLOUD COMPUTING IN HUMAN RESOURCE MANAGEMENT (HRM) SYSTEMS IN THE DIGITAL WORLD

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### ABSTRACT

The business environment now days are competitive and specially the post pandemic era has brought new challenges to the world. Every business is witnessing some kind of competition and to overcome these challenges the companies are focusing on developing their human resource. The development of human capital is a long-term strategic goal which will help every organization to sustain them in the future. To develop the strategic goals of an organization, the concept of Competency Mapping is considered. It is a process which can identify the key competencies of a job within an organization. Recently, Competency Mapping models are being used by many organizations as the use of these models can bring remarkable developments to human resource development in an organization. As we move towards globalization especially after the pandemic where businesses are now easily are global and dependent on technology for the majority of their operations, organizations are in need of specialized skills and that's why a proper mapping of the job is important in every sector. The competency mapping is needed to reinforce the corporate strategy within the company's culture. This research aims to explain the concept of competency mapping and the relationship between Human Resources (HR) and Competency Mapping. Competency Mapping and HRM can identify skills gaps and hire an efficient workforce. The entire process of Competency Mapping is used to optimize employee potential in an organization. Moreover, the most observed benefit of Competency Mapping is increasing employee job satisfaction, which is responsible for improving organizational functioning and increasing overall productivity.

**Keywords:** Competency Mapping, Technology, Human Resource, HR, Human Resource Management, HRM, 360-degree feedback, Skills, HR Development competency techniques.

### Introduction

Competency Mapping determines a job title's abilities, skills, knowledge, and behaviour. Competency Mapping aims to identify gaps in desired and existing competencies by offering up-skilling, training support, and goal-focused learning. HRM adheres to this process to recognize and describe competencies, which are essential for promoting success in a workplace (Pattanayak, 2020). One of the critical advantages of using Competency Mapping is to evaluate existing employees' strengths and weaknesses. In addition to this, HRM activities and Competency Mapping can optimize employees' abilities by assessing their personalities, attitude, achievement, and reasoning (Gunawan *et al.*, 2019). Aptitude tests are essential to determine the potential of an employee to acquire specific skills and knowledge.

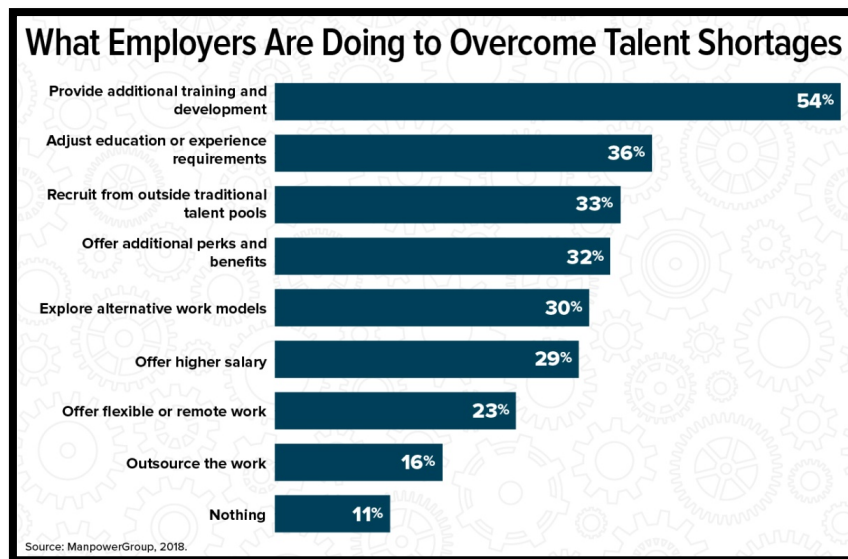


Figure 1: Strategies Used by Employers to Overcome the Skills Gap (Source: Manpower Group, 2018)

