

Digital Transformation: Insight from Leaders in the Mid-rank Universities in Indonesia

Herri
Andalas University
Kampus Limau Manis, Padang,
Indonesia
+62 0751 71088
herri@eb.unand.ac.id

Arief Prima Johan
Andalas University
Kampus Limau Manis, Padang,
Indonesia
+62 0751 71088
ariefprimajohan@eb.unand.ac.id

Rebi Fara Handika
Andalas University
Kampus Limau Manis, Padang,
Indonesia
+62 0751 71088
rebifarahandika@eb.unand.ac.id

ABSTRACT

Revolution in information technology imposed HEIs to transform their practice into a digital-oriented approach. Most high-ranked HEIs in Indonesia have been successfully integrated their business model with digital infrastructures and took benefit from digitalization. However, middle-rank HEIs are struggling to benefit and seize such opportunities. However, the ongoing process in the mid-ranked HEIs indicates substantial progress. This study aimed at describing the digital transformations process in the middle-rank HEIs in Indonesia. Data were gathered from in-depth interviews with 16 HEIs mid-rank university leaders in Indonesia. The data describes several forces and critical success to approach digitalization. There are essential dimensions as crucial factors such as IT infrastructure, clear objectives, employees support, and others. Suggestions and limitations are discussed in the last part of the paper.

CCS Concepts

•Social and professional topics→Professional topics→
Computing and business→Economic impact

Keywords

Digital Transformation; Higher Education Institution (HEI); Top Leaders; Digital Strategy.

1. INTRODUCTION

Recent business landscapes are characterized by rapid technological change; hence, most organizations are forced to adapt with such dramatic waves by transforming management practices. However, transformations have become a popular concept yet often simplified in practical use regardless of the complex process involves in defining the concept. Scholars believed that it covered complex phenomena and an open-ended process [9].

Digitalization in mid-rank higher education institutions (HEIs) imposed unique challenges. Initial interviews with several leaders

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from Permissions@acm.org.

ICEEL 2019, November 5-7, 2019, Barcelona, Spain.

© 2019 Copyright is held by the owner/author(s). Publication rights licensed to ACM.

ACM ISBN 978-1-4503-7225-1/19/11...\$15.00

<https://doi.org/10.1145/3371647.3371650>

in moderate size university in Indonesia reveals several barriers impeding digital transformation, although the benefits of using digitalization are recognized. They reported that the majority of employees are inconvenience with changes, and create a mental block with the new approaches.

Mid-rank universities have more complex problems than those faced by well-established HEIs. The emerging issues are not only dealing with technological changes but also confronted with survival problems. Business sustainable issues, especially in raising funding and revenue, are crucial for mid-rank HEIs. According to QS World-University ranking, there are only nine institutions listed in 1000 best world university in 2019, all of those are considered as top-ranked and well-established universities in Indonesia, and have been successfully digitalizing some of their business practice. While those can transform successfully, the mid-ranked HEIs are still struggling with the process and other essential issues. The crucial question is, what are the contributing factors determining the successfulness of digital transformation.

Upper echelon theory [6] suggested HEI's leader as an important factor influencing organizational outcome, including transformation performance. Such roles have been confirmed in various organizational situations, such as in crisis [7], [15] in the transformational process [3], under normal circumstances [4], even under the digitalization process [13]. However, recent literature in HEIs digitalization failed to describe how leaders orchestrate the process. Very little are known how leaders approach the transformation tactically, especially those in the stages of the ongoing process. Therefore, this paper attempts to take a closer look at how HEI's top leader approached digital transformation by interviewing several leaders who are currently involving the digital transformation process.

2. METHOD

This study was conducted through a qualitative approach by interviewing HEIs leaders in Indonesia. Data were gathered from 16 leaders of 10 mid-ranked universities in Indonesia. They were interviewed in approximately two hours each. The interviews were recorded either in video or audio format with consent from each informant.

Data were analyzed using the content analysis technique employing panel judgment. First, transcripts of each interview were produced, then read thoroughly by each author to identify relevant keyword. Second, the authors discussed their findings in a panel-style resulted classification of keyword. Finally, the grouped keywords were validated by re-examined the corresponded conversation to find the context and insight story of digital transformation.

