

OPTIMIZING THE USE OF LEARNING ANALYTICS THROUGH STRATEGIC DIRECTION AND LEADERSHIP PRACTICE: A HIGHER EDUCATION INSTITUTION PERSPECTIVE

***Soo Mang Lim**

Simin Ghavifekr

Husaina Banu Kenayathulla

Department of Educational Management, Planning & Policy,

Faculty of Education, Universiti Malaya

**a.soomang@gmail.com*

ABSTRACT

Dramatic shifts brought about by globalization, technological innovation, and data-driven decision-making practices are immensely reflected in the landscape of 21st century higher education. Learning Analytics or LA is an emerging multidisciplinary, technological practice with the ultimate goal of producing effective learning to improve students' achievement in the tertiary level. Applications of LA have not yet been fully managed to redeem its promises especially since it is still at the stage of infancy in Malaysia. Since optimizing the use of LA necessitates weighing its value embeddedness, this paper aims to explore practices in strategic direction and leadership, which are critical to ensure the sustainable success of LA programs. This study utilized a qualitative research design and an interpretive paradigm. Using purposive sampling, seven respondents were selected for this single case study. Data was collected through semi-structured interviews, focus group, and document analysis from a higher education institution in Kuala Lumpur, Malaysia. The findings from the thematic analysis show the interlocking significance of policies, procedures, and practice; leadership practice; and recommended strategies contributing to its sustainability. Key issues lie in how to integrate strategies, policies, practices, and procedures that should be executed under the right leadership and recommended corporate strategies. Above all, this study can be used to guide successful LA initiatives and implementation in HEIs in Malaysia.

Keywords: Learning Analytics, Strategic Direction, Leadership Practice, Higher Education

INTRODUCTION

The world is changing at a dizzying speed as technological innovation, data-driven decision-making, and globalization are creating new demands and opportunities especially in higher education institutions. In this case, Learning Analytics (LA) is one of the growing technological trends in higher education as it refers to the measurement, gathering, analysis, and explanation of data about students and their setting, for the purpose of improving learning outcomes and achieving organizational goals (LAK, 2011). Since analytical intelligence is added into the raw data through algorithms, the ultimate goal of the LA process is to produce effective learning strategies in order to positively affect students' achievement in the tertiary level. Essentially, the crucial elements involved in LA are properly collated data, rigorous analysis, and related actions. Thus, this has become a new phenomenon in the utilization of technology integration that has made many Higher Education Institutions (HEIs) today to personalize their instruction to enable more students to graduate (OECD, 2017).

Although the applications of LA are still at its infancy in Malaysia, there are a few studies which examine the significant contributions of LA in HEIs in Malaysia. (Clow, 2012; Tasir, et al., 2016; Wong, 2017). To ensure optimal usage of LA, strategic direction and leadership practices are critical in attaining sustainable success in LA implementation. Rick (2013) noted that by addressing conflicts to be modified and by preparing for it right from the beginning of the modification process of LA, objections may be reduced. Hence, initiating change and addressing challenges are crucial for the institutions to transform into engaging and adopting the tool of LA and its benefits for the students, staff, and other stakeholders (Tasir, et al., 2016). Furthermore, stakeholders' adaptability towards the new reality of how profound digital technologies have impacted education is critical in Malaysian HEIs (Wong, 2017). In this case, a new system of strategic planning, collaboration policy development and leadership will be proposed at the end of this study to optimize LA implementation and evaluation in the education system.

Considering the context of Malaysian higher education, a conceptual framework with three main components of Impact, Domain and Optimization guided this study to provide an in-depth exploration of LA in this setting. As shown in Figure 1, the three components are further subdivided to the following sub-components: value embeddedness; strategic direction and change, and leadership and culture; and, learning analytics and its implementation.

