

## TRANSFORMATION OF EDUCATIONAL ORGANIZATION FACING INDUSTRY 4.0 (CASE STUDY OF UNIVERSITAS ABDURRAB)

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**Abstract:** The world of education is currently experiencing 'shocks' facing the challenges of the industrial revolution 4.0. This challenge must be responded quickly and accurately by all stakeholders in education. This era will also disrupt various human activities, including the fields of science and technology and higher education. The University as a formal institution is expected to produce skilled human resource who are ready to face the industry 4.0. Universitas Abdurrab is a private university that has been established since 2005. Therefore, it's necessary to transform the educational organization following the needs of the community to deal with the "shock" of industry 4.0. This research offers a model of transformation of educational organizations that are suitable for the needs of industry 4.0. It's the adoption of the existing educational organization model into a new model transformation that is suitable for the industrial 4.0. Using the qualitative method this research also observes how the readiness of Universitas Abdurrab then provides solutions according to the Cobit 5 framework as a best practice for IT management. Through the transformation model, it can be the answer to the demands of industry 4.0 as initiation and solution for Universitas Abdurrab in the future.

**Keywords:** Cobit Framework, Educational Organization, Industry 4.0, Transformation

## INTRODUCTION

Nowadays, the development of internet use and digital technology as the backbone of industry and machine connectivity and networks (Wollschlaeger, Sauter, & Jasperneite, 2017). This circumstance will impact various human activities in the field of science and technology and higher education (Nasir, 2018). The Industrial Revolution 4.0 as a development of modern civilization we have felt its impact on various facets of life, the penetration of technology that is all disruptive, making changes faster, as a consequence of the phenomenon of Internet of Things (IoT), big data, automation, Robotics, cloud computing, to Artificial Intelligence (Risteska Stojkoska & Rodaliev, 2017).

Indonesia began to face the Industrial 4.0 era, where all systems started to be digitally connected. The biggest challenge facing the 4.0 Industrial revolution is to create new technologies and approaches that combine the physical and digital worlds (Aldianto, Mirzanti, Sushandoyo, & Dewi, 2018). The indications of disruption that characterize the development of the Industrial Revolution 4.0 civilization, will lead to the transition



reality of the technological revolution that will fundamentally change the way of living, working, and organizational relations in relating to one another (Wijaya, Sudjimat, & Nyoto, 2016). The changes in the landscape of political economy and organizational relations as a consequence of the Industrial Revolution Governance for higher education can be seen as an arrangement that includes various university assets to support strategies in achieving the goals and objectives of the organization (Trappey, Trappey, Hareesh Govindarajan, Chuang, & Sun, 2017). University assets, in this case, are human resources, finance, physical facilities, intellectual property rights, information technology, and collaboration (Chung & Kim, 2016). As a benchmarking on the survival of business organizations, it fits for educational organizations such as universities to be more sensitive and make adjustments. So that they can compete in the era of the Industrial Revolution 4.0 civilization development to be survival as responsive to the increasing demands of effectiveness, efficiency, accountability, and public transparency (Prasetyo & Sutopo, 2018).

Universitas Abdurrah is one of the private universities in the city of Pekanbaru. This university actually has applied the use of information technology in carrying out its activities. However, the existing IT model does not fulfill the three elements of coverage area that must be met, such as the governance area, management area and the principles of IT governance.

This research offers a transformation of educational organizations based on the COBIT 5 Framework used to build an IT governance model at Abdurrah University and provides guidance on how it should be managed to realize the benefits of IT, optimization of resources, and optimization of risk management based on three elements of coverage area that must be met.

## METHODOLOGY

This research uses qualitative descriptive method based on existing phenomena regarding educational organizations based on industry 4.0. It is expected that this research can specifically describe the conditions that exist in the field. Using the framework Cobit 5 can explain clearly how this research could help the educational organization.

The COBIT Framework is an IT governance guidance framework and can also be referred to as a supported toolset that can be used to bridge the gap between the needs and how the technical implementation of meeting these needs in an organization. COBIT allows the development of clear and excellent policies used for IT control throughout the organization, helping to improve quality and value and simplify the implementation of an organization's process flow from the IT application side (Nugroho, 2014), the higher education governance model based on the cobit framework can be seen in the following figure.



