UNIVERSITY-OF-TOMORROW BUSINESS MODEL: THE CASE OF INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA (IIUM) DIGITAL TRANSFORMATION

ABDULGHANI HAMZA[1*], ABDUL RAHMAN AHMAD DAHLAN[2]

[1,2]*Kulliyyah of Information and Communication Technology (KICT), International Islamic University, Gombak, Malaysia*

*Corresponding author: abdulghanihamza2030@gmail.com

ABSTRACT: This paper presents a conceptual University-of-Tomorrow (UoT) business model for the International Islamic University Malaysia (IIUM), focused on harnessing and integrating digital capabilities and ecosystems, platforms and applications to address key challenges, pains, gains, and job-to-do of current IIUM (Current Organization - CO). The model is designed to meet the evolving needs and expectations of various customer segments (CS) including students local and international, continuous and adult learners, underprivileged and war-torn students, communities global and local, government, and industries, while sustaining institutional relevance in a digital and post-pandemic era. Using the Design Thinking (DT) methodology, the study incorporates a literature review and stakeholder interviews/surveys to understand current challenges and issues. It then constructs the CO's business model, followed by the development of an initial IIUM UoT business model, using the Business Model Canvas (BMC) and Value Proposition Canvas (VPC) framework, and supported with the Environmental Map (EM). After validating the initial UoT business model through further stakeholder interviews, the validated IIUM UoT business model is established. Universities need to transform and must adapt to drive skills-led economic and ethically led transformation as emphasized by global shifts in higher education and the evolving digital economy. The validated IIUM UoT business model is then compared to IIUM CO business model, and other global best universities benchmarked using the Strategy Canvas - to highlight the key differentiation and value propositions of IIUM UoT. Key findings contribute a practical, stakeholder-aligned UoT model with integrated digital solutions, offering strategic options for IIUM and other institutional decision-makers. Future work will involve designing a detailed Digital Implementation Strategy Plan (DISP) to drive the full transition to the UoT.

1. INTRODUCTION

The International Islamic University Malaysia (IIUM) was established in 1983 to integrate Islamic principles with academic excellence in the fields of science, technology, social sciences, and the humanities. As a public university with an international outlook, IIUM is committed to the holistic development of students grounded in the philosophy of Tawḥīdic Excellence.

Institutions of higher learning (IHL) like IIUM, need to deliver values-based, human-centric education while meeting the diverse demands of their customer segments (CS), including domestic and international students, lifelong learners, faculty, alumni, nations, industries, and donors (Wani et al., 2022). Students expect flexible access to quality and value-based learning, educators seek intuitive and integrated digital teaching platforms, while employers demand for job-ready, entrepreneurial graduates with both ethical grounding and digital fluency.While IIUM has adopted several digital solutions such as iTa'leem (LMS), iMa'luum (student portal), and digital micro-credential pilots. Similar trends are observed in local and global institution of higher learnings.

This transformation aligns with global imperatives outlined in The Great Reset by the World Economic Forum (2020), which emphasizes the need to develop sustainable business models, harness 4IR technologies, and redesign the social contract, skills, and jobs. For IIUM, this necessitates rethinking its business model to enable and support equitable access to physical and digital learning ecosystem, integrate relevant technologies like AI and cloud computing, and prepare students for a values-based yet digitally competent and entrepreneurial workforce.

The limitations of these fragmented solutions highlight the need for a holistic, inclusive, and contextually relevant business model tailored to IIUM's identity, mission, and digital ambitions. The university must reimagine its organizational business model through values-aligned and data-driven framework that enables lifelong learning and student empowerment ecosystem; nurturing holistic, ethical, and globally competent individuals; *ummatic* excellence driven by *tawhidic epistemology*; industry collaboration and co-creation; and digital innovation. This paper proposes a conceptual University-of-Tomorrow (UoT) for IIUM - one that integrates humanized education, stakeholder co-creation, and scalable digital platforms to meet the jobs-to-be-done, alleviate pain points, and enhance the gains of all its customer segments. This paper adapts the Design Thinking - to establish IIUM UoT business model and outlines how IIUM can transition from current organization (CO) to University of Tomorrow (UoT) business model, leveraging on a seamless digital ecosystem, aligns with national agenda like NEP 2030, MyDigital, and MEB 2025 for institutional sustainability and global excellence.