As shown in the Figure, employers mainly focus on training and development to ensure workforce efficiency, as indicated by 54%. One critical aspect of HRM is hiring employees and improving their overall skill set, which promotes operational efficiency in a firm. Competency Mapping has helped HR to define the scope of existing roles and recent job openings (Kipper *et al.*, 2021). On top of that, this process aligns learning of the existing workforce with the industry-relevant ones. Hiring suitable candidates are significant for an organization to meet the market's demands. HRM, along with Competency Mapping, uplifts the recruitment process and selects individuals with a suitable skill set. Hence, a conceptual association is observed between HRM activities and competency to hire efficient employees and define the presence of skill in the workforce (Pattanayak, 2020). Combining both aspects is critical for HR professionals to understand the needs of job applicants. Furthermore, they can address inadequacies in an organization by offering training and development sessions.

**Literature Reviews:**

Uddiin (2012) in his study said that Human Resource Management aims (HRM) at developing the workforce to get a competitive advantage in the business. The post pandemic era is moving rapidly towards digitalization. This is the reason that most of the companies are looking for specific job skills and knowledge in their employees. This specification in jobs leads us to competency mapping in HRM. Companies are interested in identifying the current skill level of the employees, so, that they can develop their skills to reach the required skill set.

Before we study the concept of competency mapping, lets define the term competency. Bhasin (2018) defined the term competency “as a capacity that already exists in a person that leads to behaviour that can meet the job demand within the requirement of the organization and this leads to effective results”.

Katz and Kahn (2010) said that the competency was initially put in three groups and later it was expanded to four main categories. These categories are Technical or Functional, Managerial, Human and Conceptual. The first category relates to the technical skills of the workforce, The second category is managerial, and this is about the knowledge and skills an employee requires for the plan and mobilize all types of resources available. The third category is called Human which includes skills, attitudes and knowledge needed to develop human resource skills. The fourth category is Conceptual, and it includes the skills to visualize the invisible work and think at abstract level.

Naqvi (2010) said if an employee is at a top-level management, then he needs for of management and conceptual competencies. So, the need for these competencies is different at different levels of the management. Yuvraj (2011) in his study mentioned about an old book called Arthashastra written by Chanakya a royal advisor to a king which was known to be as an oldest document on competency mapping. This book contains information on all aspects of human behavior. This includes all aspects of human emotions, logic, work like intelligence quotient, human aptitude an emotional quotient.

UNIDO (2002) also said that the term competency is a set of skills, related knowledge and attributes that allow an individual to successfully perform a task within a specific function or a job.

We can also understand competency by The ICEBERG model of competencies. If we look at the model as shown in figure 3, we will see that the technical competencies are at the top of the iceberg. These competencies are above the waterline and so are visible. However, competencies like self-image, Trait, Motive which falls in category of Behavior competencies are below the iceberg and are hidden. The iceberg model explains the competencies.

Shas (2016) said that an iceberg who has one ninth of its part above the water similarly a competency has some competencies which are visible and few are invisible and below the ground.

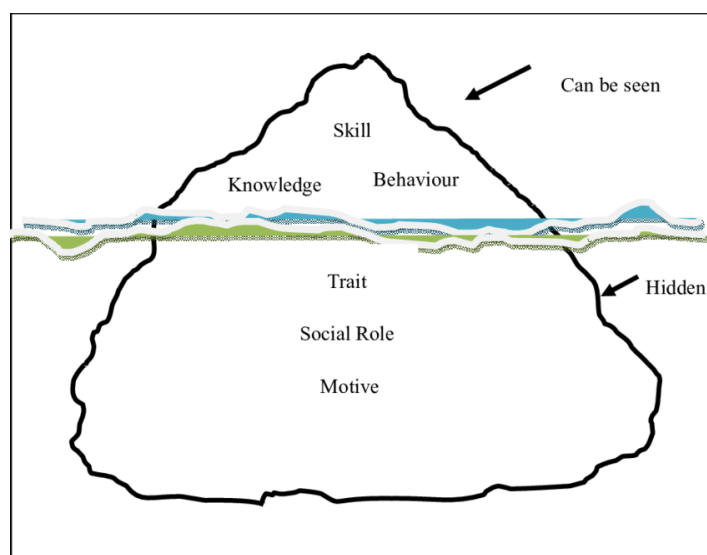


Figure 2: Iceberg Model of Competency.

