Research Article

A Systematic Literature Review Approach to Study Competency, Competency Models, Process and Practice

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Abstract: Competency managements has evolved itself to be a strategic approach for organisations looking to improve performance, optimize talent and stay competitive in this everchanging corporate scenario. This study gives a comprehensive overview of competencies, competency models, important elements and key strategies in competency management process. The study follows a Systematic literature review approach to explore different techniques and models that are used to describe and assess competencies. The models thus explain how competencies are defined and categorised, they help us to understand what role competencies play in aligning organisational objectives with that of individual roles. The review examines the connection between competency and organisational effectiveness. The empirical evidences and case studies are discussed to understand the importance of competency management. The study finally concludes by providing valuable insights into the theory and practice of competency management and offers recommendations for organisations to implement competency based Human resource practices.

Keywords: Competency, organisation, competency models, systematic literature review, competency-based HR practices, performance, Organisational effectiveness.

INTRODUCTION

An Organisation will gain competitive advantage when it creates more value compared to its competitors. The workforce of any organisation is instrumental in creating value, it is therefore important to attract and retain competent workforce that has direct impact on organisation's sustainable development. In this era of rapid change and development, it has become necessary for the organisations to adopt strategic approaches in human resource management to help their employees to up-skill and upgrade themselves. Competency management is a key process that ensures the individual and organisation's training plans are linked to business goals [1]. Competency management is a strategic human resource management tool that deals with identifying, assessing, developing, and directing the competencies of employees towards organisational goals. The process of competency management starts with the identification of competencies, assessing the competencies, and developing the competencies through HRD interventions such as Training and Development, Career development, Succession planning, Performance management, and Goal orientation. The ever-changing corporate world frequently presents challenges for creating new competitive advantages, as seen in the current scenario of new normal working conditions. Studies have identified that the Organizations and people adopting flexible work strategies find their path to success in times of uncertainty, competency-based HR practice can be one such tool for every single organisation to sustain and grow. The approaches in competency management, such as the first being Competency acquisition is where organisations make an effort to identify and acquire the necessary competencies for growth and expansion. Second is Competency Development, that deals with enhancing the competencies through sustained development programmes; and third one is Competency Deployment, which deals with deploying employees to various positions in the organisation based on their suitability for the job role [2]. To gain a deeper understanding of competency management a systematic literature review of competency, competency models, process and practices is conducted in the study.

Competency and Theoretical Background

The importance of the term competency is highlighted in the book titled "Testing for Competence Rather than Intelligence," by David.C McClelland in the year 1973s which is regarded as the stepping stone for competency movement in Psychology, the article reviewed many studies that highlighted the drawbacks of conventional system of assessment such as academic aptitude, knowledge, school grades etc. in assessing effectiveness of job performance or success. [3] The studies also found that conventional selection process followed in organizations were often discriminative against minorities, women, and person from the lower socio-economic strata. The US Foreign Service (USIA) approached McClelland to assess employee performances by considering the competency measurement technique and eliminating the bias of the traditional technique of IQ and exam scores. The novel technique called 'Behavioural Event Interviewing' (BEI) was introduced to map the competencies of managers and entrepreneurs across the world. The practical application and most prominent usage of BEI technique in the business

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world is credited to the book "- The Competent Manager" authored by Boyatzis [4]. Spencer and Spencer took forward the work of Boyatzis and authored the book named" Competence at Work". The Arya Chanakya's renowned book Kautilya's Arthashastra elaborates on the skills a Mantri should possess, and its relevance to present leadership competencies. The Arthashasthra is presumed to be the first book on competencies. This book gives details about competency models, theories of human aptitudes, intelligent quotient, emotional quotient, and all the elements related to human behavior at work [5].

AIM OF THE RESEARCH

The aim of this research is to gain understanding of the concept, importance and application of competency management process in Organizations. The research aims at identifying the set of behavioral competencies that are instrumental in demonstrating superior performance in their job roles [6]. The research further studies how Competency management process is practiced across organizations. This review study in the area of competency management aims to provide a comprehensive synthesis of recent advancements in the field, analyses existing challenges and opportunities, and propose recommendations for future research and implementation strategies across organizations.