2. OBJECTIVES

The International Islamic University Malaysia (IIUM) faces growing requirements from various customer segments (CS) like local and international students, continuous learners, underprivileged and war-torn students, communities global and local, government, and industries, who need flexible digital and physical services that provide relevant experiential learning, responsible research & innovation, and high-impact community engagement functions. IIUM faces continuous challenges on education excellence, sustainability, and relevancy with the accelerated progression of technology and its rapid adoption by stakeholders and CS - have pushed the digital transformation initiatives as one of the top agenda of Institutions of Higher Learning (IHL) around the world.

The paper aims to achieve goals which address present difficulties and leverage on new business model embedded with 4IR technologies that include:

a. To develop a validated conceptual business model for IIUM University-of-Tomorrow (UoT), integrating humanized education with digital capabilities, platforms and applications in addressing the essential needs, extreme pains, and aspirations of its various customer segments.

b. To validate the proposed UoT business model through direct feedback from customer segment CS - students including local and international, continuous learners, underprivileged and war-torn students, communities global and local, government, and industries - to ensure its relevance, practicality, and alignment with IIUM's mission and context.

c. To benchmark and assess the proposed IIUM UoT business model against IIUM's current (CO) business model, and comparable national and global IHL business models using business modelling tools such as the Environmental Map (EM), Business Model Canvas (BMC), Value Proposition Canvas (VPC), and Strategy Canvas, and to offer strategic recommendations for institutional innovation and transformation.

d. To provide a foundation for the development of a Digital Implementation Strategy Plan (DISP) that will guide IIUM in operationalizing the University-of-Tomorrow model through phased digital transformation initiatives.

3. METHODOLOGY

This paper applies Design Thinking (DT) as a human-centered iterative process to create IIUM's University-of-Tomorrow (UoT) business model. Design Thinking methodology introduced by Brown (2009) contains five critical steps from Empathize through Define before Ideate and Prototype and ends with Test to achieve innovative practical solutions for complex environments such as higher education. The Empathize phase started by conducting a complete literature review and benchmarking activities to identify institutional trends as well as policy directives (MyDigital and NEP 2030) and global university models. Interviews and surveys were conducted with IIUM's main customer segments (CS) which included students including local and international, continuous learners, underprivileged and war-torn students, communities global and local, government, and industries to obtain their challenges and expectations and requirements. The Define phase utilized stakeholder feedback to produce IIUM Current Organization (CO) business model through synthesis. The transformation groundwork started by finding essential weaknesses and improvements and operational requirements within IIUM's present systems. The initial conceptual business model for the University-of-Tomorrow (UoT) was developed during the Ideate phase of the Design Thinking (DT) methodology. This process involved constructing three core components: the Environmental Map (EM) for assessing external forces, the Business Model Canvas (BMC) for defining institutional elements, and the Value Proposition Canvas (VPC) for aligning IIUM's offerings with stakeholder needs. These tools were structured based on the framework by Osterwalder and Pigneur (2010). Visual representations, mockups, and strategic illustrations were employed to articulate the conceptual UoT model. During the Test phase, prototype validation was conducted through iterative feedback gathered from key customer segments (CS), leading to refinements in the model. A Strategy Canvas was then developed to compare the validated UoT model with both IIUM's current business model and globally benchmarked best practices in higher education institutions. This evaluation process enhanced the model's relevance, scalability, and clarity,

supporting IIUM's strategic transition toward digital transformation and institutional sustainability.

4. LITERATURE REVIEW

The Great Reset by the World Economic Forum (2020) outlines three key principles relevant to organizations digital transformation: developing sustainable business models, leveraging Fourth Industrial Revolution (4IR) technologies, and redesigning skills and jobs.