(Source: Publication of Malaysian Managers in Higher Education Institution, Research gate, University of Cyberjaya)

Naqvi (2009) said that any organization performance depends on its workforce and that's why the HR wants to hire employees who are competent.

The business paradigm approach is also called competitive advantage approach and organizational approach. It was introduced in 1980's and the business paradigm talk mostly about core competencies. According to Cooper, core competencies are like generic organizational competencies with quality-oriented management style. The functional paradigm also called the British approach, refers to a list of tasks which are needed to be performed by a job. The functional approach has been criticized a lot due to the fact that the work or tasks get broken into tiny fragments which do not reflect the real nature of the job. This approach has shortfalls especially when compared to the behavior approach. The educational approach also known as educational or vocational approach refers to the new competency movements in the business world. The educational paradigm by McClelland and Boyatzzi in early 1980's related to a psychological approach which says competencies can be generic. This means the competencies include motives, personalities, social roles, images and social skills.

The situational paradigm which is a latest of all competencies. It was research in two categories: the first one state that competencies are generic in nature. These are the competencies which are needed for any position while other set of researchers believes that certain jobs types and levels share a general profile of competencies. These job specific competencies can be specific as compared to any job. When it comes to an organization any approach can coherent competency approach which fits in the need of the organization can be the most suitable. It is always advisable to develop an approach which keeps in mind the need and requirement of the organization. This task can be challenging however if the robustness of each approach is used then the overall results can be productive for an organization.

**Figure 3: The iceberg Model of Competencies**

Shah (2016) said that the challenge is to develop the two levels of the competencies. The first set of competencies like knowledge and skills can be developing through training and mentoring. The second set of

competencies related to behavior is comparatively tougher to develop. As these relates with counselling, coaching and psychotherapy. Now days with growing competition and rapid use of technology all organizations try to develop both the levels of technologies.

**Popular Techniques of Competency Mapping:**

Much research has been done on competency mapping and organizations develop their own competency model to bring effectiveness among employee’s teams and the quality of work. Various approaches have been used; however, the below approaches are used to identify and develop competency mapping:

- Behavioral Event Interview (BEI)
- Star Technique
- Repertory Grid
- Critical Incidence Technique (CIT)
- Developing Competency Matrix
- 360 Degree Feedback Approach
- Assessment Center Exercise

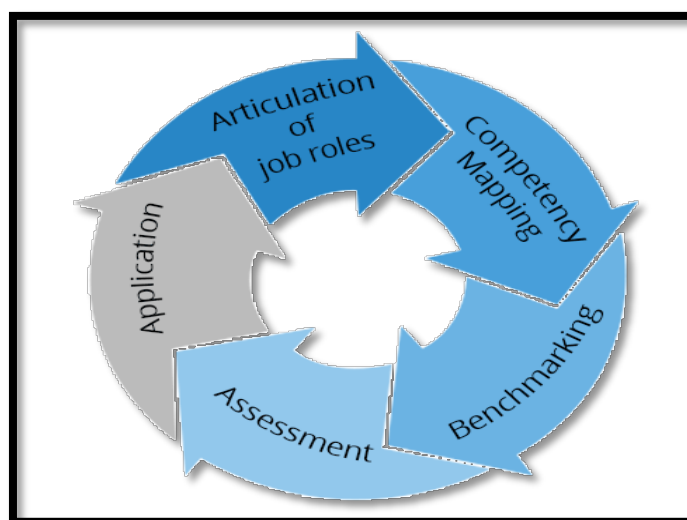


Figure 3: Techniques of Competency Mapping Utilized by HRM  
Source: Agility Portal ([agilityportal.io/blog/competency-mapping](http://agilityportal.io/blog/competency-mapping))

The behavioral event interview is a set of interviews which is done with the purpose of collecting data mostly, about past experience, as the past experience will set the platform for future behaviour. The STAR technique is like BEI; however, it is much organized way of asking questions enabling the interviewer getting maximum result from the interviews. Some of the components of this technique can be, like,

- What was the situation you were involved?
- What was the Task you were involved?
- What actions did you take to complete the task?