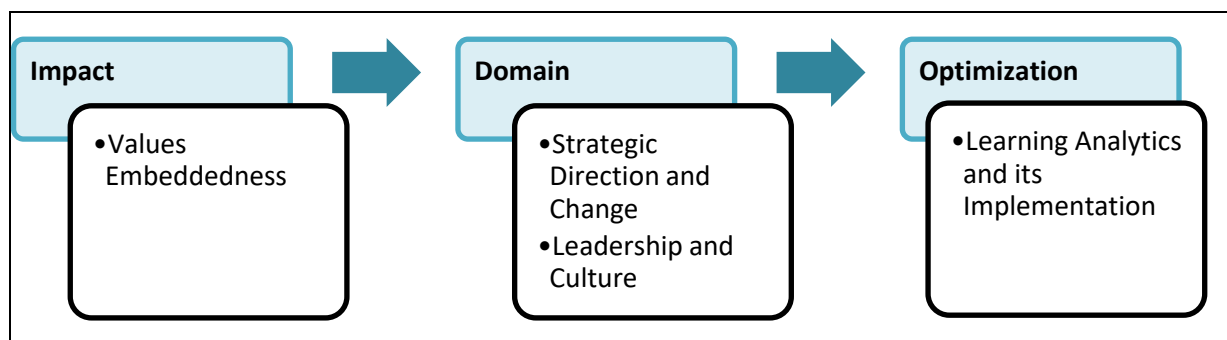


Figure 1. Conceptual Framework

Therefore, this paper aims to find out recommendations on strategic management directions and leadership practice to meet sustainable success in private higher education today and beyond from an organizational perspective. This is to provide more information to educators, especially to those who are directly accountable in the knowledge creation process and student learning by responding to the changing needs of the society through an in-depth introspection. As such, the findings of this study will provide an overlay for future research as illustrated in the conceptual framework above, which will be explained in the succeeding subsections.

Challenges in Value Embeddedness

Despite recent efforts in LA development, LA has not yet fully managed to maximize its potentials (Ferguson & Clow, 2017). Having analyzed the benefits of LA and its potentials, management challenges, including LA imperative to policy challenges, need to be overcome. As identified by Macfadyen, et.al. (2014), there are needs for changes in the belief, framework in technology, and instructional practices in HEIs from assessment for accountability to assessment for learning. This cannot be attained through fragmentary execution of a new tool. Since HEIs are examples of a highly complex adaptive system in a new era of teaching and learning, using different kinds of devices via multiple kinds of interaction can help create value for LA in HEIs.

Strategic Direction and Change

In terms of strategic direction, a clear and non-overarching conceptualization of the benefits of LA towards improving QA in higher education is fundamental. Resistance to change and adaptability of the stakeholders towards LA play a critical role in establishing positive relationships. Rick (2013) wrote that foreseeing defiance to adjustment and preparing for it from the beginning of the change management will permit educators to reduce doubts of the stakeholders. Shared beliefs cause people to repel from transformation initiatives according to Rick (2013) especially if there is no actual need for the transformation. In effect, transformation initiatives make it harder for them to reach their needs and the threats seem to be greater than the advantages. Therefore, organizations do not have the capability to realize the transformation if the stakeholders believe the transformation will be unsuccessful. Likewise, the transformation procedures in strategic direction should be handled appropriately by the administration if the transformation is not aligned with their beliefs (Rick, 2013).

Leadership and Culture

Today, educational leadership has improved significantly since it has contributed very much to students' achievement (Kapur, 2018). Leading to the empowerment of other individuals to create important resolutions on academic performance has always been considered as the principal aim of leaders while other goals include giving teaching assistance, creating and executing school improvement plans, developing teacher quality, improving in teaching and learning processes, and reforming the program of study. The diversity of views about leadership is based on prevailing educational leadership perspectives such as instructional leadership, transformational leadership, moral leadership, distributed leadership, managerial leadership, and contingency leadership (Kapur, 2018). Despite the promises of leadership models on LA, issues of micromanagement, current inconsistencies, and the execution of accountability define certain leadership-related challenges to LA implementation. With regard to integration with existing organizational structures, Scalter (2017) noted that many institutions try to adopt the theories and ideas behind leadership and LA; however, they were uncertain as to how it could actually be implemented.

