A Study On The Impact Of Information Systems On The Management and Operations of Private Education Institutions In Malaysia

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Abstract — This paper explores the use of technology on the management and operation of private education institutions in Malaysia. Private education in Malaysia ranges from all levels starting from nursery schools up to the tertiary education. This sector has been regarded as a balance to substantiate the public education of the overwhelming number of students. Issues in managing and operating education institutions have been appraised from time to time by each institution or school. The Private Education Division under the Ministry of Education of Malaysia has issued guidelines on the management and operation of the private education. The concern of this paper regulates around the study on the impact of information systems in facilitating the management and operation issues. This paper will describe the general literature on private education, followed by the selected issues under management and operation. Other sections in this paper will highlight the aspects of information systems and its impact of the management and operation matters. The aim of this paper is to identify the vital areas from the management and operation. These vital components are to be examined as a potential research area with further objectives on delivering an efficient services in the private education institutions or schools in Malaysia. Greater concerns will be highlighted as further recommendations in future research work to enhance the quality of education delivered in the of private education with the use of information systems.

Keywords — private education institutional, technology, information systems, Industrial Revolution (IR) 4.0.

I. INTRODUCTION

Private or independent education also refers to non-governmental, funded privately, or non-state schools are not administered by local, state or federal governments. Arguments have been put forward from time to time on the efficiency and effectiveness of private education. According to the Association of International Schools (AIMS), in April 2018, the Private Education Division under the Ministry of Education (MoE) that there are 127 private and 141 international schools in Malaysia, with the majority in Kuala Lumpur and Selangor. In addition there were 22,143 foreign students and 41,287 local students in the provate sector at the time, and trends show a growth in numbers. In addition, the National Association of Private Educational Institutions, believes the drastic increase in international school enrolment began in 2010, the MoE lifted the regulation on international schools having forty per cent quota for locat students (Sheela, 2019). In an article in of the Guardian newspaper in the United Kingdom, states that the private education institution promotes a social gap between among graduates (Pyke, 2019)

The importance of having an efficient management and operation in every private institution is vital in delivering

quality education to the students. Management and operation are two main aspects in any organization. In a business sector, operations include purchasing, inbound logistics, warehousing, and sales order management. Management in an industry such as telecommunication refers to the corporate governance, financial management and human resources.

In private education institutions, the operations include curriculum development, fees structure, and extra curricular activities framework. The management of a private education institutions focuses on the corporate values such as integrity, commitment, and ethical values. The function of management also extends to areas like human resources, communication, and project management.

This paper identifies several components of information systems (IS) in the management and operation of private education institutions include management system, learning management system，e-learning multimedia, content management systems, printing services and virtual classroom.

II. MANAGEMENT AND OPERATION OF PRIVATE EDUCATION INSTITUTIONS

The management and operation of a public and private education are similar. The main components are human resources, planning, corporate strategy, implementation and execution. Similarly, the operation of a public and private education are referring to related components such as curriculum development, training, assessments, students projects' supervisions, students' registration and attendance systems.

A study argues that the core of most educational problems lie within current educational management structures. It calls for a complete rethinking and rebuilding of such structures in order to aid educational systems in reaching their full potential, therefore helping students within these systems fully develop 21st century skills and meet future global challenges (Tarrago, 2010).

In 2015, the former Deputy Education Minister of Malaysia, Datuk Mary Yap has emphasized that leadership is to be regarded as an integral part of education management. According to her, education institutions and schools need more committed Excellent Principals to steer them in the right direction. The Ministry further emphasized that aspiring school leaders to attend National Professional Qualification for Educational Leaders (NPQEL) to prepare them for school leadership (Yap, 2015).

III. INFORMATION SYSTEMS (IS) AND INDUSTRIAL REVOLUTION (IR) 4.0

The use of IS in education, has opened an access to Management Systems: cross-branch management, research and development, course content, students' registration, timetable scheduling, library, staffs' training, and finance.

Learning Management Systems: e-learning multimedia, online test, students' attendance, students' projects, students' report.

What is Industrial Revolution (IR) 4.0? Shwab (2016) provides an example that helps to understand how the industrial revolutions changed across time. During the first 1R, water and steam were used to mechanise production. During the second IR, electric power was used to automate production. During the third IR, electronics and information technology were used to automate production. The fourth IR is beyond an enhancement of the third IR, in which the advancement of new technologies blurs the lines between the physical, digital and biological worlds. The new technologies evolve at exponential pace and there is no historical precedent that marked the beginning of the evolution, hence being called disruptive technologies. These advancements are led by the emergence of artificial intelligence,

robotics, the Internet of Things (IoT), autonomous vehicles, bio and nanotechnology, 3-D printing, material science, quantum computing and energy storage (Diwan, 2017). The IR 4.0 affects not only the business, governance and the people, it also affects education as well, thus the name Education 4.0 came to existence (Hussin, 2018).

