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Conceptual Digital Transformation of University Sains Islam Malaysia

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Abstract: **This paper looks at the digital transformation past, current and future digital transformation plan at University Sains Islam Malaysia (USIM). As a university that values excellence in teaching and learning practices, USIM, SIMPLE is an improved and structured online template for lecturers develop digital teaching and learning content easily. It comes in package with guideline on how to use it with minimal IT skills. SIMPLE is developed using open source – Moodle as the platform. The characteristics of Blended Mode rubrics such as Information, Content/Resources, Activities and Assessment are adapted in this template. Islamic values are inculcated and embedded into all disciplines of knowledge. USIM embraces a holistic approach towards the delivery of knowledge, which unites revelation sciences (Naqi knowledge) and the rational sciences (Aqli knowledge) [1]. The business USIM needs to provide good teaching and give additional learning support with online course materials and online resources. The targeted audiences will be using the MOOCs.**

Keywords: **GOALS; SIMPLE, MOOC, online courses, Islamic values, Digital transformation, university of the future, BMC, VPC.**

I. INTRODUCTION

USIM is an emerging Islamic university which is fully owned and funded by the Malaysian Government. Being the 12th Public Institution of Higher learning, it aims to spearhead knowledge and be the global reference center for Islamic Science. USIM adopts a balanced approach between the physical and spiritual aspects, not only in the academic programmed offered, but is also widely practiced throughout the university including administration and management levels. Against this backdrop, USIM embraces a holistic approach towards the delivery of knowledge, which unites revelation sciences (Naqli knowledge) and the rational sciences (Aqli knowledge). USIM thus offers a unique model to Islamic Higher Education setting it apart from other Islamic universities worldwide. The integration of religious sciences together with the social and physical sciences in all its programmes provides a comprehensive understanding of current global problems and offers a fresh alternative in solving them [2].

II. BACKGROUND

USIM needs to provide good teaching and give additional learning support with online course materials and online resources. The targeted audiences are students, lecturers, professors, teaching assistants and all professionals/ non-professionals that will be using the MOOCs and GOALS.

Although USIM has a plethora of learning resources, searching for specific content is not easy and takes time to view and identify the content being searched. As such a tagging metadata mechanism is envisaged that will facilitate for content search. The tagging of these learning objects will lead to an intelligent virtual content selection environment that will facilitate for any content to be searched based on each of the elements of learner, subject, pedagogy and technology via the Resource Architecture Metadata Input (RAMI). Ultimately, a content directory is envisaged to accentuate the digital learning landscape resulting in the Resource Architecture in the Virtual Design environment (RAVD)[3].

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III. PROBLEM STATEMENT

Digital transformation refers to the strategic use of digital content, technologies, and practices to transform the ways that institutions connect with and engage their customers and prospects [4]. If information is power, then digital information available 24/7 on multiple devices across multiple channels is power amplified exponentially. Universities aim to improve, rather than replace, the traditional model. University leaders view digital transformation as a way to improve 'how' they do their existing work Three quarters plan to partly digitize their current operations while creating new digital models in parallel. Very few aim to create wholly new digital models or fully digitize their current model, suggesting they remain confident in the current university model. Initiatives that would improve the current experience, such as course development, enrolment, and administration, were considered more important to digital transformation than initiatives that would change what the university does, such as alternative credentialing [5]. To become a world competitive university in world must build a digital campuses online platform improve the quality and accessibility of educational resources, expanding the geographic scope of universities and increasing the number of services they can offer. According to the World Economic Forum, while the third used electronics and information technology to automate production.

IV. METHODOLOGY

a) COBIT

The requirement for superior alternate in better training has been generally acknowledged and finished by way of a portion of the arena class university. consequently, a method for near research with other fruitful university like Harvard and Oxford is essential maintaining in mind the end intention to completely understand the idea of automatic trade to the college done through the master. This method reasons the college to consider their present circumstance of execution and set every other benchmark for better advanced alternate [6]. In this paper, we explored the use of cubit. structure and benefits of it. Staff members of the USIM know the importance of cubit. the Leaders had been expressing an ongoing concern about IT governance. COBIT structured: COBI clearly differentiates between the governance and management of IT, and works around five principles: Meeting Stakeholder Needs, Covering the Enterprise End-to-End, applying a Single Integrated Framework, enabling a Holistic Approach, Separating Governance from Management. IT governance is the term to describe the governing and managing of information technology within an organization. It is a framework that ensures your organization's IT infrastructure supports and enables the achievement of corporate strategies and objectives and differs from IT management in that IT governance is a framework that ensures management is successful and risks are identified and appropriately controlled. IT Governance has three main primary objectives, which can be achieved by implementing a structure responsible for information, business processes, applications and infrastructure [6].

