Effect Of Profile on Auditor Certification Try Out Using A Computer Based Test

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Abstract. Evaluation of auditor capabilities is generally carried out conventional, in the form of written and face-to-face examinations that require timespecial and big fees. Measurements are made not periodically so that they are static and closed. Computer Based Test (CBT) is a test / evaluation held using a computer. Difference with the test conventional lies in the technique of delivering items that are no longer use paper, both for the question script and answer sheet. The aim of this study is to determine the effect of user profiles on Auditor certification (CISA) with Computer Based Test (CBT). The method used in this study uses a quantitative approach. data collection can be obtained from the results of the questionnaire. The results show how profiles can provide better assessments that motivate auditors to engage with their learning so that they can develop elements that are directed towards themselves from the exercise they do. This can be concluded because the auditor's habit of evaluating himself by doing exercises is still lacking, so the success rate to pass the CISA certification is not good. With this research, the auditors will be more concerned to make preparations in advance so as not to waste time and money and increase the success of passing CISA certification.

1. Introduction

Computer Based Test (CBT) is a method that provides tests where responses are given electronically, approved, or complete. This is generally available for several acceptance tests in all developed countries[1]. The results of the assessment show the results of the assessment that students can do through computer-based exams. With this research, researchers want to look for user profiles for the skills of users. The User Profile is a description of each user and contains the most important or interesting facts about him. User Profiles are created because each user is different in their preferences, interests, background, and goals. These differences form the basis of personalization. Assessment of the learning process is distinguished as a tool to overcome learning difficulties (assessment as learning), evaluation of the learning process (assessment for learning), and evaluation for measuring learning outcomes (assessment of learning). This is the content of the User Profile so that it can be seen the increase or decrease in the user's understanding of the learning material [2-5].
In 2017, conducted a study entitled Designing the Core Engine Application Programmer Capability Test Based on Technical Aspects and Cooperation. The results of this study managed to make a CBT test that can measure programmers' ability and teamwork [6]. From the previous research, the profession taken is a programmer while this research takes on another profession, the auditor. In addition, the measurements taken are how much influence the user profile is paired with the CBT to provide a better evaluation. Previous studies have been conducted by [7] investigating the possibility of a previous computer familiarity relationship, attitude towards computer usage and test mode preferences with test performance on CBT. But this has not been specifically used for certain scientific fields.

The purpose of this study was to find out the user profile research on trying Certified Information System Auditors (CISA) with Computer Based Test (CBT). The implementation of this user profile will be tested on a Computer Based Test (CBT) application, the user profile must design the core of each management auditor from the try itself[8-13].

2. Methods

This study uses the K - Means Clusters method in measure the closest influence so that the results of this study can be realized. I use this method because it has the advantage of providing appropriate visualization of nodes that are close together. this means that the effects of using computer-based tests to exercise auditors to take CISA certification can be clearly seen. The k-means algorithm provides an easy method to implement approximate solution to Eq.(1). The reasons for the popularity of k-means are ease and simplicity of implementation, scalability, speed of convergence and adaptability to sparse data. The k-means algorithm can be thought of as a gradient descent procedure, which begins at starting cluster centroids, and iteratively updates these centroids to decrease the objective function in Eq.(1). The k-means always converge to a local minimum.

Generalized pseudocode of traditional k-means :

Step 1 : Accept the number of clusters to group data into and the dataset to cluster as input values.
Step 2 : Initialize the first K Clusters
- Take first k instances
- Take random sampling of K elements
Step 3 : Calculate the arithmetic means of each cluster formed in dataset
Step 4 : K-means assigns each data record in dataset to only one of the initial clusters.
- Each record is assigned to the nearest clusters using a measure of distance (e.g Euclidean distance).
Step 5 : K-means reassigns each record in the dataset to the most similar cluster and re-calculates the arithmetic mean of all the clusters in the dataset.

\[
\frac{1}{n} \sum_{i=1}^{n} \left[ \min_{j} d^{2}(x_{i}, m_{j}) \right]
\]

(1)

Where:
MSE : Mean Square Error
N : Number of Samples
ty : Actual Value Index
mj : (j=1, 2, ...,k) are known as cluster centroids
3. Results and Discussion
In the process of identifying this data, workflow research that I will do can be seen in Figure 1. The steps in figure 1 are the stages so that K-Means can be used because to determine the relevance of a condition, the existing data must be grouped first. Data retrieval referred to is the experimental data on a web site that I made myself and tested to people who are engaged in the auditor. Data retrieval referred to is the experimental data on a web site that I made myself and tested to people who are engaged in the auditor (See Figure 1).

Furthermore, the data is classified. The classification carried out aims to make parameters the effect of the use of CBT for auditors. The use of the method can be done after the classification is complete. Measurement using k-means aims to show the differences that occur when not using CBT and directly take certification with those who practice using CBT. The final stage of this research is the results that can be used as a solution for the auditors to make more preparations so that the possibility of getting a certification is higher. After the data is classified, the k-means method will form a diagram like in Figure 2.

Figure 1. Workflow research

In Figure 2, illustrates the effect of the experiment before doing the exercise and after doing the exercise. The red graphic shows the experiment before doing the exercise while the yellow one has done the exercise with CBT. The results show that after doing the exercises and evaluating themselves, the values obtained are better so that it has a big effect by comparing to the red diagram which has a small possibility.
4. Conclusion

Research that has been done shows that every user sees the results of the try out before, the user is able to understand and increase proficiency in working on the problem so that it can be concluded when someone or user does not see the results of previous try outs, the user is difficult to improve so that it can be concluded when someone or user does not see the results of the previous try out, the user is difficult to improve his skills in working on the problem.

Acknowledgements

All praises and thanks to Allah SWT because of His mercy I can complete this journal and I thank Unikom as my beloved University, to Unikom lecturers and do not forget also to family, colleagues and friends who have given a lot of motivation.

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