4.1. Fourth Industrial Revolution (4IR)

The Fourth Industrial Revolution (4IR) established a key moment when technology transformed the relationships between societies and economies together with institutions. 4IR emerges through combined technology standards of artificial intelligence alongside robotics alongside the Internet of Things alongside quantum computing alongside blockchain providing colleges and institutions a pathway to refresh learning spaces with new research frameworks alongside operational approaches.

However, challenges persist. Schwab (2016) highlights two primary risks of the 4IR era: the deepening of digital inequality and the displacement of traditional roles due to automation. The University of International Islam Malaysia must invest in digital infrastructure and develop specific inclusive transformation measures to make sure students receive equitable access regardless of rural or socioeconomic status. The Ministry of Science Technology and Innovation (2021) establishes that an ecosystem policy framework should guide reskilling initiatives alongside ethical governance and innovation promotion.

The investigation conducted by Wani et al. (2022) confirms that Malaysian universities need to modify their existing business model to successfully integrate 4IR technology operations. Main elements for success include implementing hybrid teaching approaches and data-based research frameworks together with digitalization of student assistance systems.

4.2. Malaysia Digital Economy Blueprint (MyDigital) 2030

The Malaysia's Digital Economy Blueprint named MyDigital serves as a national strategic roadmap which aims at transforming Malaysia into a digital leadership region by 2030. The main components of the blueprint involve government digital transformation efforts and improved digital literacy alongside first use of cloud solutions and inclusive infrastructure solutions (Economic Planning Unit, 2021). This national digital blueprint shapes most aspects of IIUM's transformation strategy specifically by redefining its administrative processes as well as learning platforms and stakeholder outreach tools. The MyDigital alignment through LMS system upgrades and cloud platform promotion and data analytics applications for academic management. Smart data analytics evolved as a fundamental tool to enhance personalized education and conduct performance tracking and anticipate student retention risks. Such data-focused operations receive support from PwC (2023) since they define key characteristics of the "Digital University." According to PwC the process of transforming higher education needs modern technological equipment along with cultural development which enables workers and students to adopt digital learning practices in agile work environments. IIUM works to decrease

digital inequality between city and rural areas by using first mobile-focused content services and establishing open educational systems alongside government-funded broadband connections. Through their efforts the university demonstrates support for MyDigital's initiative to build a digitally competent society while delivering inclusive digital access. To build a lasting innovation-based ecosystem IIUM must implement its UoT model by giving power to all groups including educational staff, administrative personnel, industrial associates as well as students.

4.3. The National Entrepreneurship Policy (NEP) 2030

The National Entrepreneurship Policy (NEP) 2030 which the Ministry of Entrepreneur Development and Cooperatives (2020) launched intends to establish an entrepreneurial economy with innovative qualities that is also inclusive. The policy establishes five strategic points which include creating resilient entrepreneurial culture along with enabling ecosystems for development and ensuring equitable opportunity access. The directives present special importance to higher education facilities including IIUM.

Saiid et al. (2022) endorse the adoption of private-sector business models by higher education institutions to achieve sustainability in the post-pandemic environment. Students can generate new income for the institution through innovation challenges and micro-credentials and startup projects enabled online. The NEP 2030 supports exactly the integrated educational model which mixes academic commitment and enterprise-based learning activities. The University of International Islamic Studies will create enduring ventures with accelerators along with venture capitalists and industry mentors to help students start their entrepreneurial pathways. The policy mandates institutions to broaden entrepreneurial inclusion opportunities for women along with disabled people and members from the bottom 40% economic level. IIUM fulfills its mission of *rahmatan lil-'alamin* through its Islamic purposes to establish a value-based entrepreneurship ecosystem that provides both financial gain and social transformation.