Learning Analytics and its Implementation

In recent years, LA has become a significant concern in higher education in the area of technology-enhanced teaching and learning. Many researchers have established various methods on implementing LA (Zilvinskis & Borden, 2017). Since the field of LA is relatively new, there are insufficient theories that developed models impacting the usage of the available data to inform and improve teaching and learning (Elias, 2011). Researchers are then urged to be clear and certain on what LA projects want to implement based on the direct types of expected outcomes. Nevertheless, the success and sustainability also critically depended on the resources or capacity needed for optimizing the usage of LA.

METHODOLOGY

Research Design

A single case study was adopted in exploring the strategic direction and leadership practice towards sustainable success of LA within the context of higher education in Malaysia. The review of the literature showed that the implementation of LA is a relatively new undertaking in the higher education industry where the impact or implication to all stakeholders is evolving constantly. Thus, a grounded theory approach was chosen to drive the exploration. In this manner, the researchers focused on the exploration of the phenomenon, interpreted the data, and inductively presented a reality in which the concepts were used to derive themes that developed the theory as grounded in this context (Glaser & Strauss, 1967).

Sampling and Research Approach

A higher education institution in Kuala Lumpur, Malaysia was chosen as the site for this case study because this institution has been undergoing a corporate revolution by aiming to excel as an analytics-driven institution in terms of management, research, and student learning outcomes. Hence, the deployment of LA is part of the core framework of this academic organization. Looking at the strategic direction and leadership practices in this organization is indeed an important aspect so as to overcome challenges in value embeddedness and maximize the value of LA.

Purposive sampling was adopted wherein seven respondents were selected in this case since the researchers believed that the participants were the most appropriate interviewees (Yin, 2014). Selected respondents were staff who were involved with the Centre of Analytics Research and Applications of the university. Two groups of participants included four stakeholders from the management and three from the faculty respectively. In addition, interviews with a focus group comprising of five lecturers from different faculties or departments were conducted, which was supported by a document analysis in relation to decisions and policies, such as corporate strategy statement, QA policy, learning, and teaching, etc.

Data Collection

Interviews were considered as the main source of data while focus group and document reviews were also conducted to substantiate the interview findings. The interview protocol was designed to understand LA from the perspective of the management and faculty as decision makers in the change process and to explore the extent the management challenges can be overcome in order to achieve optimization of LA towards sustainable success. Each interview took around 45 minutes. A focus group discussion was conducted with the purpose to support the personal in-depth interviews. Coupled with document reviews, which allowed the researchers to interpret the phenomenon in a more holistic manner, triangulation of data was made possible to guarantee the validity of what the participants shared.

Trustworthiness, Reliability, and Validity

To achieve trustworthiness, the data was triangulated by using more than one instrument. Data collected from interviews, focus group, and documents analysis were compared to enhance internal validity (credibility) and reliability (dependability) of the findings (Merriam, 2009; Yin, 2014). Triangulation of data source also involved the variety in the choice of setting and participants' data taken from the Chancellery to the faculty members, such as lecturers across departments or faculties.

Data Analysis

Thematic analysis was applied to the interview transcripts, additional documents, and responses to open-ended questions in the focus group discussions in order to identify patterns and themes across the collected data (Braun & Clarke, 2006). In this case, transcriptions were coded by means of constant comparative method. In order to support key points highlighted in the literature review of the present study, an inductive coding process was employed. Nevertheless, the researchers adopted a disciplined subjective approach (McMillan & Schumcher, 1997) by self-monitoring rigorously, continuously practicing self-inquisitiveness, and reassessing all stages of the research procedures and processes. Member checking was utilized to safeguard internal validity of the study. Transcriptions of the interviews were sent back to the participants to read, check, and give them the chance to explain and clarify their ideas or expressions. Peer review was also conducted on the coding process so as to ensure validity of the data.

FINDINGS

The results from the interviews rendered issues and challenges, as well as suggested plans and ideas for the institution. Four overarching themes have emerged: policies, procedures and practices; leadership practice; recommended strategies; and corporate reformation strategies.

Policies, Procedures, and Practices

In relation to LA implementation, policies and procedures reflected a common voice. The findings showed that with regards to policy management, participants shared minimum thoughts. Evidently, there were great discrepancies in most institutions regarding how the staff and leadership perceived the management of policies and practices. Nonetheless, consistency in data has been highlighted in the interview session although the minimum standard on QA policies was set in the lens of MQA (Malaysia Qualifications Agency) and ISO9001-2015.