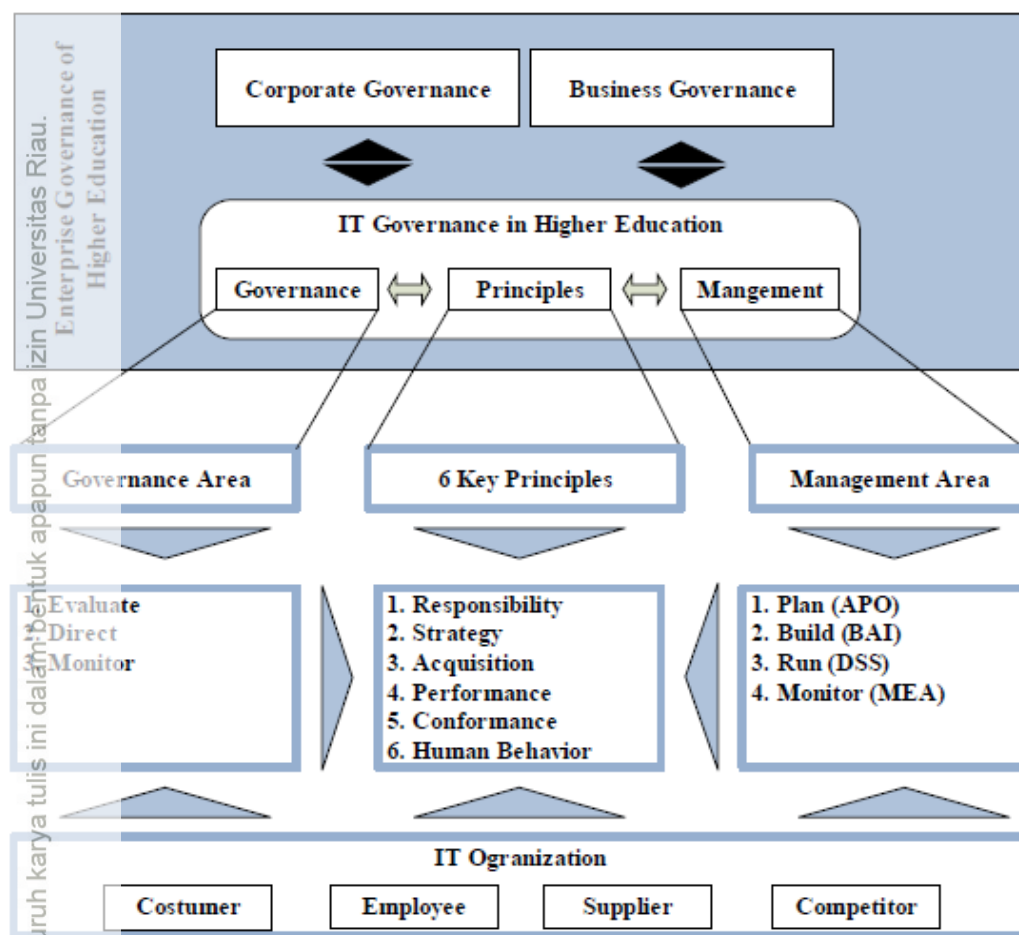


Figure 1. Cobit Framework Of Higher Education

Figure 1 can be seen how could the IT framework help the higher education establish goals and objectives to be achieved on the needs of industry 4.0. there are three areas in these Framework: Governance Area leads to evaluate the university, while the principles area includes to run the responsibility, strategy, acquisition, performance, conformance and human behavior. And more important is management area, this area based the document ISO 38500, these principles should run well for governance practices or management practices. Governance practices consist process evaluate, direct, monitor (EDM) and management practices consist process plan (APO), build (BAI), run(DSS), and monitor (MEA). To achieve the goals and targets, university requires a set of organizational structures that contain specific tasks and functions.

## RESULT AND DISCUSSION

university goals and objectives should be match with the vision and mission of university itself. It is stated in the statute of Universitas Abdurrah. In the mission of



Universitas Abdurrah: develop quality research and community service to advance science and technology to improve human welfare, Conduct quality education services by applying the latest technology to improve efficiency in all fields and religious ethical systems. - Fostering, strengthening and expanding institutional cooperation networks in order to develop science and technology findings. This mission describe how science and technology become the important issue in this university. To gain the goals and targets, university need a set of organizational structures that contain specific tasks and functions. Base on the Framework, the role of top-level management in Univrab should provide guidance in the form of planning and implementing policies in processes related to IT. Management also evaluates related activities carried out with IT involvement in each area (governance, principles and management). This evaluation will end with an evaluation of performance and compliance with existing regulations and policies as part of the monitoring process. This process is needed to ensure that activities are carried out in accordance with the vision and mission of the organization that has been established.

An effective organization does not occur by chance. The success of implementation in an organization that is related to the right model or suitability for the organization, so that they can support or complete strategic organizations. IT based on Framework Cobit is not concept statement but a process inherent in an organization. University needs regular reviews to update IT governance structures to take account of changes in technological environments. However, IT mechanism in an organization will depend on the characteristics and needs of the organization.

## CONCLUSION

Universitas Abdurrah has attempted to make many changes towards industry 4.0, but the transformation is still needed according to market demand. Educational organizations such as Universitas Abdurrah must lead to high efficiency and effectiveness and policies that are in line with the vision and mission through the Cobit framework of the governance framework. This framework can help managerial levels implement IT governance policies to be better as the demands of the industrial revolution 4.0

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