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Jurnal Manajemen Indonesia

Journal homepage: journals.telkomuniversity.ac.id/ijm



In Search of Practices and Techniques to Developing Leadership Competency Model for Millennials in Energy Sector: A literature Review

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Abstract

Leadership competency model has become critical as the emergence of millennials in energy sector and the business shifting to new era caused by VUCA and COVID-19 pandemic. To promoting and maintaining high-performing millennial employees and reduce the maturity gap compared to the Gen – X employees, there is needs to enrich the content and implementation process of leadership competency to meet current and future necessities. However, little is known about research related to competency models that exist in energy sector organizations, particularly for millennials. The purpose of this article is to review the literature on leadership competency models in various industries and work organizations with focus intention is on the energy sector. It will also examine competency model approaches used by undertaking a comparative analysis of practices and techniques when developing the leadership competency models. Findings suggested that 24 leadership competency model have been used in the literature obtained with very limited number of the implementation in energy sectore yet none has been done for millennials case. Most of the models reviewed are using interviews and surveys as the main approach. Behavioral Event Interview is very effective way to build new leadership competency model. Energy sector organizations can use the results to design their own management competency models. It can also be used by other researchers for possible future research.

Keywords—Energy; Competency; Leadership; Millennials; Model

Abstrak

Model kompetensi kepemimpinan menjadi penting seiring munculnya generasi milenial di sektor energi dan pergeseran bisnis ke era baru yang disebabkan oleh VUCA dan pandemi COVID-19. Dalam rangka mempromosikan dan mempertahankan karyawan milenial yang berkinerja tinggi dan mengurangi kesenjangan maturitas dibandingkan dengan karyawan Gen – X, perlu dilakukan pengayaan konten dan proses implementasi kompetensi kepemimpinan untuk memenuhi kebutuhan saat ini dan masa depan. Namun, sedikit yang diketahui tentang penelitian terkait model kompetensi yang ada di organisasi sektor energi khususnya untuk kasus milenial. Makalah ini bertujuan untuk meninjau literatur model kompetensi kepemimpinan di berbagai bidang tenaga kerja dan organisasi dengan focus utama pada sektor energi. Ini juga akan memeriksa pendekatan model kompetensi yang digunakan dengan melakukan analisis komparatif praktik dan teknik ketika mengembangkan model kompetensi kepemimpinan. Temuan menunjukkan bahwa 24 model kompetensi kepemimpinan telah digunakan dalam literatur yang diperoleh dengan jumlah implementasi di sektor energi yang sangat terbatas namun belum ada yang dilakukan untuk kasus milenial. Sebagian besar model yang ditinjau menggunakan wawancara dan survei sebagai pendekatan utama. Behavioral Event Interview adalah cara yang sangat efektif untuk membangun model kompetensi kepemimpinan baru. Hasilnya dapat digunakan oleh organisasi sektor energi untuk menyusun model kompetensi kepemimpinan mereka. Hal ini juga dapat dimanfaatkan oleh peneliti lain untuk penelitian-penelitian selanjutnya yang potensial.

Kata kunci— Energi; Kompetensi; Kepemimpinan; Milenial; Model

Article info

Received (23/08/2022)

Revised (19/09/2022)

Accepted (30/03/2023)

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DOI: 10.25124/jmi.v23i1.5348

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I. INTRODUCTION

XYZ as an energy company in Indonesia is currently entering its transformation that coincides with the COVID-19 pandemic, being considered as clear sign of the awakening of a new era of doing business (Annual Report, 2021). In addition to the presence of COVID-19 pandemic, the global business world is currently facing full challenges of sustainability and growth which are characterized by four phenomena namely Volatility, Uncertainty, Complexity and Ambiguity abbreviated as VUCA. This complex phenomenon can lead companies to bankruptcy if something goes wrong in the management of the company. (Saleh & Watson, 2017). Transformation has become the new normal for organizations seeking to adapt and excel in the midst of change (HBS, 2018). The company should consider to transformation and transition of their business in particular to all efforts to reducing greenhouse emissions, promoting energy efficiency, investments and monetization of new technologies, and implementing new business models (Shojaeddini, Naimoli, Ladislaw, & Bazilian, 2019). Being impacted by COVID-19 pandemic, innovation and collaboration will be the key in controlling the expenses (PWC, 2020). The transformation processes should achieve several main objectives including the creation of an organization that is focused, lean, agile, and efficient with the associated work culture, mindset and talents (Internal, 2020). The business landscape is dealing with the volatility, uncertainty, complexity & ambiguity (VUCA) and being worsened by the presence of COVID – 19 pandemics.

Based on workers' infographic data of the XYZ on the 2020 annual report, obtained demographic data of the engaged employees in the holding company where the total active employees are 13,526 people. Around 60% amongst the employees are with the age up to 35 years and the estimated of 15% of the total employees are aged between 36 - 40 (Annual Report, 2021).

The company is speeding up the career acceleration process and job filling positions with millennials. The readiness of millennials equipped with the required leadership competencies is critical for the company to sustain and grow in facing the challenges of business transformation as the trend of global energy will transit to a cleaner and renewable energy basis (Berkhout, Marcotullio, & Hanaoka, 2012).

The company is facing leadership challenge as an impact of massive senior leader retirement within the upcoming years. In securing the capability in delivering energy, the government has put concerns for XYX to assure the process of leadership regenerations (EFMD, 2021). There is likely an emergent phenomenon on the maturity gap as these new leaders may not have and apply the specific competences to be able to answer the challenges of transformation of the new era despite the programs are prepared with particular leadership contents. The competency gap phenomenon will dominantly impact and shape the future of the company (Annual Report, 2021).

There is still limited evidence from the literatures and contextual experiences in describing and developing the specific leadership competencies for millennials specifically in energy sector business in Indonesia. The readiness of millennials equipped with the required leadership competencies is critical for the company to sustain and grow in facing the challenges of business transformation as the trend of global energy will transit to a cleaner and renewable energy basis (Berkhout et al., 2012).

