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Research paper



Design Model of Digital Dashboard Human Resources Information System based on Competence (Case Study at PT. Daya Adicipta Mustika)

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Abstract

CBHRM is one of the patterns of human resource management is being grown in Indonesia. In this approach, the vocabulary of competence to be a key element. Each employee will be assessed on its competence. In order results can be more optimally achieved, it would require a model of presentation of the good report/well output. One of the solutions the authors propose is to use a digital model of the dashboard. The model was built using the dashboard frame of mind which has been adapted to the life cycle model. Case studies conducted at PT. Daya Adicipta Mustika, and digital dashboards built CBHRM consist of Talent Dashboard, Dashboard Gap Competencies, and Comparison Dashboard interrelated with each other.

Keywords: *CBHRM; Dashboard; Competence.*

1. Introduction

One element in human resource management is the utilization of putting people appropriate with their competence, so that it can work optimally. But like most of the ideal theory, the term the right man in the right place; also, relatively difficult to implement. At present, not the least of position or title was given to people, not because of competence.

Recent years spreading a new approach in managing human resources in particular appropriate with its competencies, that is competency-based HR management (CBHRM), or competency-based management of human resources. But, as good as any competency of the employees, if the presentation of reports/outputs of the approach is not good then CBHRM will be less useful to the users of this method. One way of presenting information, especially with the use of information technology is to use the Digital Dashboard.

On this paper, the authors are interested in designing a model of a digital dashboard can present the results/output of CBHRM approach. So, it is expected by the dashboard, the company can be more effective in managing employees.

2. Literature Study

This section describes the discussion of the foundations of the theory of choice based on the literature used as a reference as well as basic scientific research study of the topic.

2.1. Human Resources Management

Human resource management is closely related to the management of individuals within an organization, so that each individual can contribute to the achievement of organizational goals.

In the opinion of [6], the purpose of human resource management is to improve the productive contribution of people who are in the company through a number of ways that strategically responsible, ethical, and social.

2.2. Model

The model is defined as a representation or abstraction of an actual object or situation. The model shows the direct relationships and indirect and reciprocal relationship in terms of cause and effect [7].

2.2.1. Model Type

Classification of the different models gives added depth to the level of importance because it can be explained in many ways. Models can be categorized according to type, dimensions, function, purpose or subject assessment his abstract degrees. General category is the type of model that can basically be grouped into iconic, analog, and symbolic [7].

On several ways, a model made only for such a mathematical description of real world conditions. This model is called descriptive models and is widely used to facilitate the review of a problem.

2.2.2. Model Life Cycle

In sequential stages of modeling are as follows.

a) Selection Stage
   The initial stage of modeling is to perform concept selection. Interaction with decision makers and others who were deeply involved in the system that is built, it is important to do at this stage of selection.

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b) Engineering Model Stage
The next step is to determine the type of model to be applied. After that, the task modeling phase focused on building realistic models.
c) Computer Implementation Stage
The use of computers as processing and storage of data cannot be ignored in a systems approach. This stage as if to form models of a model, which is another level of abstraction drawn from the real world.
d) Validation Model Stage
Validation of models is an attempt to conclude whether the system model is a valid representation of reality that can be studied which produced a convincing conclusion.

In the complex and urgent problems, suggested partial validation process, which is not done testing the entire system model. This resulted in recommendations for the use of models is limited (limited application) and if necessary, suggest models in the next studies.