A repertory grid includes four types of elements, like,

- A topic,
- A set of examples,
- A set of constructs,
- A set of ratings of elements on the constructs.

The repertory grid was developed by a researcher called Engineer George Kelly. His approach included a matrix which was called elements and each element was rated by a construct. The element was mentioned in the columns in the matrix. The CIT approach is used to summarize the experiences of many users or different experience of same user. A critical incident refers to a specific incidence which can have impact on the final incidence. CIT approach includes part of content analysis as well in order to organize the findings. Another popular approach is the 360-degree feedback which is sometimes also called the assessment approach. The 360-degree feedback is important for an individual participant as they can utilize this for their individual growth and development. An assessment center exercises, includes few or all variety of exercises which includes the content related to the job which is being tested (Md.Ishtiaq Uddin, 2012).

These techniques can be implemented based on suitability of the technique as compared to the environment in the organization. There are various factors which should be accounted while implementing any of the above competencies mapping technique in the real job environment. These factors can vary from the job position which is being considered to be studied, the job description and job specification, developing a competency matrix, identifying and measuring the gaps. Additionally, competency mapping can also support succession planning, coaching and mentoring in HR.

### **Use of Competency Mapping or its techniques in Human Resource Management (HRM)**

The concept of competencies is a part of Human Resource Management (HRM) System as each employee's competencies are identified and measured to match it with strategic HR objective of the organizations. The competency framework includes all types of approaches which are or can be used in an organization in the HR context; these approaches can be identified as (Sanghi, 2):

- Considering existing competencies within an organization,
- Finding out the gaps between the competencies measured in step-1 and the current job description of the employees',
- Broadly, identified the learning gaps,
- Prepare a conceptual plan, to achieve the future competencies necessary for the jobs by the employees,
- Check for any kind of small or higher level of redundancy,
- Checking on any new competencies, which can be used for new tasks or jobs within the organization.

In 1990's the ACA which is the American Competency Association, sent HR related questionnaire to professionals in more than 19,000 American companies in North Carolina and 1,257 competency applications were identified. This ACA research data provides awareness about effectiveness of the competency models and its application.

The benefits of competency mapping concept can vary from different organizations. It can help in managing the employee retention levels, measuring the human capital value in an organization, develop sustainable leadership skills, and support in general productivity levels of the employees and also the organization operation (ANISHA, 2012). A competency mapping model is able to provide a skill map of its workforce including the training and development needs and also indicates the future leaders. This can lead to talent management too (RUSSO, 2016).

### **Objectives of the Study**

The study aims to explore the conceptual relationship between Human Resource Management and Competency Mapping.

Objectives: In order to establish the aim of the study, it is essential to ideate certain specific objectives. Accordingly, four key objectives are developed based on the grounds of the topic.

- To identify the foundation of Competency Mapping in workplace settings.
- To critically assess the utility of HRM and its implications on employee proficiency.
- To showcase a direct association between Competency Mapping and HRM.
- To shed light on the strengths and conflicting factors of HRM in affecting the model of Competency Mapping.

### **Methodology**

Research Methodology is a critical step in meeting the aims and objectives of a research study. There are two categories of research methods involved: Qualitative and Quantitative methods. Moreover, a mixed method is also incorporated, which adheres to Qualitative and Quantitative strategies. Here, a Secondary Qualitative method is selected to proceed with the research topic. According to the opinions of Pandey and Pandey (2021), a Secondary Qualitative Research strategy involves existing resources such as books, journals, peer-reviewed articles, and business reports to uncover different aspects of a study. In the context of the research work, different journals and articles are reviewed to gather relevant information and data. Resources such as ProQuest, PubMed, and Google Scholar are used to collect informative data and develop a firm understanding of the association between HRM and Competency Mapping. Besides, the gathered data is evaluated and presented with the help of Thematic Analysis. As per the critical analysis of Patel and Patel (2019), a Thematic Analysis identifies patterns in a data set, which are outlined through themes. In addition, a summary of the critical features of a vast data set is accomplished by identifying the critical structures and patterns of an informative data set.