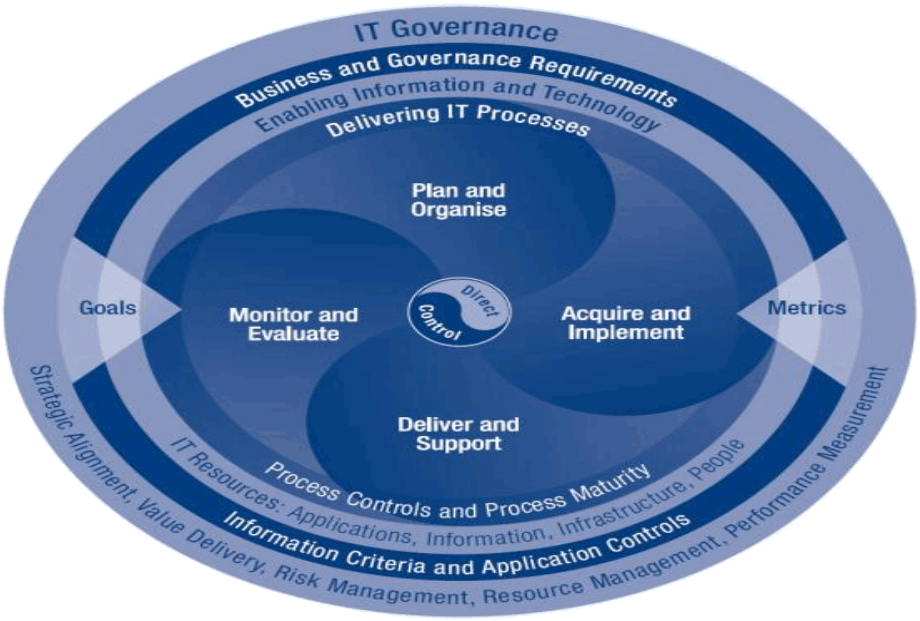

Figure 1. Cobit

Audit and Assurance:

Compliance:

IT Operations:

Governance:

Security and Risk Management.

V. LITERATURE REVIEW

The reason for teaching is to arrange understudies for accomplishment in life either in their individual life, work atmosphere and within the social orders. though this reason has stayed steady for hundreds of years, the globe around advanced education experiences consistent modification [7]. campus, the library, the class room and therefore the customary age understudy may be basic options of advanced education nevertheless might not satisfactorily portray advanced education's future. Thus, the following half can state the drives of progress, the empowering influences and therefore the ramifications of transforming the upper instruction phase.

A. DRIVERS OF CHANGE IN HIGHER EDUCATION

Megatrends that will transform higher education sector. These powers integrate around five key drivers of changes. The principal space of this paper investigates all of the 5 drivers and their possible result within the decade [8].

1. Contestability of markets and funding: Fiercely competitive domestic and international student markets, Challenges to government funding, Competing for new sources of funds

2. Global mobility: Emerging markets getting to be international-scale rivals in the global student market, Academic ability progressively sourced from developing markets, Emergence of tip top, truly worldwide college brands.

3. Integration with industry: Scale and depth of industry-based learning, Research partnerships and commercialization, Industry as competitors in the certification and delivery of content

4. Digital technologies, Bringing the university to the device —MOOCs and the rise of online learning, Bringing the device to the university —the use of digital technologies in campus based learning, Blended learning

5. Democratization of knowledge and access, Ubiquitous content, Broadening of access to higher education, Increased participation in emerging markets.

This disruption is impacting and changing Higher Education and academia and the change is set to continue. Students have become customers who bring their own digital world expectations to university. These customers are savvier, better connected and more vocal hand ever. Many have preconceived ideas of how universities will engage directly with them and what outcomes they can expect in return for their investment. Students increasingly see universities as the main means of securing their future employment rather than simply learning and self-development. MOOCs are far from being the end of the line for digital disruption in teaching methods. As a generation that is more digitally sophisticated than any previously, students expect to be taught and to learn using methods that suit their personal preferences and at a pace that they have chosen, not one that is mandated to them [9].