4.4. Malaysia Education Blueprint (MEB) 2015-2025

The Malaysia Education Blueprint (Higher Education) 2015–2025 represents a Ministry of Education Malaysia initiative which provides strategic guidance to reform Malaysian higher education systems and bring them into line with global progress. The blueprint presents ten essential operational alterations that intend to improve student achievements along with academic results and teaching creativity. The three key shifts for IIUM to transform into a University-of-Tomorrow (UoT) (Ministry of Education Malaysia, 2015) relate to Shift 1 (Producing Holistic, Entrepreneurial and Balanced Graduates), Shift 4 (Quality TVET Graduates) and Shift 7 (Innovation Ecosystem). The achievement of Shift 1 objectives requires IIUM to maintain its efforts in integrating entrepreneurship along with interdisciplinary education and Islamic values across its academic curriculum. Academic programs at IIUM embed soft skills together with moral reasoning and community engagement practices due to this transformational objective. The current international community-based entrepreneurship framework at IIUM stands as a foundation for MEB fulfillment that demands comprehensive expansion according to Asender et al. (2021). The initiative of Shift 7 focuses on industrial partnerships and research commercialization and innovation development. The necessity for universities to redesign their business models toward value co-creation and future-readiness

stands true according to Wani et al. (2022). IIUM's UoT model strengthens online program delivery and modular learning while implementing digital micro-credentials according to Shift 9 (Globalized Online Learning). The significance of digital platforms remains crucial for maintaining both private and public universities during the post-pandemic tech-driven present according to Saiid et al. (2022). The Blueprint's recommendations about institutional autonomy (Shift 6) and academic leadership (Shift 2) demonstrate the need to give faculties freedom to implement digital teaching methods for war-torn and under-developed countries as well.