This article will focus at reviewing literature of leadership competency model in different workforce area and organizations with focus intention is the search for implementation on the energy sector. It will also examine competency model approaches used by undertaking a comparative analysis of practices and techniques when developing the leadership competency models.

II. LITERATURE REVIEW

Leadership competencies are leadership skills and behaviors that contribute to an increased level of performance (SHRM, 2008). The future business trends and strategy will drive the development of new leadership competencies. While some leadership competencies are fundamental and essential to all organizations, there should be leadership attributes that are distinctive to the particular organization to create competitive advantage. Competency concept was first introduced by an American management teacher, David McClelland when argued that the competency assessment could be the alternative for better predictor as the intelligence and aptitude tests are not sufficient to predict job performance (D. C. McClelland, 1973). Competencies were found to be a reliable indicator of occupational success in empirical research. (D. McClelland, 1998) such as McBer and Company, a consulting firm that has conducted scores of studies demonstrating that competency tests predict success among high-level leaders (R. Boyatzis, 1982).

In many organizations, competency model is the key importance to improve the personal performance and enhance the organizational effectiveness thus increase the competitive edge. As the behaviors necessary for effective performance vary in different organizations and within organizations from one role to another, it is critical to determine whether the workforce has the critical needed abilities (Lucia & Lepsinger, 1999). A competency model is collection of required competencies in responsibility, process, function, or organization (Marrelli, Tondora, & Hoge, 2005) for staff recruitment, training, development, and succession planning (Spencer and Spencer, 1993; Lucia & Lepsinger, 1999). Competency model will provide performance standards (Chung-Herrera, Enz, & Lankau, 2003) and predict the workforce performance against several key performance indicators. (Dainty, Cheng, & Moore, 2004). Competency modelling is the best way to match the people and jobs in the organization (Vathanophas & Jintawee, 2006) so the employees may improve performance to be superior (Chouhan & Srivastava, 2014).

Table 1 Competency Definitions

Author	Definition
McClelland, 1973	Knowledge and skills, social role, self-image, characteristics, and motive. Threshold competencies are knowledge and skills, whereas differentiated competences include social role, self-image, characteristics, and motive.
Boyatzis, 1982	The main characteristic of a person associated with the highest performance at work
Spencer and Spencer, 1993	An intrinsic characteristic of a person that is causally related to effective and/or superior performance in a criterion-related task or situation.
Dubois, 1993	Those characteristic knowledges, skills, mindsets, thought patterns, and the like, that when used singularly or in various combinations, results in successful performance
Mansfield, 1996	Skills and traits that are needed by employees to be effective in a job.
Arrelli, 1998	Measurable human capabilities that are required for effective work performance demands.
Draganidis and Mentzas, 2006	A mix of tacit and explicit knowledge, behavior, and abilities that offers someone the potential for effectiveness in task performance
Boyatzis, 2008	A capability or capacity is something that an individual or thing has or can do. The aim could be a set of practices related to a specific concept. The practices are expressions of the expectation, depending on the circumstance
Tripathi and Ranjan, 2009	Competencies are not basically concrete activities that are effectively imitated. Instead, competencies can be signs of a few fundamental aims driven by a person's essential identity, capacity, information, and skills.

There are three elements common to the above definitions. First, most definitions assume that competencies are the characteristics that underlie effective or successful job performance; second, these attributes must be observable or measurable; and third, the basic attributes that must distinguish between top and middle players (Megahed, 2018). Over the past 25 years, many researchers have contributed to a large body of literature on competency modelling in various fields such as management, scientific research, technology, and engineering. The relevant literature in this period can be divided into five paradigms, as shown below (Megahed, 2018).

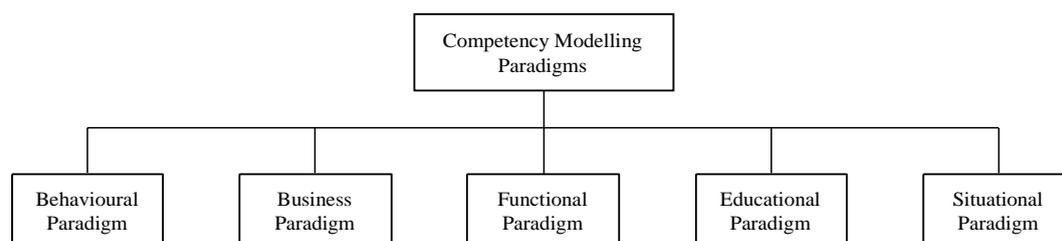


Fig. 1 Competency Modelling Paradigms (Megahed, 2018)

The behavioural paradigm was first introduced by McClelland (1973) which he suggested the competency testing as a better predictor of successful job performance rather than intelligence and aptitude tests. Competency is considered as an independent variable that includes underlying traits and skills that impact on management performance and behaviour. Linked prominent researchers are such as McClelland, 1973; Boyatzis, 1982; Spencer, 1993; Draganidis and Mentza, 2006; Markus, Cooper-Thomas, and Allpress, 2005.

The Behavioural Interview Technique (BEI) was introduced by McClelland which pays great attention to identifying the characteristics of people who have done their job well, and aims at what people actually "do" in the workplace. (D. McClelland, 1998). Over the past 30 years, a number of empirical studies have demonstrated the effectiveness and validity of a behavioral approach to competency modeling, such as (i) identifying criteria

that define effective performance; (ii) identifying a sample group of above average and average performers; (iii) collecting data through behavioral event interviews and other means; (iv) identifying the competencies that differentiate the superior from the average; (v) approval of the competency model; and (vi) application of the model to a range of HRM functions (Spencer, M & Spencer, 1993).

The business paradigm documented in the late 1980s based on the idea of a “core competence” has contributed to the interest of many organizations (Shippmann et al., 2000). A core competency act as the foundation for strategic direction of the company (Hamel & Prahalad, 1994). Competency dimensions include organizational competencies, personal competencies, technical competencies, and behavioral competencies. (Prahalad & Hamel, 1990).

The functional paradigm thinks of competencies as a to-do list that needs to be done at a specific location (Megahed, 2018). It reflects the minimum level of performance acceptance and focuses on actual outputs (Jackson, 2009).