METHODOLOGY SECTION

The systematic literature review (SLR) methodology is adopted in the research to gather and thoroughly analyze the relevant sources. SLR is defined by as a "systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work made by researchers, scholars, and practitioners" [7]. The SLR approach to literature review was first used in the medical sciences field to review articles in a systematic, transparent and reproducible way [8]. The SLR approach to literature survey is considered to be systematic procedure that is transparent and unbiased approach to search, identify, appraise, synthesis, analyze and summarize the studies [9]. The SLR approach follows six steps which includes Protocol, Search, Appraisal, Synthesis, Analysis, Report (PSALSAR).

SLR methodology step 1: Protocol

It is very important for a systematic literature review to decide the scope and path of the research. The protocol stage focusses on determining the research scope and direction of the study and helps in minimizing the deviation or bias caused due to exhaustive literature searches. The research scope further helps in formulating research questions, and research boundaries to identify the proper research method [10].The research scope has helped in identifying the main objective of this study which is to review the existing literature in the field of competency management. This objective has resulted in following research questions:

RQ1: Why competency-based approach is important for Organizations and how Competency management process contributes in Organizational growth.

RQ2: What could be the desired behavioral competencies that

are necessary for superior performance.?

RQ3: How competency management process is practiced across Organizations?

RQ4: What is the relationship between employee Competency and Organizational effectiveness?

SLR methodology step 2: Search

The search strategy adopted consisted of search queries relevant to data bases. The search queries included concepts such as competencies, competency frameworks, competency mapping, behavioral competencies, Organizational effectiveness. The articles considered for reviewing comprised of peer reviewed papers on competency management covering the time period from year 2011-2023. The literature search was carried out with keywords such as competence, behavioral competency, competency gap analysis, Organizational effectiveness, Skills and competency framework. The structured keyword search was conducted in major databases such as Scopus, google scholar, Web of science, Jstor, Science direct and Social Science Research Network. The search helped in identifying and retrieving the relevant papers to the study area and hence the search keywords were considered valid.

SLR methodology step 3: Appraisal

The following step after search in PSALSAR approach is the appraisal step that consists of evaluating the searched papers based on the inclusion and exclusion criteria and quality assessment of the selected papers. The first inclusion criteria were the English language and the papers in English language were included, and further the following criteria are considered for inclusion such as the index term in competency management, the type of source i.e. articles published in journals, the text should be a full text article, the articles published between year 2011 till 2023 were considered. The articles which are not related to competency were excluded from the study. The quality assessment of the selected papers was done by using following criteria such as clarity on description of inclusion and exclusion criteria, the coverage of articles on all relevant studies on the topic and whether the articles were blind reviewed or not is ensured.

SLR methodology step 4: synthesis

The synthesis step consists of the data extraction process from the selected papers that will help in acquiring knowledge about the topic. The general features of the selected articles and specific parameters relating to competency management were considered for evaluation. The general information such as year of publication, type of analysis used, geographical area of study, scale of the study, the information is indicated. The next process followed was the categorization step which included classification of selected papers for further analysis as represented in the table. A total of 129 papers were selected for the study based on the inclusion criteria. 43 papers were used to study the definition of competency and gain understanding on how competency management process is viewed as a strategy across Organizations. 12 papers were reviewed which presented details on different competency

management process adopted in different sectors. 30 papers were reviewed to study different models and frameworks created and adopted in IT sector, 16 papers focused on studies related to competencies in new normal working conditions. And 28 papers were studied to understand the connection between competency management and Organizational effectiveness. The searched articles are categorized as shown in the table below.

Table 1: Categorization of articles.

Categories	Result
Understanding competencies	43
Competency Management process	12
Different Competency models	30
Competency management and OE	28

RESULTS

SLR methodology step 5: *Analysis*

RQ (Research Question)1: What are competencies and how important is competency management process for Organizations.?