Education 4.0 is suggested to affect all the domains (Cognitive, Affective and Psychomotor) in the Bloom's model. In cognitive domain, Application, Analysis, Evaluating and Creating will become way more important to the lower level cognitive skills.

IR 4.0 will see profound changes in business models across sectors. In order to cope with the quicker cycles of disruptive changes, one has to make lifelong learning a permanent part of professional life. This may, in turn, need new ways of recognising and certigying work-place based learning . This will require new partnership between educational institution and industry (Haseeb, 2018).

Malaysia is among the countries shaping towards with the IR 4.0. The use IS the management and operations of the private education institution will be magnified with the approach brought by the IR 4.0. This concept will enable students to interconnect various learning resources in the learning process; and communication can be designed between various tertiary education institutions to generate research ideas.

IV. THE IMPACT

IS have been used in education institutions to improve the efficiency in the administration. At the initial stage of its development, school's activities are organized by using IS. It was used to store student and personnel data. The values of IS have been seen further in school's administration, higher utilization of school resources, reduction in workload, better time management and improvement in the quality of reports. IS can provide administrators and teachers with the information required for informed planning, policy-making, and evaluation.

The use of IS can be expanded in the management and operation by assisting leadership, decision-making and evaluation. Efficiency can be increased in the areas of human resources management, communication, responsibility and planning. IS help to facilitate the process of formulating strategic plans, distributing resources, and evaluating staff performance as well as organizational success (Shah, 2014).

V. CONCLUSIONS & RECOMMENDATIONS

The use of IS in education institutions starting from pre-schools to higher learning have been seen as beneficial in efficiency and effectiveness. The authors have initiated this concern in particular on the management and operations of education institutions. Further initiatives are focusing on:

- The management and operations of private education institutions. A case study on a private education institution will be discussed.

- Problem statements, research questions, and research objectives, are to be written clearly.

- Research design and methodology will be designed to analyse the case study.

- Data collection will be undertaken in private education institutions in Malaysia.

The IR 4.0 has unlocked a new motivation to education transformation. The use of IS throughout the years have a profound impact in the management and operations of private education institutions in Malayia. Not only that the tertiary education will benefit from the Education 4.0 as mentioned in the Section III, early childhood education will be shaped by innovations and create an resourceful learning environment at the early stage.

VI. ACKNOWLEDGMENT

REFERENCES

[1] A S MD Abdul Haseeb (2018, January). Higher Education in the ERA of IR 4.0. Retrieved from:
[2] https://www.nst.com.my/education/2018/01/323591/higher-education-era-ir-40

[3] Diwan, P. (2017). Is Education 4.0 an imperative for success of 4th Industrial Revolution? Accessed from https://medium.com/@pdiwan/is-education-4-0-an-imperative-for-success-of-4th-industrial-revolution-50c31451e8a4

[4] Hussin, Anealka Aziz. Education 4.0 Made Simple: Ideas for Teaching. International Journal of Education and Literacy Studies 6(3):92. July 2018. Retrieved from:
[5] https://www.researchgate.net/publication/327392112_Education_40_Made_Simple_Ideas_For_Teaching

[6] Pyke, M. (2019, March 20). Retrieved from The Guardian:
[7] https://www.theguardian.com/education/2019/mar/20/tackling-the-damage-done-to-the-uk-by-private-schools

[8] Shah, M. (2014). Impact of Management Information Systems (MIS) on School Administration: What the Literature Says. Retrieved from ResearchGate:
[9] https://www.researchgate.net/publication/270847103_Impact_of_Management_Information_Systems_MIS_on_School_Administration_What_the_Literature_Says

[10] Sheela Raghu and Varatha Raju Munusamy. Travel360. Issue 144. July 2019.

[11] Shwab, K. (2016). The Fourth Industrial Revolution: what it means, how to respond. Accessed from https://www. weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond

[12] Tarrago, F. &.-D. (2010). Educational Management Challenges for the 21st Century. In F. &.-D. Tarrago, Key Competencies in the Knowledge Society (pp. 389-400). Brisbane: International Conference KCKS 2010

[13] Yap, M. (2015, June). Effective School Management. Kuala Lumpur. Retrieved from: https://www.thestar.com.my/news/education/2015/06/28/effective-school-management-the-roles-of-excellent-school-heads-go-beyond-managing-schools-well-as-t/#SoPo36Hed1BdO0jm.99