The educational paradigm is originated from an educational discipline (Megahed, 2018). Competencies are based on analysis of functional roles as statements of behavior and attitudes required to perform a professional role and evaluated against accepted performance standards/criteria (Markus, Cooper-Thomas, & Allpress, 2005).

The situational paradigm was based on research on factors that may affect the required competencies (Megahed, 2018). Research in the US, UK, France, and Germany explored the concept of integrating knowledge, skills, and competencies into a comprehensive competency typology, finding that unidimensional competency frameworks are inadequate and giving way to multidimensional frameworks. The study confirmed that a comprehensive framework would be useful for identifying the skill sets required for specific occupations and encouraging job mobility (Deist & Winterton, 2005).

Competency models should identify competencies that enable a long term to fit with the organization (Clardy, 2008). There is linkage between competency and job performance as the three of the fundamental parts, include working conditions (or environment), job requests, and a person’s competencies, must be matched (R. E. Boyatzis, 2008).

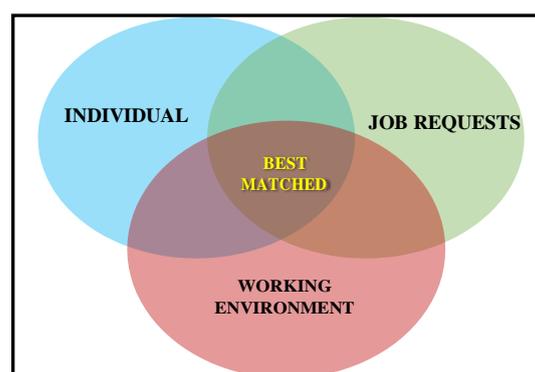


Fig. 2 The Linkage Between Competency and Job Performance (Boyatzis, 2008)

Spencer and Spencer have made concerns on the application of generic competency dictionaries (Spencer, M & Spencer, 1993). The generic competency dictionary scales are never precise since those are applicable to all kind of jobs. Many competencies in the generic competencies may not be appropriate for a specific job, although the levels of the scale may be inappropriate if a specific competency is appropriate for a particular type of job. The dictionary covers the 20 most common skills, but most jobs are unique and therefore require different characteristics that are not well represented in common dictionaries.

In his paper, Mansfield proposed three different job competency models. The first one is the ‘single-job’ competency model which focused only to one job. Data collection included resource groups, focus groups, and employee interviews. An abbreviated competency model may include 10 to 20 traits or skills, each with a definition and a list of specific behaviors that describe what makes an effective performer and how to achieve effective results. The second approach is a single skills model, which defines a set of skills for a wide range of jobs (eg all managerial jobs). The third approach is the “multi-job” model, which identifies a common set of building blocks and interdisciplinary skills that are used in all jobs. This can include 20 to 40 competencies, each with a definition and a set of 5 to 15 behaviors that describe common ways employees demonstrate the competencies (Mansfield, 1996).

Lucia and Lepsinger proposed two approaches to developing competency models. The first approach is to start from scratch by collecting internal data from interviews, focus groups, or observations. The data is then analyzed to identify critical competencies for effective performance. This approach may take longer but is more organization specific. The second approach suggests using an existing validated generic model as a starting point for developing a new competency model (Lucia & Lepsinger, 1999).

Several publications report on different practices for developing competency models. The process used to develop the model should be simple and easy to implement. The final product must have immediate practical

application, commitment, and acceptance by those expected to implement or change their behavior and be relevant to business efficiency (Sanghi, 2016). These practices include:

- Job Competence Assessment Method (Dubois, 1993).
- Modified Job Competence Assessment Method (Dubois, 1993).
- Generic Model Overlay Method (Lucia & Lepsinger, 1999).
- Customized Generic Model Method (Dubois, 1993).
- Flexible Job Competency Model Method (Dubois, 1993).
- System Method (Lucia & Lepsinger, 1999).
- Accelerated Competency Systems Method (Dubois, 1993).

Some of the classic and well-known approaches to developing skill models from literature reviews are (Wong, 2020) :

- **The Critical Incident Technique**
This technique was introduced by Flanagan, who explained that this technique consists of a set of procedures used to collect direct observations of human behavior in order to facilitate their use in solving practical problems and to develop the potential uses of psychology in principle (Flanagan, 1954).
- **The Behavioral Interview Technique (BEI)**
This technique was developed by McClelland to identify "characteristics of people who do good work" and understanding what participants actually "do" in their workplace (D. McClelland, 1998). This technique allows the participants to describe specific critical incidents that lead to effective or ineffective performance in a specific job role in the organization (Vathanophas & Jintawee, 2006). The BEI compared two different perspectives of data, positive and negative outcomes per interview (Dias, Murillo de Oliveira & Aylmer, Roberto, 2019). 'STAR' method for preparing possible questions to guide the interview process is recommended (Uddin, Tanchi, & Alam, 2012).
- **The Delphi Technique**
Delphi technique is used "to solicit, obtain, and determine the opinion of a group of experts in a given field, seek consensus among experts, and make predictions or decisions using the expert opinion of committee members participating in the "study". (Nworie, 2011). Usually, three rounds are enough to reach a consensus among the experts (Delbecq, de Ven, & Gustafson, 1976).
- **The Job Competence Assessment Technique (JCA)**
Boyatzis developed this technique and used it to analyze data from a sample of 2,000 samples from 41 leadership positions in 12 organizations (R. Boyatzis, 1982).
- **The Classic Competency Design**
For the past 20 years, Spencer and Spencer conducted 286 studies on competency modelling in many organizations and industries such as education, health care, military, etc. A full competency study may take two to three months, depending on the logistics of scheduling and conducting the BEIs. The classic competency studies include the six steps as shown in the Fig. below.