An interviewee explained:

"Yes, there are Learning Analytics, but is not independently control. University of London, they set the questions, we do the teaching, we don't even know what the hell they are going ask okay. They set the questions, but the people that set the questions, are not necessarily the ones who correct you know, so 3 independent groups."(L128-132, P3)

The other interviewee pointed out:

"Actually we do it, as I said, not in a holistic way, but we work towards it, but if someone if later on we are doing our own analytics transformation, so that means everything we now do is more evidence driven, so this is one step forward, to build the data you know."(L461-463, P8)

In fact, there is a visionary policy in the case university to be shared and adhered to with all stakeholders that the university has to be an analytical-driven institution. Although no one likes more work in general, policies and procedures can be made to embed efforts in transformation into the workload of each academic personnel. Presumably, there will not be issues such as micromanagement, issues in execution of staff current accountability, and whether LA would be added into their already overloaded schedule.

A participant mentioned on the top-down move on policies:

"At least this is a move from the top, being known to all of us right now, and the next thing is basically technology, whether you have the right tools to do."(L205-206, GE6)

Another participant mentioned about policies, which favor lecturers in terms of schedule and workload:

"Make it as part of a routinized work...if you want us to do learning analytics as a compulsory part then give us time you know decrease our load and give us time."(L284, G8; L333-334, G10)

In line with the Malaysia Higher Education Blueprint (2015-2025), the Ministry's prevailing aim is to create a higher education system positioned among the world's prominent education systems that permit Malaysia to strive in the global economy. In addition, from the document analysis, it was found out and confirmed that information on enhanced standards also include policies of securing retention of records of the academics. Policies and procedures should be a vital catalyst in transformation of higher education system in a broad and complex manner.

The document analysis revealed:

"In area 7 on continual quality improvement, how the department supports and compliments the institution's policies, contribution and participation of stakeholders towards improvement of the programs, the projected activities undertaken with purpose to ensure that the Department is responsive to its changing environment." (L110-117, DA: I3)

As a whole, consistency of data has been highlighted in the interview session although the minimum standard on policies on Quality Assurance (QA) is based on MQA and ISO9001-2015. Other key findings include the existence of a visionary policy in the case university that was shared and adhered to by all stakeholders, which puts forth an analytical driven university. Policies and procedures can be made to embed efforts in transformation into the workload of each academic personnel so that there will not be issues such as micromanagement. It was found out and confirmed that the information on enhanced standards also included policies in securing retention of records of the academics.

Leadership Practice

The crucial source of beliefs and values in an organization is leadership. The most dominant concern for leaders is to understand the deeper levels of a culture and to handle the apprehension unleashed when those expectations are tested. For example, arriving at a consensus challenges how well the group of people is led to build a shared social reality in a university. The concern revolves around the philosophy behind educational leadership, which depends on the job of the educational leaders who should be focused on the change process.

Interestingly, most of the participants from the faculties shared similar thoughts that collaborative leadership practices should be adopted in turning the implementation of LA a success story in the case of this research. In addition, participants from the management team suggested that distributed leadership (DL) practices are essential in making achieving success in the current case context. The researchers' in-depth analysis led to the emergence of the sub-theme, which reflects the attributes of DL. Key attributions from the findings include a leadership style that is visionary, as well as leadership roles to be distributed among respective stakeholders who are to be held accountable in the adoption of collaborative implementation of LA.

The interviewees pointed out:

"As I kept saying to you yea, certain people at certain age or interest or life is so good here, for so many years a bit of lazy, you see distributable leadership is to fit into 4.0 world, that you do network leadership you know." (L702-704, P12)

"Leaders for the respective domains in the institution must be held accountable for the success of the adoption." (L141-142, L4)

"The responsibility does not hold in one person but multiple individuals on each leader who has the skills to contribute success on LA implementation." (L145-146, L4)

This study also found out that the academics have a more open communication within the faculty and departments rather than with the senior management level. Concurrently, it also revealed that the power relation and involvement in the university's fundamental path may be sidelined at the faculty level because communication gap between two groups of stakeholders is obvious, and the sharing of transformation goals to the faculties may be weak. Moreover, the findings showed that DL should mean teamwork and sharing, and that authority is constantly associated with practices and discourses of leadership within the context and time.