USIM take further steps in driving potential and capabilities towards generation of new knowledge, development and transformation of knowledge to create innovations that could generate wealth for the country. Most importantly, it is also envisioned that these efforts will enhance the quality of life of the nation and further develop the ummah. Digital transformation refers to the strategic use of digital content, technologies, and practices to transform the ways that institutions connect with and engage their customers and prospects. USIM want to build and sustain strong customer relationships, and new digital technologies provide us with the best personal and digital service channels for doing this. USIM is one of the university that try to provide the best way of teaching and learning methods in digital form. It is a local Malaysian university provide (Self Instructional Module Template), is an improved and structured online template for lecturers develop digital teaching and learning content easily.

B. MEGATRENDS

Mega trends are global, sustained and macro-economic forces of development that impact business, economy, society, cultures and personal lives thereby defining our future world and its increasing pace of change

I.R. 4.0 & Digital technologies: SIMPLE & online self-instruction platform, Campus based learning through digital devices, Blended learning

Integration with industry: Industry based learning, Research partnerships, Certification & content delivery

Global mobility: Rise of education options in emerging markets, Increased sourcing of academic talent from emerging markets

Competitive landscape: Fierce competition in domestic, Full government funding, New business models

Ease of access to. & Knowledge: Ubiquitous content, Increased access to higher education, More participation in emerging markets [10].

C. Industry 4.0 digital platform (USIM*)*

The importance of having the right approach and preparation to ensure that society will benefit and profit from the rise of Industrial Revolution 4.0. technology-based leadership should be grounded in the goals of Islamic teachings to benefit society and prevent society from extinction. It can be done if five global sustainability aspects are given attention, namely, religion, life, mind, descendants and property. leadership based on a clean heart could ensure justice, wisdom, moderation and bravery in the current of technological development in the Industrial Revolution 4.0. In Industrial Revolution 4.0, robotic systems will be able to make decisions via the IOT (Internet of Things), IOS (Internet of Systems) and biological system combination. [11].

D. DIGITAL TRANSFORMATION PLAN OF WORLD CLASS UNIVERSITY

To remain competitive and agile, universities across the world are building digital campuses. Also known as e-campuses, these cloud-based, online platforms improve the quality and accessibility of educational resources, expanding the geographic scope of universities and increasing the number of services they can offer. But e-campuses have also created new challenges for organizations, namely how they can handle large volumes of digital activity in a cost-effective manner. Universities with tens of thousands of students or more generate a nearly unmatched amount of communication and information. In 2012, the University of **Lübeck** in Germany tried to build a digital campus for 24,000 students and 53,000 staff members. The public university, which also has a teaching hospital, specializes in medicine, science, technology and natural sciences. But the initiative placed increasing demands on its technology infrastructure. Lübeck had a choice – either expand the infrastructure or migrate it to a new platform. Hoping to improve education quality, management efficiency, and access to scientific research resources, it chose the latter. Due to increasing demands for capacity and availability, the university decided to migrate the existing storage infrastructure to a new technology platform. Lübeck's digital campus would include an eLibrary, forum, online storage and file sharing. More than other universities, Lübeck needed a high-performance density system – meaning high IOPS, or input/output per second. [12].

E. NEW ENTRANTS UNIVERSITY (Paris Sciences et Letter)

People are interested to enrolled in Entrants university such as google and Alibaba. They have provided great facilities for the customers to enrol in their universities. So, we have explored Paris Science et Lettres. PSL is a French collegiate university currently organized as a ComUE (university community). PSL was formed in 2010 and is made up of 9 members. It has 10 associates and receives support from 3 national research entities. PSL is located in Paris, with its main sites in the Latin Quarter, at the Jourdan campus, at Porte Dauphine, in northern Paris, and at Carré Richelieu. PSL awards Bachelor's, Master's, and PhD diplomas for its member schools & institutes. [13].