The articles that were selected to answer the RQ1 brought up different perspectives on understanding the concept of competency and highlighted on how competency management is viewed as a strategy to gain competitive edge. The relevance and importance of competency-based management practices in organisational aspects are encrypted in the books of Arthashastra by Chanakya. The contributions of Chanakya in areas of modern management. Arthashastra has few works on the modern management that explains concerns related to Human Resource Management and General Management concepts such as motivation, leadership, Delegation of Authority, trade management etc. Chanakya has given an elaborate description of the science of politics and good governance in his books on Arthashaastra [5]. These books have a broader coverage of management concepts that are relevant to the present time. The book also explains the role of manager in evaluating individuals before assigning jobs and selects the individuals only he has the required levels of competencies.

The competencies study was first conducted by David McClelland during the 1970s to 1980s at the McBer consulting firm. The study resulted in a framework that described the nature and different levels of competencies. The behavioural paradigm to the competency framework was first introduced by McClelland (1973). The competency as the multifaceted approach that ultimately focus on improving human performance at work [6]. The competency concept gained recognition by several psychologists in the first half of the 20th century. In the 1970s many authors felt David C McClelland work titled 'Testing for Competence Rather Than for Intelligence' resulted in broader scope of research in various human resource management (HRM) practices and studies McClelland emphasized the importance of variables such as leadership, interpersonal skills, communication skills, ego development, patience, goalsetting, ability, etc. that are most important in determining the performance levels of an individual in workplaces. The work on competency was further augmented by Boyatsiz through his 'Job Competency Assessment Technique (JCA)' to identify the attributes that distinguish between top performers and average performers in an organizational context. Since then, the idea of competency began to spread worldwide [11]. Competencies such as motives, traits, self-concepts, attitudes or values, knowledge, or behavioural skills that can be measured to identify superior performer [12]. Some of the researchers have identified Competency management as the strategic approach organizations adopt to gain competitive advantage as these Competencies are the core strengths of an organization. The term distinctive competencies, referring to the special strengths of organizations, the distinctive competencies are the activities an organization performs exclusively compared to the competitors in the industry [13]. Competencies are used as the basis for recruitment and selection [14].The implementation of a competency-based human resource development strategy leads to improved performance of employee [15]. The study was conducted to understand the process of developing a competency model, implementation of the model, and challenges faced by the HR professionals in the process. A well-designed competency approach will improve selection, development, promotion, and reward processes address the individual and organizational needs [16]. The right combination of skills and behaviors of employees supported the core competencies of large organizations to gain a competitive edge in the banking sector [17]. Core competencies acts as a competitive base for organizational success [18]. The author studied the core competencies in enhancing the capabilities of the resources resulting in organizational success. Competency mapping followed in higher education sector, can be used as a talent management strategy for effective implementation of HR activities and organizational development [19]. The competency framework is applicable in different HR practices to enhance the performance of employees as well as organizations [20]. Competency management supports effective communication of organizational goals to its employee that facilitates implementation of organizational strategy and help them to adopt to change. The competency approach when implemented globally will face the challenges of special cultural differences. Different competencies such as the administrative competencies, communication skills, and self-development leads to organizational commitment [21]. Organizations have various advantages when they implement competency-based performance management, organizations need to focus on the "foundation of human competence" to enhance employee performance [22]. Organizational culture influences employee competencies [23]. Competency management is a paradigm that drives the organizational job process [24] .

RQ2: What could be the desired behavioral competencies that are necessary for superior performance.?

The RQ2 guides the study to identify the set of employee competencies that are instrumental in achieving superior performance of the employee. The articles reviewed under this section helped in gaining an understanding on what could be the desired competencies that are important for employees to demonstrate the superior performance. Some of the authors highlighted the

importance of behavioral competencies in assessing the effectiveness of performance. Analysis revealed that Wagner & Sternberg (1985) was the first to experiment with the importance of practical knowledge to employees. They proved that practical intelligence in real world helps employees to manage themselves, others, and their careers. Soft skills are a set of self-management and self-regulation strategies that helps in better self-management, career management and also managing others in the workplace [25]. Six critical core competencies: the ability to communicate at multiple levels, to deal with ambiguity and change, verbal and written skills, attitude and leadership, were identified as most important for successful project management [26]. A scrutiny of 500 advertisements for IT positions across different online portals helped in identifying some of the most important soft skills that are in high demand and also highlighted the soft skills that are being ignored in spite of their importance to the IT position [27]. Competencies that are most important for Industry 4.0 are the set of identified competencies which is the combination of behavioural competencies and job specific competencies [28].