3. LITERATURE REVIEW

A recent survey of HEI's stakeholders in the UK, USA, Canada, and Australia reported that at least 50 percent of students, founders, and leaders believed that HEIs would be disrupted around 2025 to 2030 [8]. Leaders believed the purpose of digitalization is to improve, rather than to change business models, especially that related to the improvement of students' experiences. On the other hand, students expected that the transformation could help them addressing future employment issues.

Different preferences also imposed additional problems for HEI's leader. Millennial students who are grown up with social media and mobile technologies are less interested in the traditional learning process. They expected more personalized, outcome-based, and affordable learning experiences [2]. With increasing public scrutinized on HEI's business process and its associated cost [2], efficiency and learning approaches are becoming more urgent issues than it used to, especially in the context of digital transformation.

Various suggestions have been proposed as transformation strategies. Scholars suggested that HEIs should reconsider its current physical appearances and focus on more functional facilities that support education purposes [5], many put concern on the digitalization of learning content [10],[12], transforming human resources and performance management practice [11], and establishing high level of mutual trust among stakeholders related to digital content [14].

Cognizant [2] introduced a playbook on approaching digital transformation. It suggested HEI's leaders account for several dimensions, such as considering organizational positions, establishing virtual campus, expanding scale on cloud, and converting learning data into insight and foresight, exploring related service, and leveraging cost-benefit in operations. Furthermore, scholars also suggested that HEIs need to focus on key success factors of digital strategy such as agility and flexibility, effectiveness, innovation, and efficiency [1].

4. RESULT

4.1 Call for Digitalization

Leaders of mid-rank HEIs in Indonesia realized that digital transformation is a long-term purpose involving mile-stones and continuous adjustment. Although it has been initiated in several years, the processes are regarded as an on-going and continuous programs. Leaders are confident that shortly changes they made today will be a subject for change in the next period. Besides, due to lack of resources and capabilities, transformations were implemented partially (i.e., in some parts of the organization) based on institutional priority.

Furthermore, leaders also characterized digitalization as an attempt to change business processes mainly related to administration and management. The informants suggested;

"Although we have specific purposes of using digital technology, the end-game of this program is difficult to describe. We just try to keep up with recent trends based on what we need" [informant statement]

"We decided that administrative job should be digitalized on achieving great efficiency, but we also agreed to not digitalize our core activity (i.e., teaching), at least for now. Great disparity on students' motivation and incentive to attend higher education on the national level is our main consideration" [informant statement]

External forces, especially the government, has significant influences to force digitalization. Various attractive programs have been initiated by the Ministry of Research and Higher Education (Ristekdikti) of Indonesia to encourage digitalization. Ristekdikti, as the regulator, has provided awards and incentives in several digitalization programs and has created a competitive atmosphere among HEIs to boost up transformation performance.

The expectation on future employment opportunities propelled HEIs to review and align curriculum according to recent trends in employment markets. Employment markets expected educated employees with necessary competencies and familiarity with recent technological advancement.

"In order to survive and develop, we have to demonstrate an ability to meet employment market expectations with curriculum, and digital-related competencies are necessary for today's market" [informant statement].

HEIs also seeking images on digitalization. It applied as a pivotal consideration in the enrolment of prospective students. Although transformational programs were designed according to organizational needs, most leaders' admitted that the competitor's move drives various attempts. They consider digitalization as a means to survive in competition.

Larger HEIs have another incentive for digitalizing their practice. Having large student bodies, faculties, and complex organizational structure resulted in inconsistency of internal policies, vague line of authorities, and overlapping job responsibility. Most HEIs also operated in unconstructive silo mentality among school or department. Digitalization appeared as a problem solver to overcome such issues.

"External forces, such as government regulation and technological development, are an opportunity to changes our culture and administrative process. It has been going on for a long time that each school modified administrative and management processes, and often it did not deliver additional values" [informant statement].

4.2 Critical Success Factor for Digital Transformation

The transformation performance varies among institutions. Fruitful results favored HEIs with several characteristics. Such critical factors played significant roles in determining the degree of transformation performance.