"Like distributable leadership means is all about teamwork and sharing, sharing, academics yea, find it very difficult to do that, they scared; they scare people smarter than themselves." (L743-744, P13)

As DL is a combined practice of top-down and bottom-up efforts, it comprises of diverse formal and informal means of communications from university level to faculty and department level. DL is a perspective for discerning appropriate leadership roles in schools, and it is not necessarily a plan for effective leadership. It is not whether leadership is distributed, but rather how it is dispersed. Descriptive building is therefore important in establishing causal links between DL, LA, and its success in implementation so that the students' learning process and results can be established.

"It is critical that the Top Management endorses LA and enforces the practice of LA institution wide." (L140-141, L4)

From the interviews, discussion with focus group members, as well as references from document analysis, the findings revealed that bottom-up and emergent processes of shared and casual leadership were more reflective of responsibility and creation of new ideas.

"It's top down and bottom up. Top down meaning the top management must do what they say ok you tell me learning analytics is important. Ok so try to encourage us, maybe have some policy, have support." (L253-255, G7)

"There needs to be sufficient engagement and consultation from bottom up its very easy to say that rather than impose it let say overnight the senior management decide ok this is the strategy on it, and then ok from right its going it's going to be going to meet resistance, you will meet a lot of corridor talk, gossips against it and people who then comply but with a with a very negative thing, and ultimately self-defeat." (L666-673, FC: E18)

As a whole, key attributions from the findings include leadership style that is visionary, as well as leadership practices that are distributed to respective domains and that holds accountability in the collaborative adoption of LA.

Recommended Strategies

Today, HEIs are complex organizations, which call for active participation not only from the faculty but also from the leadership of employees and management, as well as the students themselves. From the research findings, the participants seemed clear on what problems they are trying to solve, how the problems can be solved incrementally, and who can help to solve the problems. In fact, besides technology being a key concern, human issues integrated in culture in using data and analytics by all LA stakeholders are paramount to the success of implementation of the determinant factors for the long-term use of LA.

Participants have reiterated in a few sessions that policies are to be made and to be adhered to in the first place. Secondly, flexible government regulations need to be in place.

"The regulators, unless we, like in Amerika, we are allowed to do what we can do, but since you regulate public university, you regulate everything, so you must come one with the, like for example, you ask us to use card, that's your Learning Analytics that can be implemented, but whether it's implemented well or not, it a different thing, so the first part of Learning Analytics is, in Malaysia, we know how to do calligraphy you know, okay that's what analytics, but how you do it well or not, it's another part of another level of analytics, you see the point." (L511, P9)

Success of implementation is all about effective leadership practices, self-management of staff, and networking horizontally throughout the university, whether it is by peer pressure, hierarchical pressure due to power, or those mentioned from a distributed leadership perspective. In connection with the previous section, a participant mentioned:

"I'm sure that they'll love to implement a lot of changes a lot of these things but when it comes to filtering down to operationalizing these things ok it depends on whether the head of departments are strong enough to be able to implement those things or they are beholden to the lecturers." (L492, H13)

It is understood by now that the implementation process of LA for achieving QA is a very challenging matter. It is a continuous journey, and the stakeholders have to start from a specific point.

"My only advice is to try it. Don't worry about failure, to try it out to see how far it can go. If you think it is a good approach, you can improve from where you have reached, it is a continuous journey. So it can be a long journey. We just have to start from a single point and move forward." (L276-278, GE8)

Execution is always easier said than done. Adequate capacity building and preparation, and the integration into one system are important critical success factors. A member of the focus group mentioned:

"So that's sufficient capacity building and preparation so it might be two- or three-years strategy to implement it rather than overnight." (L676-677, FC: E18)

Overall, the strategy for holistic direction toward achieving Quality Assurance (QA) should be in place towards QA in the years to come by taking into consideration the way the institution moves forward. Some participants even suggested implementing it starting from a department in the first year of tertiary programs while some suggested to make it compulsory with uncertain boundaries.