### Data Analysis

Analysis of the relationship between Human Resource Management and Competency Mapping: The concept of Human Resource Management has changed the functioning of business sectors. As per the observations of Wilton (2019), the focal point of HRM is recruiting efficient candidates and, through strategic planning developing their existing skill sets. However, the initial phase of strengthening the skill set is undertaken by identifying and recognizing employee abilities, intellectual capacity, and other vital aspects. Following this, the notion of Competency Mapping comes to the forefront, which has helped evolve organizational functioning. According to the statements of Awasthi and Sharma (2016), Competency Mapping is a critical tool in the strategic development of human capital. In other words, the current business environment has analyzed the growth prospects linked with Competency Mapping since it curates a range of facilities to improve employees' professional qualities. Currently, the demand for identifying skill gaps in workers and creating innovative approaches to address those issues has accelerated the developmental opportunities of most organizations and businesses.



Figure 4: Factors Associated with Initiating the Process of Competency Mapping  
Source: Skill Map ([www.od-tools.com/en/Skill-Map.aspx](http://www.od-tools.com/en/Skill-Map.aspx))

In terms of the above discussion, Competency Mapping and Human Resource Management are vital for the comprehensive growth of firms and employees. According to the comments of Yasin and Ali (2016), the innate relationship between HRM and the Competency Model is the forerunner to transform workers' abilities and bring forward positive changes. It is because HRM exclusively deals with handling and managing the workforce, from the recruitment and selection process to their job roles and responsibilities. Therefore, the broad agreement on organisational development highlights the interconnection between HRM and utilising the Competency Mapping Model. Russo (2016) opined that the Competency Model was initially observed as a measurement framework for employees' existing skills. That, in turn, is refined by the firm through goal-oriented approaches, working on employees' abilities, offering extensive training programs and many more. The above Figure shows a range of aspects which are attuned to while constructing the Competency Mapping framework.

### Importance of Effective Human Resource Policies in Directing the Course of Performance Management and Reducing Skill Gaps

Employee management is essential in aggravating their growth prospects and turning human capital into productive resources. Hamadamin and Atan (2019) argue that employee performance undergoes frequent changes depending on the management structuring of firms and the availability of effective HR policies. In response to this statement, workers require a significant boost to their career that arrives in specific ways such as recognition, perceived benefits, training and development programs and several others. However, most firms need to create a cohesive working system and negate the importance of employee satisfaction. From the comments of Guest (2017), curating comprehensive and structured HR policies is the primary goal to induce job satisfaction in workers. It is a non-debatable fact that job satisfaction is one of the driving forces influencing performance levels in the workforce. Therefore, the advent of HR policies creates a new space to expand employee efficiency by facilitating them with company benefits, training programs, creating an engaging environment and others.

