Designing the HRIS digital dashboard model using a CBHRM approach

A R S Munthe, W Baswardono and E Satria
1 Department of Civil Engineering, Sekolah Tinggi Teknologi Garut, Jalan Mayor Syamsu 1, Garut 44151, Indonesia
2 Department of Informatics, Sekolah Tinggi Teknologi Garut, Jalan Mayor Syamsu 1, Garut 44151, Indonesia

*andika.rsm@sttgarut.ac.id

Abstract. CBHRM is one of the developing patterns of human resource management in Indonesia. In this approach, competence becomes a keyword. Every employee will be assessed based on the competencies they have. In order for the results to be more optimal, a good report / output presentation model is needed. One solution that the authors propose is to use a digital dashboard model. This dashboard model is built using a framework that has been adapted to the life cycle of the model. Case studies are carried out on regional development companies, and CBHRM digital dashboards built consisting of Talent Dashboards, Competencies Gap Dashboards, and Comparison Dashboards are interrelated with each other.

1. Introduction
One element in HR management is utilization, which is placing people according to their competencies so that they can work optimally. However, at present, not a few positions or positions are given to people not because of their competence. In recent years there has been a new approach, especially in managing HR in accordance with its competencies, namely competency-based HR management (CBHRM), or competency-based HR management [1–4]. However, as good as the competencies of the employees, if the report / output presentation of the CBHRM approach is not good, CBHRM will be less useful for users of this method. One way to present information, especially by using information technology, is to use the Digital Dashboard [5–7].

In this research, the authors are interested in designing a digital dashboard model that can present the results of 1 output from the CBHRM approach. So it is expected that with the dashboard, companies can be more effective in managing employees.

2. Method
The framework is adjusted to the stage of development of models described in the literature. From the Framework, can be identified the activities needed to build a model CBHRM dashboard [2,8].
Competency Based Human Resource Management (CBHRM), or competency-based HR management. The CBHRM system that is widely applied in Indonesia has four main components, namely the dictionary of competencies, competency profiles, employee competencies and HRM applications. By having a set of competency profiles and employee competency data, the company can build competencies that are integrated with HRM applications [1,2]. CBHRM systems can integrate HR management processes including recruitment and selection, potential assessment, and succession planning.

- **Definition of Competence**, according to the LOMA Competency Dictionary as quoted in http://www.e-psikologi.com "Competence is defined as the personal aspects of a worker that allows him to achieve superior performance". These personal aspects include the nature, motivation, system of values, attitudes, knowledge, and skills. In general, own competence can be understood as a combination of skills (skills), personal attributes, and knowledge (knowledge) reflected through performance behavior (job behavior) that can be observed, measured and evaluated. Competence is divided into two types, namely soft competency or the type of competence that is closely related to the ability to manage work processes, human relations and build interaction with others. The second type of competency is often called hard competency or the type of competence related to functional or technical abilities a job [9].

- **Competence Model**, according to the LOMA Competency Dictionary as quoted in http://www.e-psikologi.com "Competency models are defined as a set of competencies that are important for superior performance of a job or group of work. This competency model provides a map that helps someone understand the best way achieve success in work or understand how to deal with a particular situation " [10–12].

- **Competence Dictionary**, the competency dictionary is the first comprehensive document that must be made to create a competency profile. Dictionary of competence is also often called the competency library, which includes core competencies, role competencies, and functional competencies, as well as behavioral competencies [9].

- **Competence Profile**, after having a competency dictionary, we can map the competencies of the dictionary for each position in the organization. Mapping competencies is identifying the
competencies needed for a position. The aim is to facilitate the measurement of office holders' competencies and also make it easier to compare profiles of jobs with other jobs [13].

- **Competence Matrix**, the competency matrix helps us to understand the level of competence needed at various levels in the organizational hierarchy. The competency matrix itself is based on the types of competencies. Another goal of making this competency matrix is to determine the number of competencies needed at each level. Required competency level (required competency level) shows the level of expertise expected by certain office holders. At the time of competency assessment, this concept is used in conjunction with the concept of current competency levels (current competency level) [14].

- **360 ° Assessment Concept**, the source of the 360-degree assessment consists of supervisors, coworkers, subordinates, customers, and yourself. Furthermore, according to Yodha the scoring scores from the various sources are added together, and usually each is given a weight. For example, the weight of the assessment from the boss = 25%, from the two co-workers each 20%, from the subordinates also 20%, and from oneself = 15% [15].