"We can't do without students learning analytics but let's look at another humanistic part of it where the organic being who we are and looking at the sole of an organization you know that would be made up by our pulses, it's not just a report card and the grades that matter, and the numbers but to have a strategy that would incorporate a few other elements that would give a more holistic direction toward the true quality assurance would be in the years taking into consideration the way we go forward." (L767-773, FG: J21)

"We can analyze students when they are in first year, pick up certain information rather than whole." (L410-412, C11)

The key findings basically include recommended strategies on how glitches can be resolved gradually and who can assist to resolve the glitches. Besides the fact that technology is an essential concern, human aspects especially integrating culture in using data and analytics by all LA stakeholders are essential in ensuring the success of implementation of LA.

Corporate Reform Strategies

For the stakeholders who are implementing strategies, in this case the members of management and the faculties, moving into a more challenging role leads to improvement of the system for the best interest of the institution. One of the participants shared insights in bridging the gap to connect and implement LA especially for quality assurance:

"It is driven from the VC, and the academic board who will be looking at this and making changes. More to the department of technology of the university as major role in this. We need more technologies, we also need people who are well verse in

analytics, to help us with the algorithm so that we can have that information to decide if students have progressed.”(L280-283, GE8)

Enforcement of policies will no doubt be a strategic move, which includes policy borrowing, and the adoption for constructive alignment of curriculum with teaching pedagogy and assessment. In fact, the researchers also found the same view from experts' advice in the same context.

“It is recommended that the University drives the adoption of LA through constructive alignment of curriculum, teaching pedagogy and assessment; supported by data analytics and IR4.0 related technologies and designed to achieve excellence in student outcome with respect to academic performance and employability.”(L152-155, L4)

To lead this transformation is no longer merely a role and responsibility, but it must revolve around sound practices. Primarily, the role of middle management is to devise strategies generated by the executive level in the most efficient way possible. Moreover, this involves a daily job routinization for both academics and administrators.

“Basically, at the top we are very clear, where we are moving forward, as analytics driven entrepreneurial university. I think the next step is to get the second layer, middle management to actually to roll out this in a more formal way. Top Management should look into and move forward.”(L292-295, GE8)

Learning Management System (LMS) is the main platform for LA. To install LA into LMS may be a strategic move according to one participant:

“If he can marry analytics and LMS if he can look for a strategy to marry LMS and analytics probably they may bite”(L765-766, FG: G21).

Execution of a project is a complicated matter, and the issue revolves around who is going to do it and how much resources they have to invest in it aside from passion and other personal factors. Interestingly a participant in the focus group shared insights based on past experience in the education industry for more than 20 years:

“So, I think some decisions have to be at a level where it's beyond us we can be mooting ideas, we are the groundwork--the coolie that would be doing things. But when it comes to hard core money, do they have a passion for that.”(L743-746, FC: J20)

Consequently, with regard to culture and attitude of the stakeholders, all must have the initiative and be aligned with the corporate strategy. As noted by one participant:

“We have set up Center of Analytics Research and Application to focus on innovation through research, education and services. So, initiative of LA implementation is in line with our corporate strategy.”(L44-46, L2)

In general, the findings included recommendations such as the following: setting up a central department to drive LA; enforcement of policies such as policy borrowing; executive from middle management; marry LA in LMS; and, the culture to take initiative.

DISCUSSION

Whether or not this optimization on the use of LA will be sustainable depends on this shift connected to corporate strategy. Hence, new policies, practices, and procedures are to be formulated and executed under the right leadership practices and recommended strategies. Empirical studies showed that LA is

implemented using highly diverse approaches in recent years (Gasevic, Dawson, & Pardo, 2016). Predictors and indicators for academic achievement, student engagements and self-controlled learning skills are to be developed. Visualization exploration and interpretation of data prompt remedial action and inception of intervention to outline learning challenges in HEIs. The current research found out how policies and procedures reflect a common voice in LA implementation. However, there are certain thoughts shared with regards to existing policy management on LA. That may be due to the fact that the university currently does not have explicit policies on LA. However, what was found was that policies and procedures were embedded in efforts in transformation on the workload of each academic personnel. In effect, there could be no issues such as micromanagement, confusion in execution of staff accountability, and integration of LA into the already overloaded work schedule of academics based on the research findings. This was further supported by the similar problems raised by Scalter (2017) that many institutions are uncertain as to how it can actually be implemented, particularly for lecturers or tutors to be the responsible people for implementation.