2.2.3. CBHRM

Personal development is systematically superior quality may be one strategy that must be carried when a company aims be the best. In this regard, in recent years spreading a new approach in managing human performance, which is often referred to as a competency-based Human Resource Management (CBHRM), or competency-based management of human resources. In this approach, the vocabulary of competence to be a key element.
CBHRM systems are widely applied in Indonesia has four main components, namely a dictionary competence, competency profiles, employee competence and application of HRM.
The first component of the system is CBHRM competency dictionary that consists of a series of competencies that will be used as a primary reference measurement to compare the competency profile of positions with the competence of the employees.
Competency profile contains a list of competencies that distinguishes each competency include level / required level or threshold competencies required for each job. Development of competency profiles based on job descriptions and competency dictionary company.
The next important part is the competence of the employees that the data can be assessed in various ways, ranging from employees' private studies, interviews, questionnaires to the assessment center method to apply a lot of measuring tools made by many assessors and staff involved as well.
By having a set of competency profiles and data competence of the employees, the company can build the competencies that are integrated with HRM application. CBHRM system can integrate HR management processes including recruitment and selection, assessment of potential, and succession planning.
a) Competence Definition
According to LOMA Competency Dictionary, as quoted in http://www.e-psikologi.com [4] "Competence is defined as the personal aspects of a worker who allows him to achieve superior performance." Personal aspects include the nature, motivations, value systems, attitudes, knowledge, and skills. The competencies will drive the behavior. While the behavior will result in performance.
In general, the competence itself can be understood as a combination of skills (skills), personal attributes, and knowledge (knowledge) which is reflected through the performance behavior (job behavior) that can be observed, measured and evaluated. In some literature, competency is often divided into two types, namely, soft competency or competencies that are closely related species with the ability to manage work processes, human relations and build interactions with others. Examples of soft competency are leadership, communication, interpersonal relations, and others. The second type of competence is often called hard competency or competencies related to the type of functional or technical capabilities of a job. In other words, competence is concerned with the technical intricacies associated with the work of the occupied. Examples of hard competency are: electrical engineering, marketing research, financial analysis, manpower planning, etc.
b) Competencies Model
A competency model is a written description of the competencies required for successful performance can be fully or it could be an example in the category of work, teamwork, department, division, or organization [2].
While according to LOMA Competency Dictionary, as quoted in http://www.e-psikologi.com [4], "Models of competence is defined as a set of competencies that are important to the superior performance of a work or group work. This competency model provides a map that helps a person understand how best to achieve success in employment or understood how to resolve a particular situation".
Many sources of data used to create a competency model is a theory, senior management interviews, expert panels, or a discussion group of experts in one field of expertise, the behavior description interviews (behavior event interview) and generic competency dictionary [5].
c) Competencies Dictionary
Competency dictionary is a compilation of all the competencies required by the organization. Competency dictionary is the first comprehensive document that must be made to create a competency profile. Definition of competence is also often called competency library, which includes the core competencies, role competencies and functional competencies and behavioral competencies.
d) Competencies Profiling
After having the competency dictionary, we can map the competence of the dictionary for each position in the organization. Mapping the competence is to identify the competencies required for a position. The aim is to facilitate the measurement of incumbent competence and also facilitate comparison of the profile of a job with another job [5].
e) Competencies Matrix
The matrix is a wedge between the columns and rows. There are two variables in a matrix of competencies, namely: competence and level of work. Competency matrix to help us understand the level of competencies required at various levels in the organizational hierarchy. Competency matrix itself is based on the types of competence. Another goal of making this competency matrix is to determine the number of competencies required at each level [5].
Based on the competency matrix, we can create a matrix that contains the position of the competencies required for the job position. The level of competence needed (required competency level) show the expected level of expertise possessed by the holders of certain positions. At the time of assessment of competence, the concept is used in conjunction with the concept of the current level of competence (current competency level).
f) 360° Assessment Concept
The term 360-degree assessment as the name of this assessment process includes an assessment of the various points, the assessment of himself, of his boss, then from the two co-workers, as well as assessments of subordinates (for employees who have subordinates) [1].
Further still according to [1] from various sources of assessment scores were summed up, and usually, each given a weight. For example, the weight ratings of boss = 25%, of the two co-workers respectively 20%, 20% of subordinates, and from ourselves = 15%.

2.3. Dashboard

The executives are very concerned with the overall picture of business conditions. And this information is required to be presented in an easily digestible format. And this is usually achieved

by the use of the BI system visualization in a variety of chart presentations page.
Since the condition types of information which were adopted by the chart type is different, it is usually visualization is combined in such a way that resembles a "dashboard" car then it is called Digital Dashboard. Digital Dashboard is a critical component of an integral of the current BI product.
In [3] state that the intended use of the dashboard is similar to a driver of the car or airplane pilot who need vital information on speed, oil pressure, temperature, and so on through the control panel in front of the rider. Gauges, red and green lights are strategically positioned so that it can be observed with a glance, without losing focus on where to go or if it is no problem or no problem, you can make decisions accordingly. Just as motorists or pilots who depend on the dashboard to do their jobs, managers are increasingly turning to business dashboards to help them run the organization.