4.5. Benchmark with Global Universities

IIUM needs to study successful higher education institutions globally which adapted to digital disruption for developing a forward-thinking business model. The educational institutions MIT together with Stanford University and Singapore University of Technology and Design (SUTD) built digitally enabled systems which support their teaching activities and research functions alongside industry relationships. According to Christensen et al. (2011) disruptive education innovation occurs when institutional academic sessions move from traditional lecture structures into flexible modular learning systems that use technological infrastructure to focus on students.
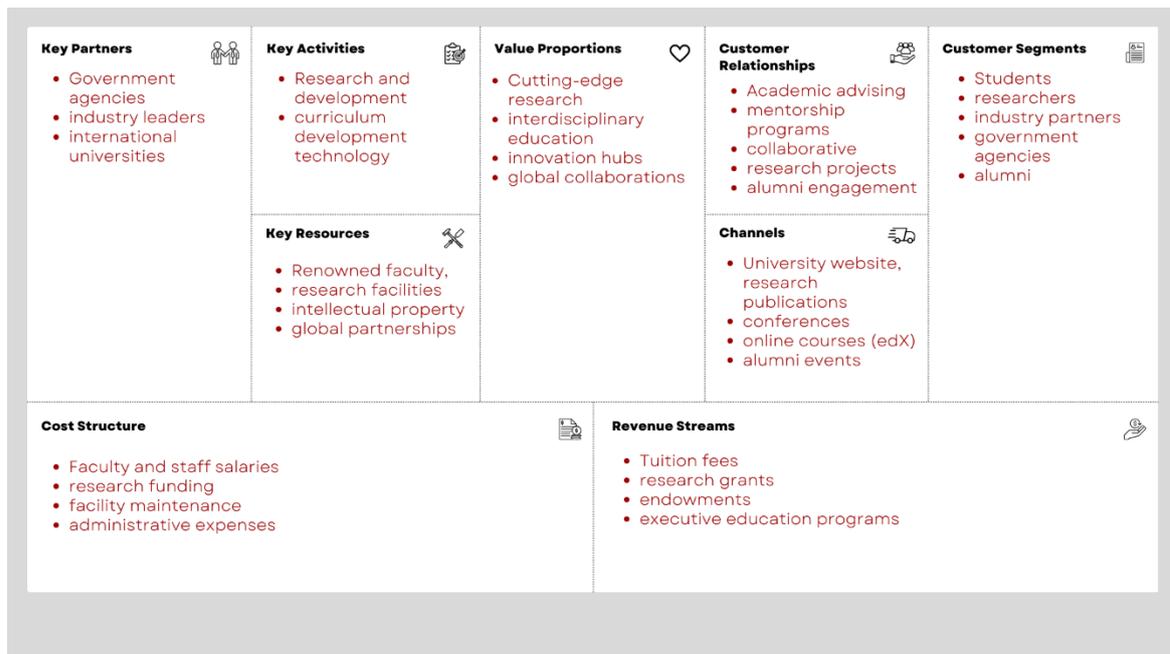
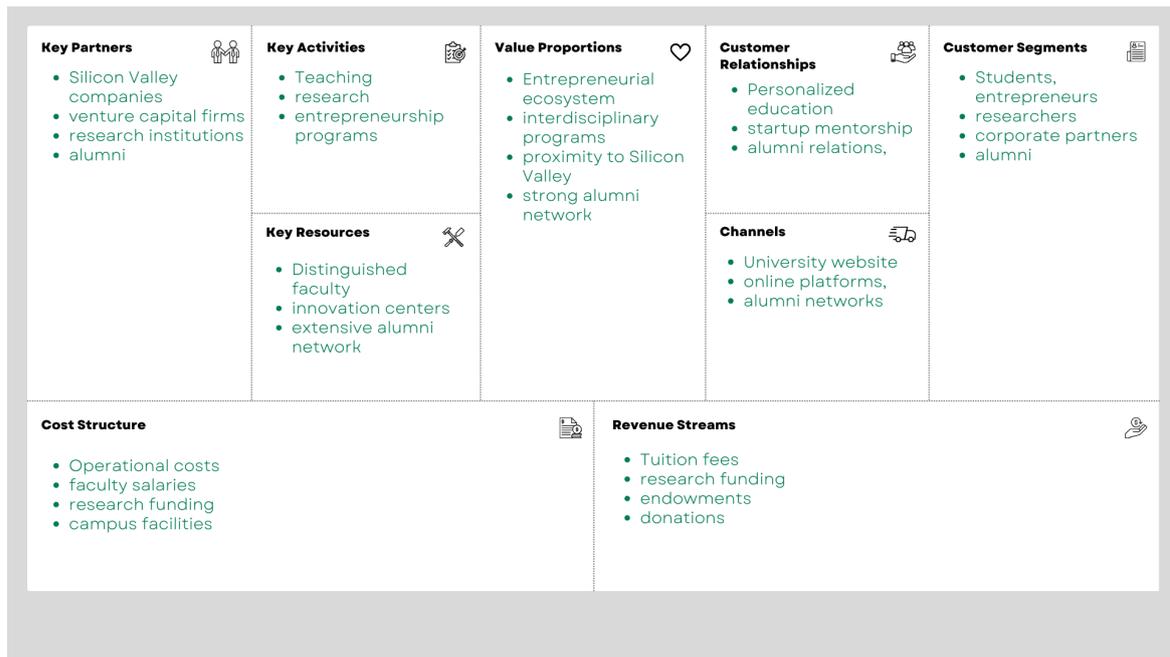

Fig. 1. MIT BMC based on MIT portal

Key Partners	Key Activities	Value Proportions	Customer Relationships	Customer Segments
• Silicon Valley companies • venture capital firms • research institutions • alumni	• Teaching • research • entrepreneurship programs	• Entrepreneurial ecosystem • interdisciplinary programs • proximity to Silicon Valley • strong alumni network	• Personalized education • startup mentorship • alumni relations,	• Students, entrepreneurs • researchers • corporate partners • alumni
	Key Resources • Distinguished faculty • innovation centers • extensive alumni network		**Channels** • University website • online platforms, • alumni networks	

Cost Structure	Revenue Streams
• Operational costs • faculty salaries • research funding • campus facilities	• Tuition fees • research funding • endowments • donations

Fig. 2. Stanford BMC based on Stanford portal

Key Partners	Key Activities	Value Proportions	Customer Relationships	Customer Segments
• Government bodies • industry partners • international academic institutions	• Curriculum development • design innovation • industry collaboration • research initiatives	• Design-centric curriculum • integration of technology and design • industry partnerships	• Close student-faculty interaction, • industry mentorship • alumni engagement	• Undergraduate and graduate students • industry collaborators • government bodies
	Key Resources • Faculty expertise • design labs • industry collaborations • government support		**Channels** • University website • industry collaborations • design workshops • online platforms	