Although findings were not shown with regards to a specific leadership model, it is imperative to take heed on the perspectives of the participants in this case study that somehow implies the use of a distributed form of leadership on LA implementation. Harris and Spillane (2008) proposed that distributed leadership "is a way of getting under the skin of leadership practice, of seeing leadership practice differently, and illuminating the possibilities for organizational transformation." Bolden (2011) thus explored the dynamics of power and inspiration in which it is argued that insufficient consideration may lead to leadership being distributed, whereas power is often not. The idea that DL might be raised by the HOD to boost commitment and involvement in the transformation of events though considerable disproportions in terms of the right to use of resources and power may become problematic. Bolden (2011) also suggested that power is constantly associated with the leadership discourse and practices such that organizational boundaries and context should not be dismissed. The practices of the HOD of one department may impact those from other departments, and the interconnection of the flow of students' data may have a ripple effect throughout the organization.

Furthermore, the lecturers have more opportunities for interaction within the faculty and departments instead of the senior management level. At the same time, it was also revealed from the interviews and document analysis that the authority influence and involvement in the university's vital path may be minimized at the faculty levels. Communication gap between two groups of stakeholders is obvious and sharing of transformation goals with the faculties may be weak. There is a common theoretical basis of this particular concept from others such as democratic leadership, team leadership, and shared leadership (Spillane, 2005; Bolden, 2011; Tam, 2018). DL suggests that authority or power is constantly associated with the practices and discourse of leadership within the context and time.

Based on the research findings of this case study, the results generated recommended strategies to further optimize the implementation of LA in higher education. Internal policies, alongside flexible government regulations, are to be made and to be compelled to in the first place. Effective leadership practice, self-management of staff, and networking horizontally throughout the university, whether it is by peer pressure or hierarchical pressure due to power, are suggested to be practiced. Moreover, adequate capacity building and preparation may lead to the integration of systems, which are important critical success factors. In line with this, strategies for holistic directions toward achieving QA should be in place towards QA in the years to come. Likewise, enforcement of policies will no doubt be a strategic move. That includes policy borrowing and the adoption of constructive alignment of curriculum with teaching pedagogy and assessment. To lead this transformation is no longer merely a role and responsibility, but shared practices. Primarily, the role of middle management is to device approaches shaped by the executive level, which could be the most efficient way possible. Thus, this involves the normative job-routinization of both academics and administrators. In line with this, the adoption of a Learning Management System (LMS) serves as the key platform for LA. To install LA into LMS may be a strategic move and making the decision to do it is beyond the faculty; however, the faculty members are the one on the ground to make it happen. Nevertheless, all stakeholders must take the initiatives and be culturally aligned with the corporate strategy.

CONCLUSION

This case study contributes to the literature on LA strategic direction and leadership practices by providing insights on the beliefs and practices as guidelines in optimizing LA implementation in HEIs in Malaysia. The participants in this study have expressed their views and conceptions of their perspectives on the issues and challenges and the extent the management can focus on the benefits that LA can offer to sustain this initiative effectively in the long run in higher education institutions. Throughout the conversations with the respondents, the findings showed a strategic solution in optimizing implementation of LA from an institutional perspective.



Figure 2. Strategic Optimization

The insights from the higher education institution can be summarized in the form of a diagram to show interlocking circles contributing to the central idea. From the in-depth analysis, the framework depicted in Figure 2 showed the following interlocking ideas: policies and procedures; leadership practices; recommended strategies; and, corporate reformation strategies. Thus, all four focal entities should embrace strategic direction, which has to be embedded in future aspirations for sustainability in the implementation of LA in HEIs. Although the applications of LA are still at the stage of infancy in Malaysia, this research hopes that the proposed strategic optimization can be used to pave the way for successful LA initiatives in the future.