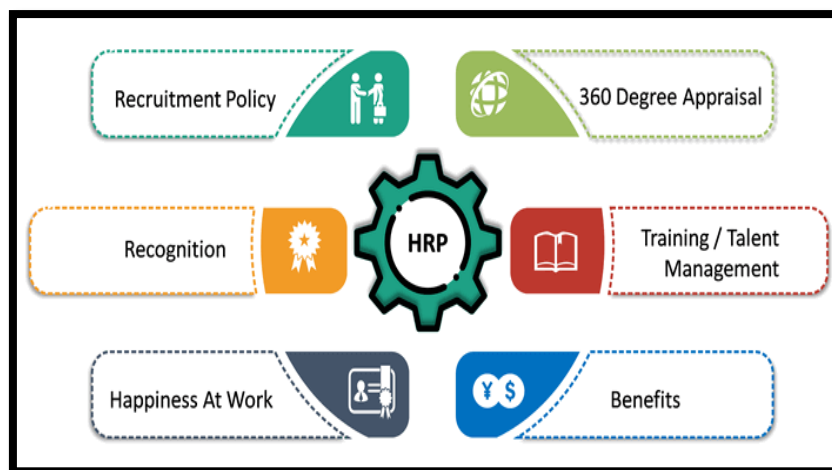


Figure 5: A Series of Functions Highlighted in HR Policies  
Source: Hrcloud.com

As stated by Kianto *et al.*, (2017), the prospect of reducing employee skill gaps has been considered in developing HR policies. Assimilating aspects of job satisfaction and reduction in skill gaps can help maintain consistency in performance management. Furthermore, studies have suggested that professional incompetency is inherently linked to personal factors since it enables one to reach optimum efficiency. Paais and Pattiruhu's (2020) arguments, the interplay between personal assessment and professional abilities is highly advantageous for reducing worker skill gaps. The author states that motivation and self-efficacy are exceedingly vital to aggravate the developmental process in individuals, along with company perks and benefits, training programs, and others. Thus, the above Figure shows a series of functional aspects that need to be assimilated within HR policies and enhance employee abilities.

**Highlighting the Benefits and Negative Impacts of Competency Mapping**

The benefits of competency mapping in terms of organisational development are observed to be critical. As Dalvi *et al.*, (2016) pointed out, the core fundamentals of competency mapping outline employees' progress. In cases of workers receiving significant boosts from their workplace setting that help in evolving their previous qualities and creating a comprehensive set of abilities, employee progression induces higher levels of job satisfaction.

The notion of retention correlates with job satisfaction; a higher employee satisfaction rate increases employee retention probability (Yasin & Ali, 2016). Both these factors are crucial for reaching an optimum level of operational efficiency and improving firm performance.

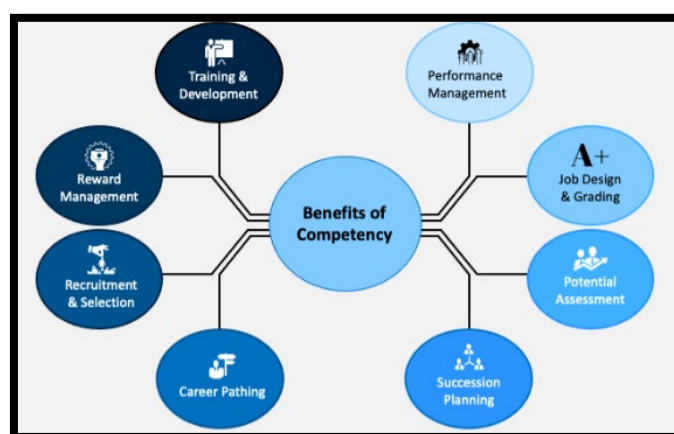


Figure 6: Benefits of Implementing the Framework of Competency Mapping  
Source: (Himani Bhasin, 2018)

The precedent Figure shows the interconnected benefits of implementing the competency mapping framework. As per Mahmood *et al.*, (2018), specific negative impacts of competency mapping reduce the functional ability of workers. This model puts particular emphasis on the notion of input in comparison to output. In other words, focusing on the inputs heightens the risk wherein workers understand the theoretical concepts; however, they

need to apply them practically. Moreover, personal factors of employees are responsible for interfering with the process of competency mapping in case they lack motivation and have reduced engagement and others. Therefore, all these aspects are said to be damaging to increasing the performance level of businesses.

### Findings and Conclusion

Competency mapping is a strategic HR tool which can be used to develop the human resource of an organization. The competent workforce will help in attaining the set goals of the organization. Competency mapping can also support a positive organizational culture. If the organization can identify the competency gaps, they can use competency mapping to fill these gaps and full fill the strategic goals of an organization which will bring efficiency in the final operations of the organization. The HR department must handle the complete steps of implementation of the competency mapping within the organization. The right competency mapping can lead to HR excellence (Gujral, 2017). The competency level of employees can even increase if the right training is provided to each employee. As the technology is growing and the business world is changing rapidly, we need to further research the competency mapping and how it can be applied to the future world of remote jobs.

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