Table: 1 Desired behavioral competencies that are necessary for superior performance

SL.NO	Competencies scale	Extracted source
1.	Foresightedness	Rajput et al. (2013), Asch & Hayes (2001), Ahmed et al. (2012)
2.	Accountability	Mettl behaviour competency at work
3.	Interpersonal Communication	Campbell et al. (2015), Ahmed et al. (2012), Stevenson & Stark weather (2009)
4.	Team work and integrity	IT competency model (2012), Ahmed et al. (2012), Joseph et al (2010).
5.	Multi-tasking skills	Lin & Li(2013), O.Net occupational dictionary
6.	Managing Emotions	Goleman EI model (2002)
7.	Adaptability	IT competency model (2012), Ahmed et al. (2012) Kipper et al. (2020).
8.	Problem Solving	Ho & Frampton (2010), SWECOM (2014), Ahmed et al. (2012), Kipper et al. (2020).
9.	Achievement Orientation	Spencer's Competency at work- Generic competency model (1993)
10.	Managing Conflict	Goleman –Boyatzis model (2017)
11.	Creativity/Innovation	Campbel et al. (2012), Ahmed et al. (2012), Kipper et al. (2020).
12.	Resilience	Ho and Frampton, 2010. Mettl.

RQ3: How competency management process is practiced across organizations?

The articles reviewed under this RQ helps in understanding competency mapping process and applicability of the competency framework across different sectors of the business environment. Bartram [29] created a Universal competency framework (UCF) supported by the UCF database. The UCF highlights the key benefits of using a model for competencies identification and assessing employees in the workplace leading to organizational performance. The framework is an in-depth relationship network that focuses on identifying competencies, understanding the competencies potential of individuals, competencies requirement analysis, and ultimate results which focuses on intended outcomes of behaviour in the workplace. Competency modelling is the process of identifying, defining and measuring of the knowledge, skill, abilities necessary for a job [29]. Various studies focused on different approaches to competency identification. A research on competency management process in the USA mentioned the use of the critical incident method, as the key methodology in competency studies. The process-driven approach followed by McBer consulting firm in competency assessment is also explained in the study. The article summarizes the SCANS (US Secretary of labor appointed the Secretary's Commission

on Achieving Necessary Skills study) (1990), focuses on the voluntary skill standards effort, and the leadership effectiveness framework. The study used Behavioral Event Interview for the purpose of competency modelling in 5 sectors of the US economy. Further, it was stated that competency modelling helps in linking individual performance to organizational performance [30]. Self-rating of behavioural indicators approach is used for competency assessment [31]. The competency management system is a process that starts with identifying the competencies followed by assessing the competencies, mapping, and development. The alternative assessment models to assess the competencies of practicing psychology professionals in educational sector are categorized into four groups based on what has to be measured such as (a) measures of knowledge- where the assessment is made using the multiple-choice questioning technique. (b) measures of professional decision making- to assess one's capacity for making decisions concerning essential actions in a sequential and interactive manner. Self-assessment techniques are deployed in the process. (c) measures to practice performance including professional attributes- The performance assessment is conducted using global rating scales, portfolios and 3600 appraisal and (d) integrated assessments of practice-based skills and tasks. The approach involves integration of Objective Structured

Clinical Examination (OSCE), standardized encounters and computer simulations are adopted to the assessment process [10]. A competency model is a set of competencies that specifies effective performance in a workplace. The study categorized the competencies of a surgeon in a 3-tier system of qualified professionals, competent professional and mature professional's/role models using a pre-testing methodology [32]. The approaches such as the single jobs approach, the one-size-fits-all and a multiple-job approach are suggested for building competency models. The single job approach starts with identifying the critical job and identifying the typical traits of a particular job role along with a definition and list of specific behavior. The data collection consisted of focus group panel of managers and the job holders. Other techniques included interviews, direct reports, surveys of additional job holders, and direct observation of job holders at work. The second approach is one-size-fits-all approach that includes a common set of competencies for a broad range of jobs. The data is based on the secondary sources in this approach. The third approach multiple-job approach were different models are created based on jobs and levels [33]. Several studies reviewed the concept of competency by conducting a comprehensive literature survey of different studies such as the integrative model of competency development, the guidelines for competency model building by Parry S B (1996), spencer and spencer's competence at work and many other articles. The studies thus established that competency modelling can be used as a strategic tool to manage and develop the human resources and gain the competitive edge [11]. Competencies facilitate digital transformation and ensures organizational learning [34].