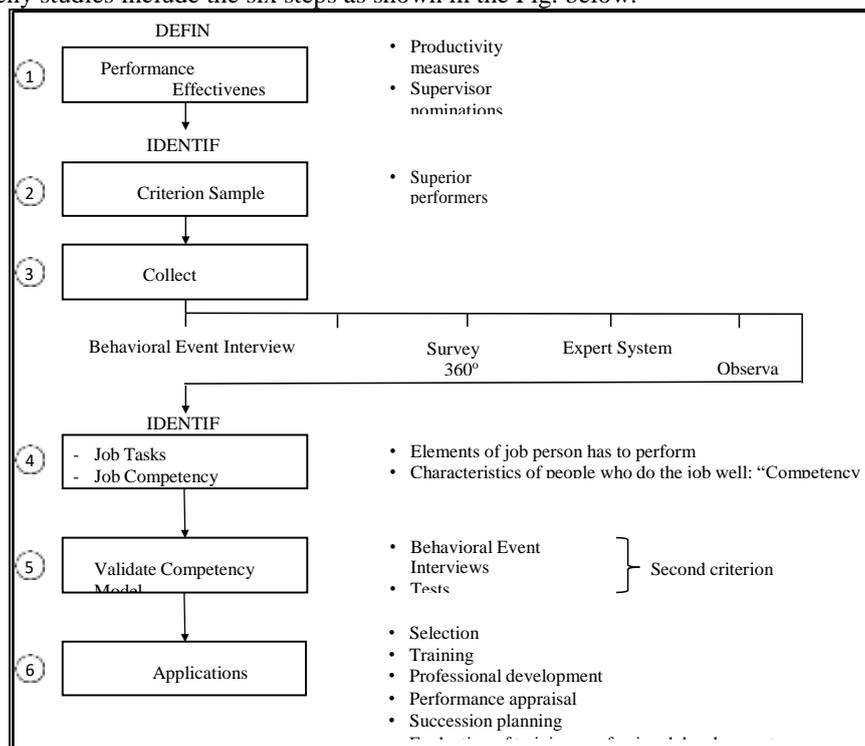


Fig. 3 Job Competency Assessment Process (Spencer & Spencer, 1993)

In the workplace, millennials have a different style of communication and expect work that has meaning in

their lives (Deloitte Indonesia, 2019). Their work patterns, career aspirations, work attitudes and knowledge combined with the use of technology will determine the future direction of the workforce (PWC, 2011).

Millennials have concerns and positive views to contribute on any initiatives and accountabilities to protect the environment on their personal life and works (Deloitte, 2020). It was indicated earlier that millennials believed that business should address issues on climate change, environment protection and resources scarcity (Deloitte, 2014). The importance of corporate social responsibility (CSR) influenced their decision when accepting to work with (PWC, 2011).

They are a generation that likes challenges and tends to be more difficult to manage (Deloitte Indonesia, 2019). Millennials have a new perspective and are more ambitious in achieving goals or taking advantage of opportunities (Deloitte, 2020). Millennials have a focus on self-development, tend to be more idealistic and are strong achievers (Gallup, 2016). Millennials need support in professional development and optimize their ambitions (Deloitte, 2016).

Millennials can encourage cultural change that prioritizes creativity, invention, innovation, exchange of ideas and the emergence of new ways of solving problems and providing business solutions (Deloitte, 2018). Freedom of expression and activity is one of the attitudes of millennials which, if properly explored and managed, will build their greatest potential (Utomo, 2019). Millennials need to be in organizations that encourage innovation and develop their critical thinking (Hagel, Brown, & Wooll, 2019).

Millennials stay connected by using digital technology for daily business, communication, coaching and projects (Gallup, 2016). Digital technology is expected to increase their job performance in workplace while there was a strong fact that this generation is active in digital social media (Deloitte, 2019). The unavoidable digital media is part of millennials' daily activities in Indonesia (Utomo, 2019). Any organizations need to be adaptive in the digital technology breakthrough where people with business acumen and technological skillsets are mandatory (Ruan, Tsai, Zhang, & Zheng, 2017). A study related to employment & talent in the digital economy states that in 2035 there will be a significant change in workforce where digital technology applications will spread and there is a need for intangible competencies such as sociability, creativity, and innovation (Ruan et al., 2017). Nurturing agility inside the organization, making faster decision (both strategic and operational), and investing in digital analytics will maximize the benefits (Accenture, 2019).

Millennials want to align with the organization they involve and expect to contribute on the cultural shift transformation within the organization that concerns on creating purposeful impact together with making profit (Deloitte, 2018). Alignment between personal values and organizational values becomes more important since their decision making will be highly influenced by their personal values (Deloitte, 2016). Millennials are flexible when needed to move to new workplace especially in the organization that promote open dialogue between seniors and juniors (Deloitte, 2020). Being the majority of employees in the emerging digital technology era, millennials are open to collaboration where personal creativity, flexibility and initiative are being part of the organizational cultures (Ruan et al., 2017). Since millennials are adaptive, they seek for team alignment as to explore their strengths and exchange ideas (Gallup, 2016).

III. RESEARCH METHODOLOGY

In this paper, a literature review is used to identify the competency models that exist in different sectors and organizations of the workforce, with an emphasis on finding practices and techniques applicable to the energy sector. It will also examine competency model approaches used by undertaking a comparative analysis of practices and techniques when developing the leadership competency models. Thus it is descriptive rather than statistical approach.

The searching is done through several e-journal access databases, including ProQuest, ResearchGate, ScienceDirect, EmeraldInsight and Taylor & Francis Online. Other sources for report analyses are included. Searches are limited to literature written in English and are conducted by searching for specific words or phrases, such as leadership, competency, millennial, new era, VUCA and energy sector. The possible years of publication was limited to the last 20 years and placed in the database. The database search strategy is provided in Table 2.

Select articles based on abstract, title and keywords. All subsequent articles have been peer-reviewed. Relevant articles presenting research on the development of competency models in various sectors were reviewed; otherwise, it is excluded. Selected competency model approaches are carefully examined used by undertaking a comparative analysis of practices and techniques when developing the leadership competency models.