3. Research Framework

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.

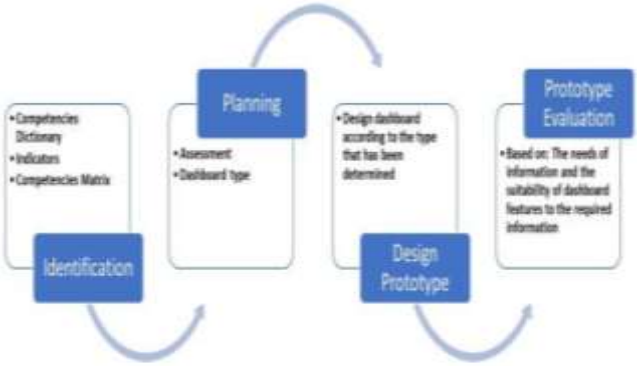

Fig. 1: Framework Design Model CBHRM Dashboard

4. Results and Analysis

4.1. Competencies Dictionary

Preparation of competency dictionary is the first step in the application CBHRM. PT. Daya Adicipta Mustika as part of the Power Group has a competency dictionary that has been made previously and adjusted to the competency dictionary contained in the Power Group, which is a total of 39 competencies.

4.2. 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.

4.3. Competencies Matrix

The division of competence for each class can be viewed in the following table:

Table 1: Competency Matrix

	Section Head	Sub Dept. Head	Dept. Head	Div. Head
Teamwork	√			
Teamwork and Collaboration		√		
Foster Teamwork			√	√
Leads Courageously	√	√	√	
Change Leadership				√
Coach and Develop Others	√	√		
Developing People			√	
Attracting and Developing Talent				√
Trouble Shooting	√			
Problem Solving and Decision Making		√	√	
Analyze Issue				√
Strategic Decision Making				√
Personal Integrity	√	√	√	√
Drive for Result	√			
Learning	√	√	√	√
Customer Satisfaction	√			
Customer Focus		√		
Customer Service Orientation			√	
Focus On Customer Need				√
Cross-functional capability	√	√	√	√
Quality Focus	√	√		
Commit To Quality			√	
Personal Effectiveness	√			
Cost Efficiency	√			
Budget Management		√		
Budgeting			√	
Financial Management				√
Continuous Improvement	√	√		
Planning and Monitoring	√			
Planning and Organizing		√	√	
Monitoring		√		
Establish Plan				√

4.3. Required Competency Level

Based on the competency matrix, we can determine the position matrix. The matrix containing the position of the various competencies associated with a position following the required level of competency (competency level required). The level of competence needed (required competency level) shows the expected level of expertise possessed by the holders of certain positions. At the time of assessment of competence, the concept of RCL will be compared to the concept of level of competency of the current (current competency level). And based on discussions with the PT. Daya Adicipta, it was decided for all the competencies required competency level should be at level 3.

4.4. Dashboard Design

In making this dashboard design, the authors based on best practice methods. Where after the author completed the prototype dashboard, the authors ask for feedback from the team HRD PT. Daya Adicipta Mustika.
Furthermore, HRD team to provide feedback in the form of additional information that should be displayed. Then the authors improve the design of a digital dashboard to fit the feedback authors receive. Here is a dashboard that is designed:

4.4.1. Talent Dashboard

This dashboard shows the ranking employee on the projected position/same position based on competence. Each position can only display a maximum of three employees with the best competence in relevant units, and one best of all unit employees.



Fig. 2: Talent Dashboard Design

4.4.2. Competencies Gap Dashboard

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



Fig. 3: Competencies Gap Dashboard Design

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.

4.4.3. Comparison Dashboard

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



Fig. 4: Comparison Dashboard Design

5. Discussion

This chapter contains an evaluation conducted on the dashboard digital models that have been built by the implementation of the PT. Daya Adicipta Mustika. Evaluation is done by looking at the digital dashboard suitability features available with the needs of PT. Daya Adicipta Mustika. So finally found a conclusion that the model developed appropriately with the needs of PT. Daya Adicipta Mustika.