Competency Mapping

Competency Mapping is categorizing competencies into Technical, Managerial, Human behavior, and conceptual [35] .The competency mapping processes undertaken by the Michigan Centre for Public Health Preparedness to integrate competency-based learning and assessment in all its educational and training initiatives [36]. Competency Mapping helps in effective talent management [37]. Competency mapping is one of the most precise method for determining a person's work and behavioral capabilities in an organization [38]. The Arthur Andersen model is used to map the competencies among employees in Indian industries. Competency mapping helps in investigating the competency levels among the executives analysis revealed that the respondents have a moderate level of competencies [39].Job description of job role is used to identify the competencies, scores were assigned and competencies were assessed to evaluate the managerial competencies among them [40]. Competency mapping is necessary for effective implementation of corporate strategy, culture, and vision. It is a systematic approach to performance management, job satisfaction and employee retention. Takey & Carvalho [41] proposed a seven-step method for the project management competency mapping in a large Brazilian engineering company. The methodology is applicable to managers across all industries and consisted of describing the competency, performance criteria, gap analysis, and the correlation between experience and competency development. Competency Mapping is the

process that starts with job analysis, a competency-based job explanation is created, and finally job-related skills are listed and competency assessment is conducted for the employees [42]. Organizations according to the requirement choose the competency mapping model that are more helpful for organization and career development of their employees. There are different competency mapping techniques followed in organizations such as Behavioral Event interview (BEI), STAR (Situation, task, action and result) Technique, Situation, task, action and result technique, Repertory grid, Critical Incident Technique, Assessment Center Exercises and 360-degree feedback.

Repertory grid is about how an individual understands his or her environment based on their cognition, and past experiences [43]. RepGrid as a cognitive mapping technique that tries to analyze how people process and think about a phenomenon in their world. Kelly in his PCT (The Personal Construct Theory) assumes "Men the scientist" are bi-polar who, through their senses, foresee and explain the situations in their surroundings. Kelly RepGrid unlike other standard approaches to research can avoid bias of researcher's preconceived questions being posed to the interviewee. The process enables the participant to elicit constructs based on past experience and the environment [44]. The assessment process is the exercise that includes number of exercises such as, counselling, problem analysis exercises simulations, oral exercises, interview simulations, role play exercises, written report/analysis exercises, and leaderless group exercises that can be conducted to collect information [45].

RQ4 What is the relationship between employee Competency and organizational effectiveness?
To understand the importance of employee competency it becomes necessary to study its implications on organizational development. The articles reviewed in this context helped us in understanding the connection between employee Competency and Organizational effectiveness.

The Competing Values Framework presents the three-dimensional representation of effectiveness criteria, such as the first criteria includes wellbeing criteria that deals with the development of people in the organization, second criteria is based on organizational structure with emphasis on stability and flexibility and third criteria is related to organizational means and ends [46]. The Quinn's management models-The rational goal model, is concerned with the profit and the bottom line. The Internal Process Model is measured by an emphasis on rules to be followed, the Human relation model is concerned with cohesion and morale in the workplace and the open system model deals with the external environment [47] . "There is a golden thread that connects people and their performance to organizational effectiveness" [48]. The paper has outlined the historic evolution of organization effectiveness, from political judgments slowly progressing towards considering employee mental strength and identifying the locus of value creation perspectives.