F. MEB 2015-2025/MOHE 4.0 [20]

The Malaysian higher education system has grown from quality to quality over the last decades. In the last ten years alone, the framework has made huge picks up in student enrolment. These achievements are a testament to the drive and innovation of the Malaysian academic, the Ministry of Education recognizes that the system will need to keep evolving to

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stay abreast with. Planning Malaysian youth to flourish in this complex and consistently changing future will require a similarly principal change of how the advanced education framework and higher learning organizations (HLIs) as of now work. In 2013, the Ministry along these lines started building up the Malaysia education blueprint 2015– 2025 or the MEB (HE). to pioneers of Malaysian HLIs and individuals from people in general. Malaysians, and that will prepare Malaysia for the last leg of its voyage towards turning into a high-pay country [14].

G. MOOCS:

The idea of harnessing trends from 4 lenses of advancement is really a mind opener to the university's method for conveying training. People in general university's conventional methods for educating and gaining is no less from others However, focusing exclusively on the customary techniques is not any more an alternative in today's world [15].

VI. INTIAL BUSINESS MODEL CANVAS

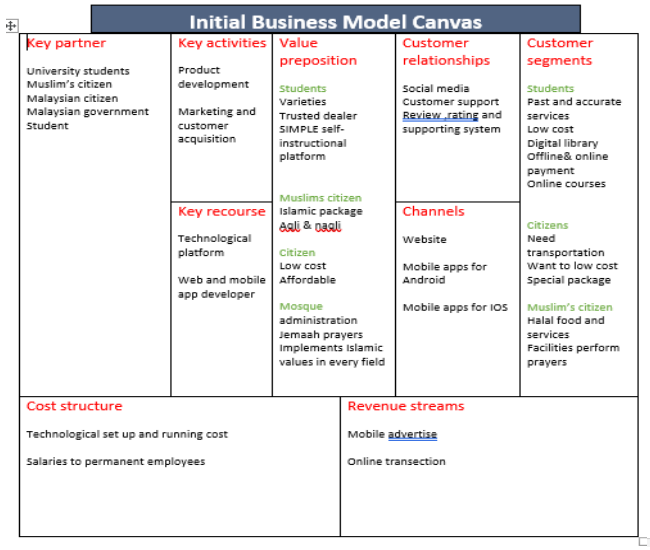

Fig. 2 BMC

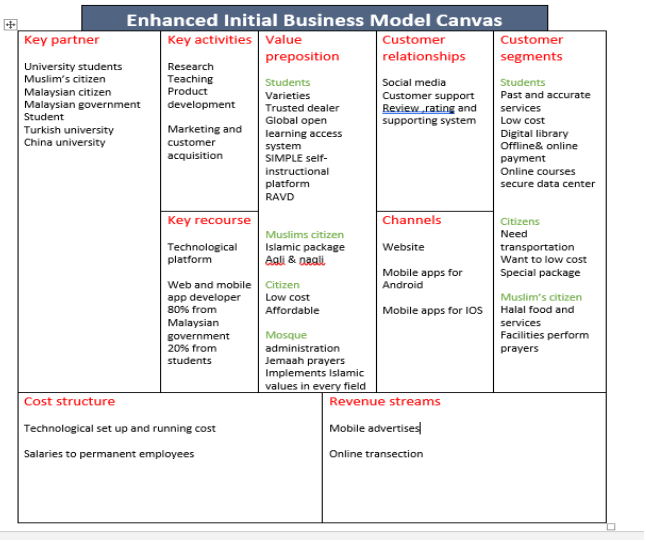

Fig.3 BMC

- **Customer segments:**

The business proposed focus on participants from all levels because we need to provide good teaching and give additional learning support with online course materials and online resources. The targeted audiences are students, lecturers, professors, teaching assistants and all professionals/ non-professionals that will be using the MOOCs.

- **Customer relationship:**

For the customer relationship, this business needs to sustain a good customer relationship with participants and lecturers. There will be interactive activities between lecturers, professors, and participants as well as other participants. What set USIM's MOOCs apart from other courses in Malaysia would be the Islamic values inculcated in all disciplines of studies, dynamic and interactive delivery method to support a more meaningful learning experience.

- **Channels:**

There are a number of ways on how the teaching method will be delivered to the participants. A meet-up method of teaching is one of the best ways for participants to do discussion and improve their learning skills.it provides interactive user forums to support community interactions between participants, lecturers, professors, and teaching assistants. Online learning as a subset of distance learning facilitates the learning process through the internet.