5.1. The needs of information

Needs the following information obtained from interviews with the HR & GA PT. Daya Adicipta Mustika.

1) Information about the list of employees who will be the successor to a managerial position.
2) Comparison between the competence of a successor to another successor.
3) Level of competence possessed by each employee who will occupy some managerial position. And the comparison between the competencies possessed by the employee with a must-have competency for managerial positions to be achieved.
4) List of personnel competencies that must be developed to achieve a minimum level in certain managerial positions.

5.2. The Suitability Dashboard Feature

In this section, we will compare the information needs of the PT. Daya Adicipta Mustika with dashboard features that have been designed.

1) Talent Dashboard
   Talent Dashboard provides information about the list of successors who will fill the managerial positions in PT. Daya Adicipta Mustika according to the order of best. Model Talent Dashboard was built could address the needs of information about the list of employees who will be the successor to a managerial position.
2) Competencies Gap Dashboard
   Comparison Dashboard provides comparative information competencies held by 2 people successor. So with a dashboard view of this comparison is the PT. Daya Adicipta Mustika could choose the best successor to occupy managerial positions in PT. Daya Adicipta Mustika.
   Comparison Dashboard built a model that could address the needs of information on the comparative competence of a successor to another successor.
3) Comparison Dashboard
   Competencies Gap Dashboard provides detailed information about the competency of the employees and compares them with the competencies to be possessed by the employee to occupy managerial positions to be achieved. As well as information about competence - competence should be developed to achieve the required competence in managerial positions to be achieved.
   Model Competencies Gap Dashboard was built could address the needs of information regarding the level of competence possessed by each employee who will occupy some managerial position. And the comparison between the competencies possessed by the employee with a must-have competency for managerial positions to be achieved. Besides this dashboard could also provide information about the list of competencies that employees must be developed to achieve a minimum level that must be reserved in certain managerial positions.

6. Conclusion

Based on the results of the discussion that has been done before, several conclusions can be drawn as follows:

1) The selection of indicators for dashboard aims to obtain information relating to the use of methods CBHRM ultimate goal. In his own CBHRM behavioral indicators (key behavior) is the main indicator used to provide an objective description of each competency a candidate who could provide evidence that the candidate has a particular competence.
2) The digital dashboard model that has been built to represent information of each employee so that managerial competencies can be used in the selection of appropriate personnel to occupy a position.
3) Each dashboard models developed have links between each other. Talent Dashboard is the dashboard that is used to see which employees are ranked first as the successor to the office/position of certain leaders, who then download the drill down Competencies Gap Dashboard that shows the comparison of information between the competencies needed and competencies held by the employee. And if you want to compare with other employees, it can use the Dashboard to compare Comparison between the competence of an employee with other employees who are prepared to be the successor to the particular position.

References

[1] Antariksa, Y. Mengelola Kinerja dengan Penilaian 360 Degree. 2011. http://strategimanajemen.net/2011/06/20/mengelola-kinerja-karyawan-dengan-penilaian-360-degree/.
[2] Dubois, D., & Rothwell, W. Competency-Based Human Resource Management: Discover a New System for Unleashing the Productive Power of Exemplary Performers. Davies-Black Publishing, 2004.
[3] Rasmussen, N. H., Bansal, M., & Chen, C. Y. Business Dashboards: A Visual Catalog for Design and Deployment. John Wileys and Son, 2009.
[4] Lasmahadi, A. Artikel Organisasi Industri. 2002. http://www.e-psikologi.com/epsi/industri.asp.
[5] Palan, R. Competency Management. PPM, 2007.
[6] Rivai, V. Manajemen Sumber Daya Manusia untuk Perusahaan. Raja Grafindo Persada, 2006.
[7] Suwarto. Modul 3 Sistem dan Model Pelatihan Perencanaan Kehutanan Berbasis Penataan Ruang. Forum Kajian Kebijakan Spasial Kehutanan P4W Badan Planologi Kehutanan, 2006.