The adoption model for measuring Organizational

effectiveness are the goal attainment model, system resources model, internal processes, and stakeholder [49]. The competency approach will improve performances of individuals and organizations effectively. Organizations have to carefully plan a focused intervention plan to enhance the employee competencies which in turn results in organizational effectiveness. An integrated research model is constructed to show the impact of employee competencies on organizational effectiveness [50].The authors empirically studied and examined the relationship between competency-based human resources practices and organizational productivity. The direct and positive relation between competency-based HR practices such as Succession Planning, Capability Building, Superior Performance, Better Selection, and Assessment Centre and organizational productivity is presented using a structural equation model [22]. The authors examined the impact of human resource development practices on employee performance. The study empirically proved that career development, training and development, and compensation have a significant impact on employee performance [51].HRD practices have a positive and significant impact on organizational effectiveness [52]. Competency Management is a measurement tool for the development of both individuals and the organization [53] The authors stated that in several studies Employee competencies is being adapted as the major determinant of employee performance and also organizational performance. The set of identified competencies in the study have a significant and positive impact on organizational performance. Organizations should strategically design and develop strategies and activities to enhance employee competencies [53].Sari et.al. [54] have studied the impact of organizational culture and HR competence on Organizational performance.

CONCLUSION
SLR Methodology step 6: Report
The purpose of the study is to gain an in-depth understanding about the competency management and its impact on Organizational development. The study documents the process of competency mapping which involves competency identification, assessment and evaluation of the competency levels. There are enough evidences to prove that competency management contributes towards organizational growth and development. The current study provides input for further empirical research in the areas of competency management. The systematic literature review was conducted to have a better understanding of competency management process in organizations. The significant contributions to the study are made by adopting following approaches such as
1. The recent studies in the areas of competency management were selected for the study.
2. Innovative research questions were proposed to understand the genesis, existence, purpose and impact of competency management practices in organizations.
3. The study provides a critical base for further research in the areas of competency management.

The RQ1 aimed to gain an understand of different perspectives of competency management process, it focused on how competency management is used as a strategy by organizations to gain competitive edge. The articles reviewed in this section explained how conventional method of human evaluation in work place can be replaced by competency-based approach there by resulting in superior performance as compared to the traditional approach. The results thus suggested competency management as a driving force for organizational development process. The RQ2 focused on reviewing articles that helped in identifying right set of competencies that are instrumental in achieving superior performance. The research unfolded some of the desirable behavioral competencies that are important for employee to perform better in his job role. The set of competencies suggested by authors are foresightedness, accountability, interpersonal communication, teamwork & integrity, multi-tasking skills, managing emotions, Adaptability, problem-solving, Achievement orientation, Managing conflict, creativity/Innovation, Resilience. The competency-based recruitment process is recommended in some of the studies that helps in hiring right candidate with needed skill set. RQ3 helped in analyzing different competency frameworks and models that are adopted by organizations across various sectors. The articles reviewed under this section documented different competency mapping techniques such as Assessment Centre exercises, Critical Incidents Technique, Behavioral Event interview (BEI), STAR Technique, Repertory grid, and 360degree feedback. The steps to be followed in competency mapping process is well documented. The study documents the process of competency mapping which involves competency identification, assessment and evaluation of the competency levels. The study contributes to competency-based HR practices and provides a new direction for recruiting, training and retaining a competent workforce. RQ4 finally focused on studying why and how employee competencies are important for organizational growth and development. The study exclusively links employee competencies to competing values approach to Organisational effectiveness. The competencies identified in the study is linked to roles played by the manager such as director, producer, coordinator, monitor, mentor, facilitator, innovator and broker and these roles are performed in the four subsystems of Competing Values Framework such as Human relations model, internal process model, rational goal model and open system model.

The review has also identified several key areas related to competency management such as
1. The common trending problems faced by the organisations is, skill shortage and employee attrition. Compensation is often considered as the primary factor in deciding job loyalty, offer drop-outs etc. Talent demand-supply gap and elongated hiring circles have further made Competency based management approach the need of the hour.
2. It is understood from the study that a well-planned competency management results in a strong corporate culture, a built-in agile workforce, and key competitive differentiators.
3. The general analysis of the recruitment process followed across organizations insisted on the job

relevant technical skills and very few companies actually highlighted the desire for soft skills for a job role. Soft skills do complement technical skills.

4. Organizational development is the major determinant of organizational effectiveness. It is very difficult to measure organizational effectiveness as it is an abstract concept, and hence creating a competency-based culture and system is the basic requirement of the organization.

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