3. Results and discussion

3.1. **Competencies dictionary**
The compilation of competency dictionaries is the first step in applying CBHRM to 24 competencies that are adjusted to the competencies in the company [16,17].

3.2. **The determination of indicators**
Proficiency level is the level of mastery of competencies required in appropriate with the demands of the job competencies. Proficiency level using key terms of behavior as an indicator of the required assessment in a competency. And to simplify the scale of the assessment, each competency is standardized only 5 proficiency level per competency.

3.3. **Competencies matrix**

| Competency                          | SPV | Ast. Mgr | MANAGER/GM | DIREKTUR |
|-------------------------------------|-----|----------|------------|----------|
| Teamwork                            | ✓   | ✓        |            |          |
| Foster Teamwork                     | ✔   | ✓        | ✔          | ✔        |
| Change Leadership                   | ✔   | ✔        | ✔          |          |
| Coach and Develop Others            | ✔   | ✔        |            |          |
| Technical Expertise                 | ✔   | ✔        | ✔          |          |
| Analytical Thinking                 | ✔   | ✔        | ✔          |          |
| Analyze Issue                       |     |          |            | ✔        |
| Strategic Decision Making           |     |          |            | ✔        |
| Personal Integrity                  | ✔   | ✔        | ✔          |          |
| Achievement Drive                   | ✔   | ✔        | ✔          |          |
| Learning                            | ✔   | ✔        | ✔          |          |
| Customer Focus                      | ✔   | ✔        |            |          |
| Customer Service Orientation        |     |          |            | ✔        |
| Cross-functional capability         | ✔   | ✔        | ✔          | ✔        |
| Quality Focus                       | ✔   | ✔        | ✔          | ✔        |
| Commit To Quality                   |     |          |            | ✔        |
| Personal Effectiveness               | ✔   | ✔        | ✔          |          |
| Cost Efficiency                     | ✔   | ✔        | ✔          |          |
| Budget Management                   | ✔   | ✔        | ✔          |          |
| Financial Management                |     |          |            | ✔        |
| Innovation                          | ✔   | ✔        | ✔          |          |
| Planning and Organizing             | ✔   | ✔        | ✔          |          |
| Monitoring                          | ✔   | ✔        | ✔          |          |
| Establish Plan                      |     |          |            | ✔        |

**Figure 2.** Competencies matrix.
3.4. Required competency level

Based on the competency matrix, we can determine the position matrix. The position matrix contains various competencies related to a position with the required competency level (required competency level) [9]. The required competency level (required competency level) shows the level of expertise expected by certain office holders. At the time of competency assessment, the RCL concept will compared to the concept of the level of competence that is currently owned (current competency level). And based on the results of discussions with the city developer company then it was decided that required competency level of all competencies must be at level 3.

3.5. Design dashboard

In making this dashboard design, the author is guided by best practice methods. Where after the author completes this dashboard prototype, the author asks for feedback from the City Developer company HRD team, then the HRD team provides feedback in the form of additional information that should be displayed [17–19]. Then the writer improve the digital dashboard design to match the feedback the author receives.

3.5.1. Talent dashboard. This dashboard shows the ranking of employees on the same position / position projections based on their competency. Every maximum position can only display 3 employees with the best competence in the relevant unit, and 1 best employee from all units.

3.5.2. Competencies gap dashboard. This dashboard has three sections, which is: section personal profile, section gap competency, and section competency that need to be developed.

![Employee 1]

| Employee 1 |
|------------|
| NAME       : Olivia Natalia |
| AGE        : 30              |
| RELIGION   : Protestant      |
| JOB        : HR Senior Staff |
| DEPARTMENT : HR & GA        |
| DIVISION   : Recruitment     |
| LENGTH OF EMPLOYMENT : 4 Tahun |
| NEXT LEVEL : SPV            |
| READINESS LEVEL : 1 Tahun   |
| COMMITMENT LEVEL : 3       |
| ASSESSMENT STATUS : Need Refresh |

![Figure 3. Competencies gap dashboard design.]

**Competency that need to be develop**

- Achievement Drive
- Innovation
- Planning and Organizing

Orange : Required Competency Level  Blue : Current Competency Level

Personal profile section shows the profile of employees, position/title later, the level of employee commitment to the company, the level of readiness to serve the next position and the status of the employee assessment. Section competency gap showed proficiency level of competence possessed by the employee and also to compare the required competency level for the next term projections with its current competency level. That while in the competency section need to be developed shown the
competencies to be developed by the employee, where competencies are competencies that have a lower level than the level of competence expected.