Infrastructure of information technology (IT)

Most informants agreed that having sufficient resources to build IT infrastructure is crucial to digitalize their institution. IT infrastructure such as server, storage, bandwidth, firewall, and others are necessary. However, substantial investment is required for such attempts. Result indicated that institution financial ability differentiated the transformation performance, as argued by an informant as follow;

"We have problems with the financial stability to fully commit with this program (i.e., using information technologies); hence, we have to implement it one at a time" [informant statement].

Top leaders commitment

Since it requires substantial investments, commitments of top leaders are needed. Leaders must comprehend the future impact and take risks on short-time financial obstacles. The return on investment is gained after several periods resulted from substantial

improvements in quality and reputation that enabled institutions to generate financial benefit. An informant explained as follow;

"I think it is easier for public universities to initiate the program since its leaders have the final call on investment. We (i.e., private university) have a more difficult job in convincing the foundation to support the programs" [informant statement].

Leaders have to be able to communicate the programs within the institution. Some informants described the condition where employees were afraid about career and financial benefit as a result of digital transformation. Leaders have to present in assuring style to employees about negative impacts preceding before favorable outcomes. Leaders also faced with complex issues of changing in employees' behavior, resistance, skepticism, moral hazard, adverse selection incentive, and others. All informants agreed that it took energy and stamina, patient and wisdom, while at the same time show consistency and commitment.

Clear transformational goal

Successful transformation performance varied among those that having clear strategic purpose and those that only reacted. The differences were ineffective alignment among systems and managing resistance. Having specific targets makes leaders more prepare, has a guideline and stepping stones, and method for evaluation. Having explicit purposes also helped leaders to convince the employee to involve with the programs. It helped employees to comprehend the objectives and its associated stages, identify the impact, and understand the connection between the program objectives and individual contribution. As explained by a leader;

"I realized that it was better if we have formal guidelines. It helped leaders to explain the program effectively" [informant statement].

Organizational learning

Informants suggested that digital transformation is involving a series of innovations that change the way of work and require continuous adjustment. As such, the capacity to engage in continuous change is necessary. Leaders argued that the most crucial factor in establishing capacities to change is by increasing the ability to learn. Organizational learning will increase employees' ability to learn from practices, make self-correction, and improve performance, and will eventually increase organizational capacity to change.

Leaders often experienced failure in a few programs. Hence, failure tolerance is needed in the transformational process. It helped leaders in encouraging learning processes. Pilot test and real-time simulation are also needed in balancing between failure caused by flexibility and innovation effectiveness. Moreover, many leaders confessed that favorable results yielded through serials of trial and error. One leader argued that;

"... I have to widen tolerance on failure, especially while implementing transformation....it is dilemma sometime because we need to be flexible, but still have to ensure that work is done by the book" [informant statement]

Sufficient set of policy

Although flexibility and continuous improvement are profound, transformation should be implemented with formal systems. A sufficient set of policies incurred a comprehensive understanding of employees regarding their roles and expectation and reduced uncertainty and moral hazard.

"... we manage more than thousands of employees and more than ten thousand students. Policies are crucial to ensure them work effectively" [informant statement]

Alignment among policies is necessary because it reflects the convergences of behavior expectations. However, leaders argued that change in policies often occurred in early periods, and confused behavior. As suggested by most leaders, HEIs have to be equipped with general and specific rules. Comprehensive policies cover strategic dimension while the detailed are described in specific policies.

5. CONCLUSION

This study attempted to describe the digital transformation process in middle-rank HEIs in Indonesia from the view of leaders. They agreed that digitalization is a tool in improving business processes and as a response to external forces. The comprehensive transformation was implemented gradually, considering organizational resources and priority. Most of the derivative programs are designed separately under general guidelines. However, the general guidelines provided tend to be flexible and less formal. However, HEIs leaders realized the alignment among implemented programs is crucial for overall transformation performance.

In order to ensure the effectiveness of digital transformation programs, HEIs need to possess several key dimensions. Ability to build IT infrastructure is crucial as the tangible foundation for framing overall plans related to technological readiness. Top leaders' support across institutions could ensure the programs are implemented in the right way within each institutional sub-unit. Clear goals and purposes are imperative not only to provide future direction but also to gain support from most organization members.