REFERENCES

- Bolden, R. (2011). Distributed Leadership in Organizations: A Review of Theory and Research. *International Journal of Management Reviews*, 13, 251-269. <https://doi.org/10.1111/j.1468-2370.2011.00306.x>.
- Braun V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. <https://doi.org/10.1191/1478088706qp063oa>.
- Clow, D. (2012). The learning analytics cycle: Closing the loop. In D. Gasevic & S. Buckingham Shum (Eds.), *Proceedings from the 2nd international learning analytics and knowledge conference* (pp. 134-138). New York, NY: ACM.

- Elias, T. (2011). *Learning Analytics: Definitions, Processes, and Potential*. Retrieved from <http://learninganalytics.net/LearningAnalyticsDefinitionsProcessesPotential.pdf>
- Ferguson R., & Clow, D. (2017). Learning analytics: avoiding failure. *Educause Review Online*, 31, 1-5.
- Gasevic, D., Dawson, S., & Pardo, A. (2016). How do we start? State and directions of learning analytics adoption. *International Council for Open and Distance Education*. Retrieved from http://icde.memberclicks.net/assets/RESOURCES/dragan_la_report%20cc%20licence.pdf
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Hawthorne, NY: Aldine Publishing Company.
- Harris, A., & Spillane, J. (2008). Distributed Leadership through the Looking Glass. *Management Education*, 22(1), 31-34. <https://doi.org/10.1177/0892020607085623>.
- Kapur, R. (2018). *Educational Leadership*. Research Gate. Retrieved from https://www.researchgate.net/publication/323691649_Educational_Leadership
- Macfadyen, L.P., Awson, S., Pardo, A., & Gasevic D. (2014). Embracing big data in complex educational system: The Learning Analytics imperative and policy challenge. *Research & Practice in Assessment*, 9(4), 17-28.
- McMillan, J.H., & Schumacer, S.S. (1997). *Research in Education: A Conceptual Introduction*. New York: Longman.
- Merriam, Sharan B. (2009). *Qualitative Research: A guide to design and Implementation*. US: John Wiley & Son, Inc.
- Ministry of Higher Education. (2007). *The National Higher Education Action Plan, Phase 2, 2011-2015*. (Malaysia, Ministry of Higher Education, Ministry of Education). M.O.H.E. Malaysia.
- OECD. (2017, April 15). *21st Century Skills: Learning for the Digital Age*. Retrieved from <https://www.oecd-forum.org/users/50593-oecd/posts/20442-21st-century-skills-learning-for-the-digital-age>
- Rick, T. (2013). *Resistant to change is a problem*. Retrieved from <https://www.torbenrick.eu/blog/change-management/change-is-not-the-problem-resistance-to-change-is-the-problem/>
- Scalter, N. (2017). Learning analytics adoption and implementation plan. *Effective Learning Analytic*. Retrieved from <https://analytics.jiscinvolve.org/wp/2017/03/21/learning-analytics-adoption-and-implementation-trends>
- Spillane, J, P, (2005). Distributed leadership. *The Educational Forum*, 69(2), 143-150. <https://doi.org/10.1080/00131720508984678>.
- Tam, A. C. F. (2018). Conceptualizing Distributed Leadership: Diverse Voices of Positional Leaders in Early Childhood Education. *Leadership and Policy in Schools*. <https://doi.org/10.1080/15700763.2018.1513156>.
- Tasir, Z., Kew, S.N., West, Z., Abdullah, Z., & Toohey, D. (2016). Collaborative research between Malaysian and Australian universities on learning analytics: Challenges and strategies. *International Journal of Educational and Pedagogical Sciences*. 10(8), 2900 - 2906.
- Wong, T. M. B. (2017). Learning Analytics in Higher Education: Analysis in case studies. *Asia Association of Open Universities Journal*, 12(1), 21-40.
- Yin, R.K. (2014). *Case Study Research: Design and Methods*. Sage Publications, Inc. UK.
- Zilvinskis, J., & Boarder V. (2017). *Learning analytics in higher education: New directions for higher education*. San Francisco, CA: Jossey-Bass.