IV. RESULT/FINDING

The initial searches using ProQuest, ResearchGate, ScienceDirect, EmeraldInsight and Taylor & Francis Online generated a database of 583 articles. All articles are in English. The author removes duplicate articles. Of the 583 articles, 24 were considered eligible based on abstracts, titles, and some specific topics, and the authors performed additional topic analysis to learn about the practices and techniques used. Fig.4 illustrates a flow process of article selection.

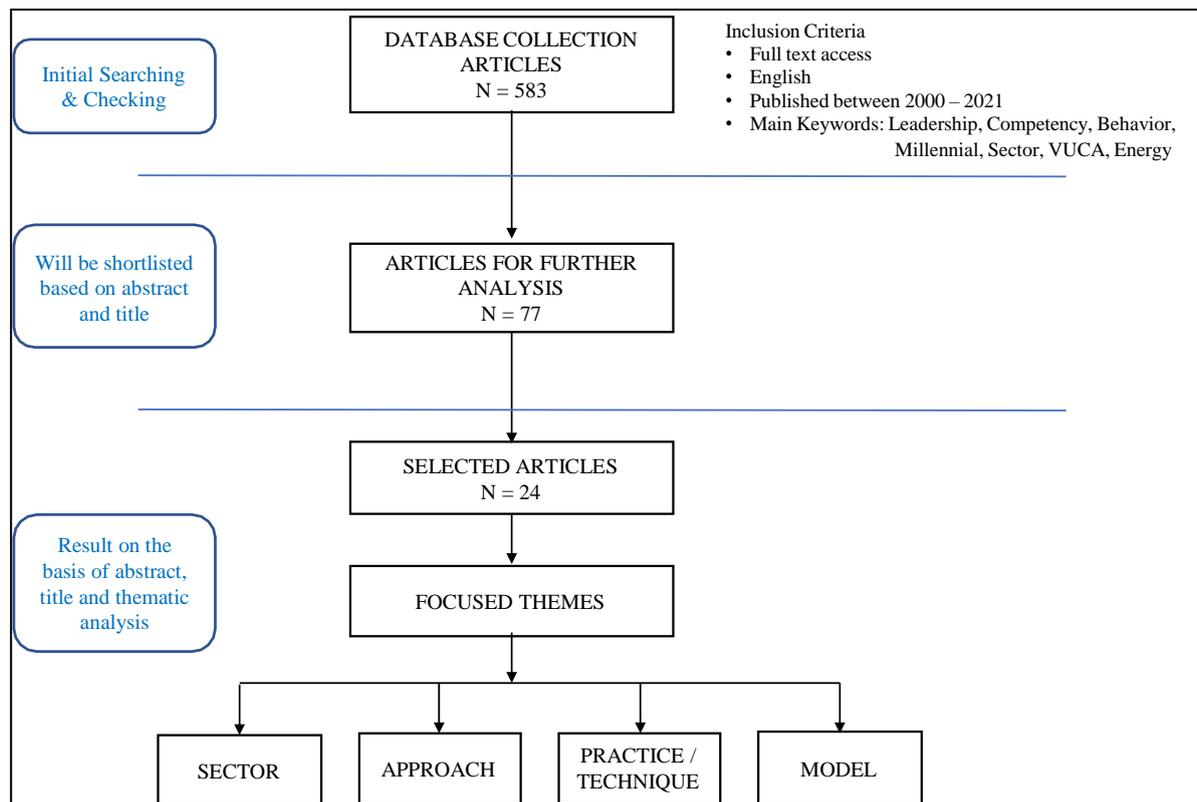


Fig. 4 Flow Process of Article Selection

Findings suggested that 24 leadership competency model have been used in the literature obtained with very limited number implementation of in energy sector, yet none has been done for millennials case. Most of the models reviewed are using interviews and surveys as the main approach. Behavioral Event Interview is very effective way to build new leadership competency model.

Monang *et al.* (2019) researched the leadership skills of twenty middle managers from various public institutions in Indonesia used behavioral interviewing techniques to examine the skills of a group of effective general middle managers. They believe that communication, organization, information seeking, analytical thinking and planning skills are essential for effective public middle managers (Iman Sudirman, Joko Siswanto, Joe Monang, 2019).

Shi *et al.* (2019) studied using combined method of behavioral event interview and random stratified sampling survey (3245 participants was 18–65 years old) to build a generic model for skills needed by Chinese public health professionals. Research shows that the competency model for public health professionals includes seven competency dimensions: basic medical knowledge, public health knowledge, health management and health promotion, specialized skills, research, and development, comprehensive and professional (Shi *et al.*, 2019).

The study examines the technical skills required for construction managers in Malaysia through a multi-level objective analysis of the literature and interviews, followed by a questionnaire to test the effectiveness of technical competencies. The construction manager's technical competencies include managing: people, materials, labor, plants, subcontractors, safety, capital, quality, time, environment, site management, pre-construction activities, completion, and delivery of projects, third parties, computer literacy and construction contracts (Abdullah, Yaman, Mohammad, & Hassan, 2018).

The Dental Competence Index was developed using an expert consultation questionnaire using literature reviews, focus group interviews and in-depth personal interviews. The competency model conforms to the characteristics and quality requirements of Chinese dentists and has a solid scientific basis (Geng *et al.*, 2018).

Dainty *et al.* (2004) conducted study to identify the key behaviors that lead to performance quality in UK construction project managers with a total of 40 participants. A mixed approach of job competence assessment (JCA) techniques with behavioral event interviews, expert panels, and one-way statistical analysis of variance (ANOVA) was used to identify the skills that characterize senior and middle managers. 12 skills that separate great from average: achievement orientation, initiative, information seeking, customer focus, influence and influence, coaching, teamwork and collaboration, team leadership, analytical thinking, thinking conceptual, calm and flexibility (Dainty *et al.*, 2004).

A study using the behavioral event interview (BEI) method to determine the competencies required for effective performance in the public administration position of the Ministry of Agriculture and to validate the skills model. The recommended competence model can be organized into four competence characteristics: motivation, self-concept, knowledge and skills and ability (Vathanophas, 2006).