- **Value Proposition:**

it is believed that the value proposition offered by the proposed open learning can attract many participants to use this open learning website because it helps us to increase access to important course information. Besides, it offers a free website and can be easily access by others. Most of the education institutions nowadays teach in a traditional method, which is face-to face, ignoring the fast-growing technology. Realizing this opportunity, it offers a technology-based teaching to engage participants. In addition, USIM's MOOCs and SIMPLE TEMPLATE are on-line platform where all

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contents, notes and quizzes can be easily stored, managed and retrieved online. Content can be used by USIM students & stakeholders as well the public and also it should be made accessible through Network of Mosques.

- **Key Activities:**

The main reason on doing this project is mainly to contribute and to realize USIM's mission to provide quality and value to library customers in all USIM endeavors through multiple communication networks utilizing constantly updated infrastructure and needed resources. Also, to transform the manner in which the University imparts learning and knowledge to its participants through blended learning as promoted by Second Education Minister.

- **Key Resources:**

Main duties and responsibilities of instructors are to engage with participants in teaching. The range of duties may vary from time to time, but faculties are engaged primarily in lecturing. In most of the teaching and learning program that are going to serve, instructors are the crucial entity to make the service success. Lecturers will demonstrate communication and interpersonal skills as they relate to interaction with participants via video posts. Meanwhile, notes and laptops are tools to facilitate the learning and teaching process.

- **Key Partners:**

The collaboration is among four actors which include: Government, Academia, Industry and Citizen. These four (4) actors have very important roles to achieve the system objectives in the campaign to eradicate poverty from the Muslim Ummah. All the four (4) actors need to work together. Ministry of Education: Ministry of Education (MOE) is a Government ministry responsible for Malaysian educational matters.