3.5.3. **Comparison dashboard.** This dashboard shows the comparison between the competence of an employee with other employees who have the same projected position.

![Comparison dashboard design](image)

**Figure 4.** Comparison dashboard design.

4. **Conclusion**

Based on the results of the discussion that has been done before, some conclusions can be taken as follows: Selection of indicators for the dashboard aims to obtain information relating to the ultimate goal of using the CBHRM method. In CBHRM itself, a behavioral indicator (key behavior) is the main indicator used to provide an objective description of each competency of a candidate who can provide evidence that the candidate has certain competencies; The built-in dashboard model can represent managerial competency information for each employee so that it can be used in selecting the right employee to occupy a position; Every dashboard model that is developed has a connection between one another. Talent Dashboard is a dashboard that is used to see which employees rank first as successors in certain positions / leadership positions, which can then be specified in the Competencies Gap Dashboard that shows comparative information between the competencies needed and the competencies possessed by those employees. And if you want to compare with other employees, you can use the Comparison Dashboard that compares the competencies between an employee and other employees who are prepared to become successors in certain positions.

**Acknowledgment**

Authors wishing to acknowledge Sekolah Tinggi Teknologi Garut that supports and funds this research publication.
References

[1] Suwarsi S Analysis Implementation of Cbhrm At the State-Owned Energy Sector Companies 25

[2] Nasriyah R, Arham Z and Aini Q 2016 Profile Matching and Competency Based Human Resources Management Approaches for Employee Placement Decision Support System (Case Study) Asian J. Appl. Sci. 9 75–86

[3] Buckley M R, Wheeler A R and Halbesleben J R B 2017 Research in Personnel and Human Resources Management (Emerald Publishing Limited)

[4] Liao H, Martocchio J J and Joshi A 2017 Research in Personnel and Human Resources Management (Emerald)

[5] Wibawa J C, Izza M and Sulaeman A 2018 HRIS (Human Resources Information System) Design for Small for Micro, Small and Medium Enterprises IOP Conf. Ser. Mater. Sci. Eng. 407 012134

[6] Rasmussen N H, Bansal M and Chen C Y 2009 Business dashboards: a visual catalog for design and deployment John Wiley Sons

[7] Septiana Y, Kurniadi D, Mulyani A and Baswardono W 2018 Design of decision support system for blood analysis 3rd Annu. Appl. Sci. Eng. Conf. (AASEC 2018) 197 03018

[8] Lepak D P, Liao H, Chung Y and Harden E E 2006 A Conceptual Review of Human Resource Management Systems in Strategic Human Resource Management Research Research in Personnel and Human Resources Management vol 25 pp 217–71

[9] R Palaniappan 2003 Competency Management

[10] Brealey N 2004 La Administración de RR.HH. por Competencias 1–8

[11] Kurniadi D, Abdurachman E, Warnars H L H S and Suparta W 2018 The prediction of scholarship recipients in higher education using k-Nearest neighbor algorithm IOP Conf. Ser. Mater. Sci. Eng. 434 012039

[12] Septiana Y 2018 Design of prototype decision support system for flood detection based on ultrasonic sensor ed A G Abdullah and A B D Nandiyanto MATEC Web Conf. 197 03017

[13] Tursunbayeva A, Bunduchi R, Franco M and Pagliari C 2019 What Kind of Benefits Different Stakeholders Can Expect and Obtain from HRIS Implementations: An Italian Case Study Lecture Notes in Information Systems and Organisation 27 39–48

[14] Delery J E and Shaw J D 2001 The strategic management of people in work organizations: Review, synthesis, and extension Research in Personnel and Human Resources Management 20 165–97

[15] Tepper B J and Simon L S 2015 Employee maintenance: Examining employment relationships from the perspective of managerial leaders Research in Personnel and Human Resources Management 33 1–50

[16] Madon S 2018 The Digital Challenge: Information Technology in the Development Context (Routledge)

[17] Masum A K, Beh L S, Azad A K and Hoque K 2018 Intelligent human resource information system (i-HRIS): A holistic decision support framework for HR excellence Int. Arab J. Inf. Technol. 15 121–30

[18] Kurniadi D, Sasmoko, Warnars H L H S and Gaol F L 2017 Software size measurement of student information terminal with use case point 2017 IEEE International Conference on Cybernetics and Computational Intelligence (CyberneticsCom) (IEEE) 164–9

[19] Kurniadi D, Mulyani A, Septiana Y and Aulawi H 2018 Estimated software measurement base on use case for online admission system IOP Conf. Ser. Mater. Sci. Eng. 434 012062