A study in construction company in Indonesia on evaluation the effectiveness of the competency assessment to individual development was made by using mixed method, where in-depth interviews with purposively selected

participants and questionnaires for 40 employees. The results of the study show that there are many limitations to the successful application of the competency model, such as: the evaluation process is highly dependent on the manager's judgment, and the manager and his subordinates are reluctant to use your own individual assessment. Real assessment., the main points of the evaluation were not sufficiently clarified, the validity of the tool remained in doubt, and staff received no feedback on the results of the evaluation (Mangundjaya, Aprianti, & Poerwadi, 2009).

The research conducted in Sri Lanka aims to conduct an empirical study of management skill needs using quantitative methods. The study was limited to a fully integrated telecommunications service provider and 198 senior executives participated in the study. The results identified current perceived levels of competency expertise, current and future skill gaps, and the skills their managers would like to improve now and soon (Wickramasinghe & de Zoyza, 2009).

A study based on the McClelland/McBer Competency Assessment Questionnaire was conducted in Taiwan to construct a competency model for senior human resource managers. The study found that the competency model for senior HR managers was like Spencer's general competency model for caregivers and social service workers, with the exception of self-control (Chung & Wu, 2011).

Momin (2018) studied about the competencies of middle managers leading successful strategy implementation in Singapore. There were 152 total sample population participated in the survey and quantitative approach was applied. The finding was that business leaders and top managers were more likely to end up with mismatched middle managers that lack the required abilities to successfully execute strategy if they did not know the competencies needed to implement strategy successfully, or the competencies that exist in their management pool, thereby setting a course for failure from the start (Momin, 2018).

A study to determine the components of project manager competencies for small and medium enterprises in the Palestinian construction industry. The study used a survey questionnaire that included 150 hiring companies. The study identified four dimensions of competence, namely cognitive competence, functional competence, personal/behavioral competence, and moral/value competence (Omran & Suleiman, 2017).

Research by Darling and Cunningham (2016) focuses on exploring the unique values and skills associated with leaders in the public and private sectors. Fifteen senior executives participated as main interview participants for the event. They identified many important and unique skills in the public sector, such as managing competing interests, managing policy environments, communicating in policy environments, self-motivation skills, adding value to clients, and evaluating impact on decision-making. These are quite different from those critical to the private sector: business acumen, prudent leadership, marketing communications, market insight, interpersonal communication, customer service, timely decision making, and opportunism (Darling & Cunningham, 2016).

A study was conducted using quantitative survey methods to examine the role of leadership skills in implementing TQM in 265 companies in Thailand. Results were validated using exploratory factor analysis (EFA). The study emphasizes the need for top management to be a leader in the application of total quality management. Companies with high leadership more effectively fulfill each of the nine principles of TQM and are able to produce high quality products (Das, Kumar, & Kumar, 2010).

To bridge the gap between theory and practice, a study involving 22 Belgian organizations was carried out. The main objective is to fill this gap by revealing the process of skill development in the organization. The research methodology used organizational records, semi-structured interviews with human resource managers and focus groups. Organizations are found to develop employee skills through a combination of training, on-the-job learning, and career management (Vos & Hauw, 2021).

Ryan, et al. (2012) report that individual leader skills and corporate profitability are linked and demonstrate that skills have cross-cultural value. Fifteen high-performing managers participated in the development of the initial competency survey using the critical incident interview. The study revealed a skill set identified as predictive of unit profit growth among managers in North America and the European Union. Subsequent regression analysis showed that 17% of variance in business unit profitability could be explained by four skills, namely team leadership, other people development, achievement orientation, motivation and affect (Ryan, Spencer, & Bernhard, 2012).

A study to design a management competency framework for Indonesian SOEs facing the 4.0 era was conducted and used two studies, with mixed methods techniques; questionnaires with 66 graduate students from three colleges, interviews with the Human Resources Department and questionnaires with business managers in three areas; banking, oil and gas and telecommunications. The survey questionnaire was developed based on the concept of capacity developed by the Ministry of Public Enterprises of Indonesia. Research shows that management skills include 'integrity', 'partnership building', 'business knowledge', 'customer focus' and 'planning and organizing' are necessary and important skills for the success of managers in public companies (Syarifuddin & Ade Irma Susanty, 2019).

The study was conducted to determine human resource competencies and best management practices related to improving employee performance in a palm oil mill company owned by SoE Indonesia. The study applied a quantitative approach using interviews and questionnaires with 76 company employees and analyzed the data using a proportional least squares structural equation model. Likert and a smallest fraction (PLS-SEM). The results show three implications. First, competence affects employee performance in palm oil factories. Second, capacity has a negligible score for best management practices. Third, management best practices affect employee performance (Evanisa, Sukmawati, & Setiawan Slamet, 2021).

Another empirical study was conducted on the managerial skills of front-line and middle managers in the

Indonesian banking industry (SoE), in which Spencer and Spencer (1993) measured managerial skills, and a questionnaire assessed the 'scope and frequency of' managerial skills. used in research work. The results suggest a prototype of the common skills of managers in the Indonesian banking sector and describe the need to categorize managerial skills at different management level (Wulandari, Raharja, Nurasa, & Abdul, 2014).

The study examines the skills that facilitate the success of recent Hong Kong graduates in the workplace. The sample was 289 full-time employees in different organizations, and the method involved the use of a questionnaire. The results showed that all skills examined were significant to some extent. "Ability and willingness to learn," "teamwork and cooperation," "hard work and willingness to do extra work," "self-control," and "analytical thinking" were the top five skills measured (Pang, Wong, Leung, & Coombes, 2019).

Conduct research to define a soft competition model and develop personnel responsible for public interest land tenure in Indonesia. The method used in this study is a qualitative approach to study existing problems and established business procedures. Data collection techniques were conducted through interviews, observations and focus group discussion (FGD) work. The results of the data analysis showed that the non-technical competence model of people engaged in land ownership consists of three (three) criteria, namely self-concept, personality traits and motivation (Prawesto & Wardiyanto, 2017).