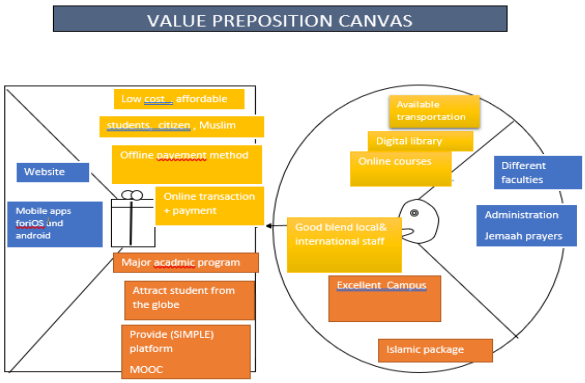

Fig. 4 VPC

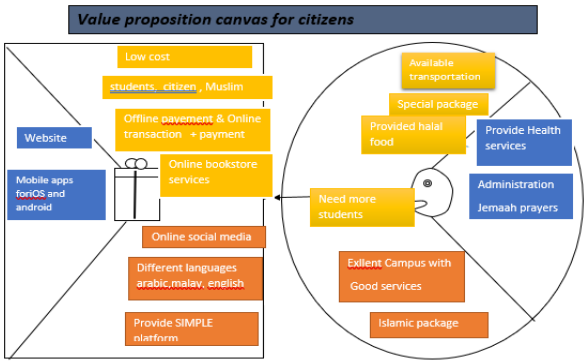

Fig. 5 VPC

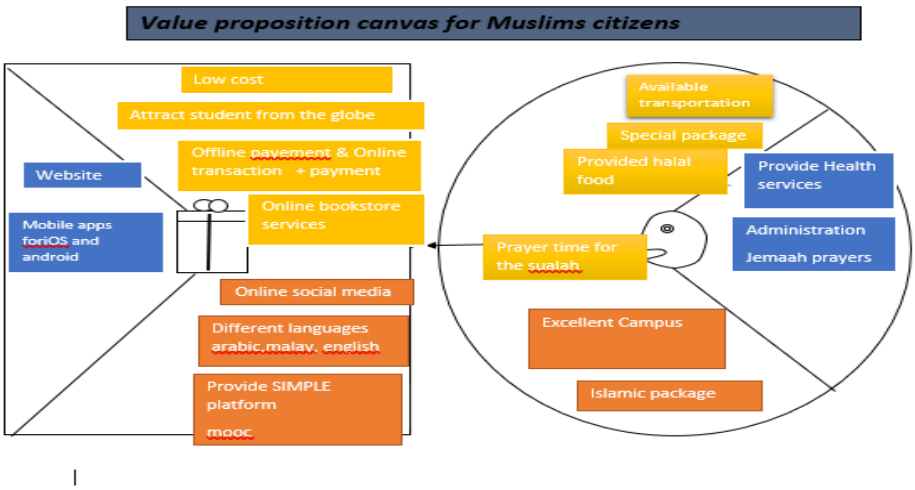

Fig. 6 VPC

VII. USIM DIGITAL TRANSFORMATION PLAN AND ENHANCED BUSINESS MODEL

A Fourth Industrial Revolution is now building momentum, characterized by a fusion of technologies that blur the lines between the physical, digital, and biological spheres. USIM plan to have Smart campus and smart buildings. In 2018 USIM has implemented cashless payment and smart fitness for the staffs of the university. they have provided an application that is called boos. USIM has implemented 4.0 education such big data, plan to move toward business intelligence and analytics to train ict people to prepare for this. The USIM aim to provide more facilities to attract customers, such as faster internet, provide transportation within the university, to enlarge the campus. As technology becomes pervasive, the teaching and learning landscape is now capable of presenting an interoperable and seamless learning architecture to connect, integrate, and share learning resources. Although USIM has a plethora of learning resources, searching for specific content is not easy and takes time to view and identify the content being searched. As such a tagging metadata mechanism is envisaged that will facilitate for content search. The tagging of these learning objects will lead to an intelligent virtual content selection environment that will facilitate for any content to be searched based on each of the elements of learner, subject, pedagogy and technology via the Resource Architecture Metadata Input (RAMI). A metadata input format has been designed to provide the information of the content and also at the same time, presents to the contributor a content design framework that is based on technology; the four elements of content, learner, pedagogy and technology. This design framework will be converted into an application that can be marketed and copyrighted (in process) The purpose of this project is to show how Resource Architecture Metadata Input (RAMI) on learning materials were developed adopting a Japanese open source software, called WEKO. [16].

VIII. CONCLUSION

Higher education is a massive national plus and its contribution to the economic and social wellbeing of the state is of important performance. the competitor ahead for pedagogy not simply in Asian country however round the world seems driven by turbulent modification within the force of technology. The online education therefore has added new options of teaching, has created a wide variety of new courses, and has increased the enrollment in many academic institutions

The field of computing and knowledge technology that contribute to human civilization and national developments could apply the new technology to be a part of the footer university. Be the center of research excellence in the field of Networking, Computerized Parallel and Distribution and wireless and mobile networks. Academic Program

This department offers a Bachelor of Computer Science (Computer Network) program. Learning outcomes in this program can be mastered knowledge, technical skills and entrepreneurship in the field of computer networks. Students will be exposed to critical thinking, communicating efficiently to showcase high levels of professionalism, attitudes and ethical Networking.

REFERENCES

[1] Self-instructional module template (SIMPLE)
[2] INTEGRATION OF NAQLI AND AQLI KNOWLEDGE
[3] https://www.usim.edu.my/
[4] DCG-Digital-Transformation-Higher-Education-2016.pdf
[5] HE-Digital-Transformation-_Navitas_Ventures_-EN.pdf
[6] COBIT books and toolkits. ISPMethodologyFile
[7] University-for-the-Future_LHH2016.pdf
[8] University_Staying-relevant-in-the-digital-age2018.pdf
[9] https://www.slideshare.net/icdeslides/20131112-titlestad-future-of-learning-final/11-Trendswithinthe_framwork_of_globalisationand_internationalisationUS
[10] DRIVING VALUE WITH NEW DIGITAL TECHNOLOGIES
[11] ey-megatrends-report-2015.pdf
[12] https://www.usim.edu.my/
[13] https://www.univ-psl.fr/en
[14] A. R. Dahlan, A.A, Mukhtar, & N.A Alias, Malaysian University of the future: A Conceptual Business Mode
[15] 4-executive-summary-pppm-2015-2025.pdf Executive Summary Malaysia Education Blueprint 2015-2025(Higher Education)
[16] https://cobitonline.isaca.org/about