A set of policies is imperative for automation purposes. HEIs is characterized by large bodies institution, contains several units (e.g., Department and School), diverse role of works, and various background and characteristics of employees. Leaders must formally impose changes that able to influence the overall organization. Alignment among policies is more critical to avoid confusion among members.

The method used in this study might cover the description of the digital transformational process. However, it lacks of generalization due to numbers of observation and specific size of the object. A more extensive study needs to be conducted in order to comprehend the description of HEIs in Indonesia. The primary focus of this study is to generate experiences and perceptions of top leaders, so the results cannot be interpreted from the view of other parts of HEIs such as lecturer, students, society, or government. More holistic perspectives should be considered for future inquiries.

6. ACKNOWLEDGMENTS

Our thanks to Professorship Grant of Andalas University for supporting this research.

7. REFERENCES

- [1] Bondar, S., Hsu, J. C., Pfouga, A., & Stjepandić, J. (2017). Agile digital transformation of System-of-Systems architecture models using Zachman framework. *Journal of Industrial Information Integration*, 7, 33–43. <https://doi.org/10.1016/j.jii.2017.03.001>
- [2] Cognizant. (2013). *Transformation Strategies for Higher Education*.

- [3] Day, J. D., & Jung, M. (2000). Corporate transformation without a crisis. *The McKinsey Quarterly*, (4).
- [4] Georgakakis, D., Greve, P., & Ruigrok, W. (2017). Top management team faultlines and firm performance: Examining the CEO-TMT interface. *Leadership Quarterly*, 28(6), 741–758. <https://doi.org/10.1016/j.leaqua.2017.03.004>
- [5] Haggans, M. (2015). The future of the American campus. *On the Horizon*, 23(1), 25–32. <https://doi.org/10.1108/OTH-11-2014-0038>
- [6] Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons : The Organization as a Reflection of Its Top Managers. *The Academy of Management Review*, 9(2), 193–206. Retrieved from <http://www.jstor.org/stable/25843> .
- [7] Herri, Johan, A. P., Handika, R. F., & Yuliharsi. (2017). CEOs Characteristics and the successful of turnaround strategy: Evidence from Indonesia. *Academy of Strategic Management Journal*, 16(1), 69–80. Retrieved from <https://www.abacademies.org/articles/ceos-characteristics-and-the-successful-of-turnaround-strategy-evidences-from-indonesia-1939-6104-16-1-105.pdf>
- [8] Navitas. (2017). Digital transformation in higher education.
- [9] Preez, P., Simmonds, S., & Verhoef, A. H. (2016). Rethinking and researching transformation in higher education : A meta-study of South African trends. *Transformation in Higher Education*, 1(1), 1–7. <https://doi.org/https://doi.org/10.4102/the.v1i1.2>
- [10] Rafiq, M., & Ameen, K. (2012). Use of digital media and demand for digitized content in higher education sector of Pakistan. *International Information & Library Review*, 44(3), 116–122. <https://doi.org/10.1016/j.iilir.2012.04.007>
- [11] Shurville, S., Browne, T., & Whitaker, M. (2009). Accommodation the newfound strategic importance of educational technologists within higher education: A critical literature review. *Campus-Wide Information System*, 26(3), 201–231. <https://doi.org/http://dx.doi.org/10.1108/10650740910967384>
- [12] Tay, H. L., & Low, S. W. K. (2017). Digitalization of learning resources in a HEI – a lean management perspective. *International Journal of Productivity and Performance Management*, 66(5), 680–694. <https://doi.org/10.1108/IJPPM-09-2016-0193>
- [13] Wallin, J. (2006). *Business orchestration; Strategic leadership on the era of convergence*. West Sussex: John Wiley & Sons.
- [14] Watanabe, C., Naveed, K., & Neittaanmaki, P. (2017). Co-evolution between trust in teachers and higher education toward digitally-rich learning environments. *Technology in Society*, 48, 70–96. <https://doi.org/10.1016/j.techsoc.2016.11.001>
- [15] Yuliharsi, Johan, A. P., Handika, R. F., & Herri. (2018). A qualitative investigation on the successful turnaround strategy from top leader perspectives: Examples from Indonesia. *Business: Theory and Practice*, 19, 125–133. <https://doi.org/10.3846/btp.2018.13>