The study aims to identify the key skills that are vital for food and beverage professionals in the Malaysian hospitality industry. Produce a qualitative research design consisting of document analysis and expert sampling with culinary professionals from the hospitality industry and culinary education institutions as participants. Semi-structured interviews were conducted with 9 participants based on their training in the culinary industry. This study adopted the BEI method. Qualitative data are used to form a framework for the Star-Chef competency model, which consists of six specific competency concepts (Suhairom, Musta'amal, Mohd Amin, Kamin, & Abdul Wahid, 2019)

Another study in Germany aimed to develop a competency model for students working in learning factories. Semi-structured interviews were conducted with 4 teachers and 4 students with practical experience in the Learning Factory. In the results, 12 skills were identified, which can then be mapped into three main skill sets: professional/systematic, social, and interpersonal (Müller-Frommeyer, Aymans, Bargmann, Kauffeld, & Herrmann, 2017).

A pilot study of manufacturing in Thailand highlights the importance of specific leadership skills such as customer orientation, continuous improvement, and employee involvement in improving product quality (Das et al., 2010).

Aldulaimi (2018) conducted a qualitative case study in the state of the environment in Saudi Arabia and found that participation in a leadership development program produces leadership performance that bridges gaps in leadership. A purposive sample of 32 participants was taken from structured interviews conducted by the researchers. It turns out that using leadership development programs to bridge leadership gaps is fruitful, and the effectiveness of the strategy increases when organizations deliberately select and support participants at all stages of leadership development (Aldulaimi, 2018).

In their research in oil and gas company in UAE, Saeed, et al (2015) identified five coaching constructs on leadership development: empowerment, coaching process, building trust, feedback, and leadership role on leadership development. 469 respondents involved to the surveys and a one-way ANOVA to compare the effect of coaching concepts on leadership development (Saeed, 2015).

V. DISCUSSION

Based on findings from literature review, there was not founded any research conducted specifically on developing leadership competency model for millennial leaders in energy sector. As seen in Table 2, research on State Own Enterprise (SoE) mostly used interviews and surveys as the approach. JCA – BEI and FGD is used to develop competency model on qualitative study. On project construction, mixed method combining the interview and survey is used dominantly to develop the model of competency as depicted in Table 3. In public administration sector, JCA – BEI is dominantly used in qualitative and mixed method study as described in Table 4. In Table 5, much research in private sector are choosing qualitative and quantitative method to define the competency models as interviews and surveys are the most selected approach. Limited research in education sector used JCA – BEI and survey as seen in Table 6.

As shown Figure 5 shows the proposed efficiency model for millennium managers in the Indonesian energy sector, which will form part of the authors' future research after reviewing these findings. The study will be carried out using JCA-BEI's selection of qualitative methods.

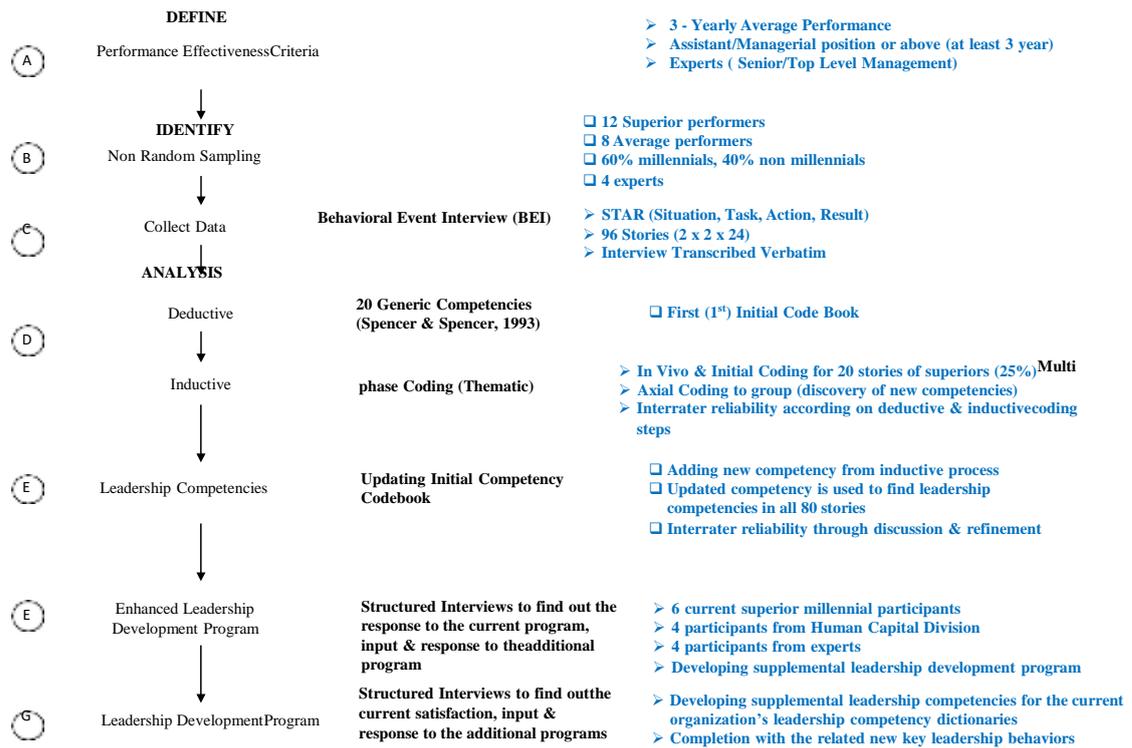


Fig. 5 Leadership Competency Model Development for Millennial Leaders in Energy Sector

Table 2 Research Focus Area on State Own Enterprise (SoE)

No	Author	Year	Focus Area	Competency Modelling Approach									Notes	
			State Own Enterprise (SoE)	JCA BEI	CIT	Interview	Delphi	Survey	FGD	Qualitative	Quantitative	Mixed Method		
1	Evianisa, et al.	2020	v						v			v		The research applied a quantitative approach where interviews and questionnaires were conducted on 76 employees in the company and analyses with the Likert scale and PLS-SEM.
2	Ramadhana and Susanti	2019	v				v		v	v			v	Mixed methods techniques; questionnaires for 66 graduate students from three universities, interviews with human resources and questionnaires with business managers from three departments; Banking, oil and gas, telecommunications.
3	Aldulaimi, Saeed	2018	v				v					v		A purposive sample of 32 participants was drawn from structured interviews conducted by researchers
4	Wulandari, et al.	2014	v	v			v		v			v		Managerial skills were identified by assessing the importance and frequency of use of managerial skills at work, using literature reviews, databases of skill lists and generic skill models, and questionnaires. The 40 respondents consisted of a sample of 13 top managers and a sample of 37 middle managers.
5	Mangundjaya, et al.	2009	v				v		v				v	Mixed method, in-depth interviews with purposively selected participants and questionnaires for 40 employees

Table 3 Research Focus Area on Public Administration

No	Author	Year	Focus Area	Competency Modelling Approach									Notes	
			Public Administration	JCA - BEI	CIT	Interview	Delphi	Survey	FGD	Qualitative	Quantitative	Mixed Method		
1	Monang, et al.	2019	v	v		v							v	Behavioral event interviews with two distinct group of 20 middle managers
2	Shi, et al.	2019	v	v		v				v			v	Mixed method of behavioral event interview and random stratified sampling survey. The researchers purposively selected 150 leading public health practitioners at colleges and universities and 85 leading public health educators to participate in the inventory study.
3	Prawesto, et al.	2017	v			v				v	v			Qualitative methods of studying existing problems and established work procedures. The experts in this study include 5 (five) people from authorized land tenure agencies as insiders on the subject and 7 (seven) people as other significant insiders. Data collection techniques were conducted through interviews, observations and focus group discussion (FGD) work.
4	Cunningham and Darling	2016	v		v						v			15 senior leaders were involved as the participants in Critical Incident Interviews
5	Jintawee and Vathanophas	2007	v	v		v			v		v			Behavioral Event Interview (BEI) technique and survey to validate the competency model

Table 4 Research Focus Area on Project Construction

No	Author	Year	Focus Area	Competency Modelling Approach									Notes	
			Project Construction	JCA - BEI	CIT	Interview	Delphi	Survey	FGD	Qualitative	Quantitative	Mixed Method		
1	Abdullah, et al.	2018	v			v			v				v	A mixed method combining multi-level objective analysis of the literature and interviews, followed by a questionnaire, was used to test the effectiveness of technical competences.
2	Omran and Suleiman	2017	v						v			v		The study used questionnaire surveys to 150 private construction companies. A total of 109 questionnaires were retrieved, with a response rate of 73%.
3	Dainty, et al.	2004	v	v		v				v			v	40 participants. A mixed method using Job Competence Assessment Technique (JCA) with behavioral event interviews, expert panels and statistical methods for one-way analysis of variance (ANOVA)

Table 5 Research Focus Area on Private Sector

No	Author	Year	Focus Area Private	Competency Modelling Approach									Notes	
				JCA - BEI	CIT	Interview	Delphi	Survey	FGD	Qualitative	Quantitative	Mixed Method		
1	Suhairom, et al.	2019	v	v		v						v		Produce a qualitative research design consisting of document analysis and expert sampling with culinary professionals from the hospitality industry and culinary education institutions as participants. Semi-structured interviews were conducted with 9 participants based on their training in the culinary industry. This study adopted the BEI method.
2	Pang, et al.	2019	v						v				v	The sample is 289 full-time employees in different organizations, the method involves the use of a questionnaire.
3	Momin, ZA	2018	v			v		v					v	152 total sample population participated in the survey and quantitative approach was applied
4	Geng, et al.	2018	v				v	v	v	v				Literature reviews focus group interviews and in-depth personal interviews. A panel of 20 experts selected for two sets of Delphi peer reviews.
5	Shamsi, et al.	2015	v					v					v	469 respondents involved to the surveys and One-way ANOVA between subjects was conducted to compare the effect of coaching constructs on leadership development
6	Ryan, et al.	2012	v	v	v	v		v					v	The initial competency study using Critical Incident Interview. The identified skills were then entered into a behavioral questionnaire (n = 70), which was used in the follow-up validation study.
7	Vos, et al.	2011	v			v			v	v				Organizational documents and semi-structured interviews with HR managers and focus groups
8	Das, et al.	2010	v					v					v	Quantitative survey approach. Results were validated using exploratory factor analysis (EFA).
9	Wickramasinghe and Zoyza	2009	v					v					v	Quantitative method. The study was limited to one fully integrated telecommunications service provider and 198 CEOs participated in the study.

Table 6 Research Focus Area on Education

No	Author	Year	Focus Area Education	Competency Modelling Approach									Notes	
				JCA - BEI	CIT	Interview	Delphi	Survey	FGD	Qualitative	Quantitative	Mixed Method		
1	Frommeyer, et al.	2017	v			v						v		Semi-structured interviews were conducted with 4 teachers and 4 students with practical experience in the

													Learning Factory. Analysis of recorded interviews using MAXQDA qualitative content analysis
2	Chung and Wu	2011	v	v	v	v	v	v	v	v	v	v	A questionnaire was used to determine the skills of 48 directors and these samples were divided into two groups. Study 1 included 14 top directors and Study 2 included 34 average directors. Using the procedures of the JCA Method, the authors construct and analyze the skills of these two groups.

VI. CONCLUSION AND RECOMMENDATION

Several researched have been undertaken to develop competency models in some focused area. The competency model approaches and the results in some focused area could only provide picture about the leadership competency model development in the respective sector as the organization vision, mission and need are different between one and another. In addition, all the sectors have different challenges.

However, there was no evidence that the similar type of research for developing the leadership competency model has been conducted specifically for the millennials in energy sector. Thus, the study on that particular area become very important to conduct especially when considering the VUCA and COVID – 19 challenges as the new era of doing business become critical while the millennials are ready to take more important roles at the organization in energy sector.

ACKNOWLEDGEMENT

This research was conducted as part of the authors' doctoral study in the leadership competency area. The author thanks the promotor and co-promotors from School of Business & Management of ITB, which greatly assisted the research.

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