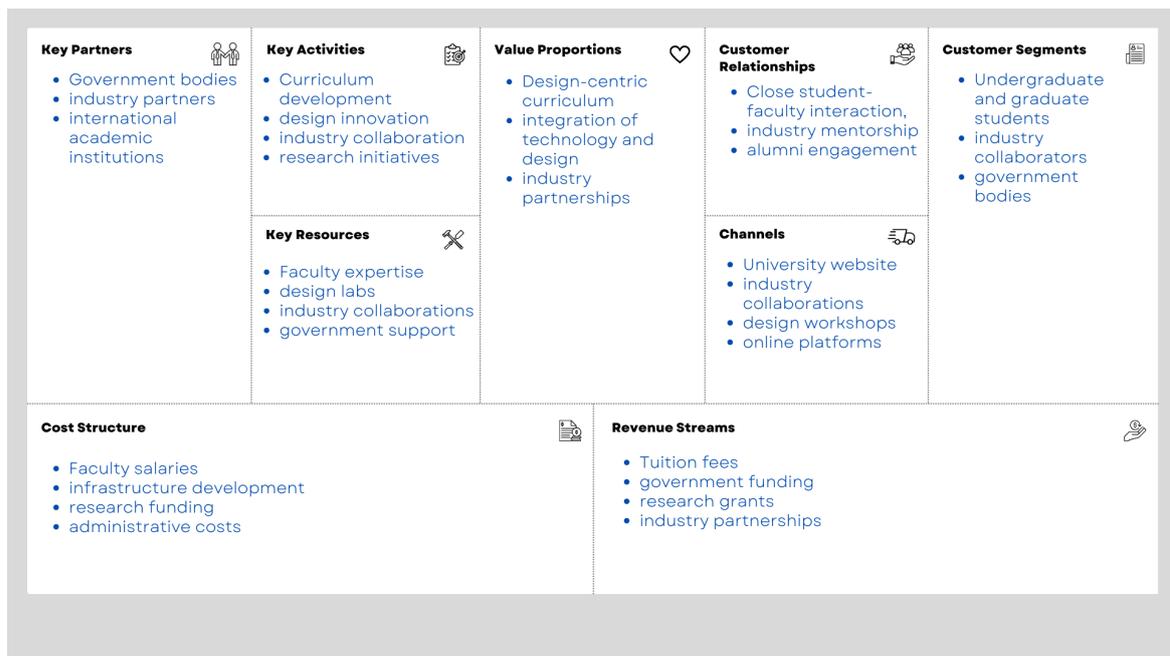| Cost Structure	Revenue Streams
• Faculty salaries • infrastructure development • research funding • administrative costs	• Tuition fees • government funding • research grants • industry partnerships

Fig. 3. SUTD BMC based on SUTD portal

These institutions use AI to create individualized learning systems while also automating office procedures and establishing blockchain credentials for ensuring secure accreditation. IIUM focuses its educational model on developing value-based learning from an Islamic academic foundation. Since tradition stands as its base identity the UoT model encourages the union of traditional philosophy with modern innovation by utilizing cutting-edge technology while maintaining humanistic principles. The business model design process must be adaptive to environmental changes according to Ibrahim & Dahlan (2016). The future university framework presented by their organization combines responsive governance systems with multiple funding approaches and local community partnerships which

match IIUM's purpose. According to Wani et al. (2022) universities need to evolve into "problem-solving platforms" which combine knowledge generation along with effective solutions for both local and international challenges.

Focusing on other universities helps IIUM determine its strategic position and decides which digital tools and industry partnerships and interdisciplinary research investments will receive funding. The establishment of purple cow differentiators depends on innovative features that distinguish IIUM from other similar higher education institutions within the Islamic and values-oriented sector worldwide.
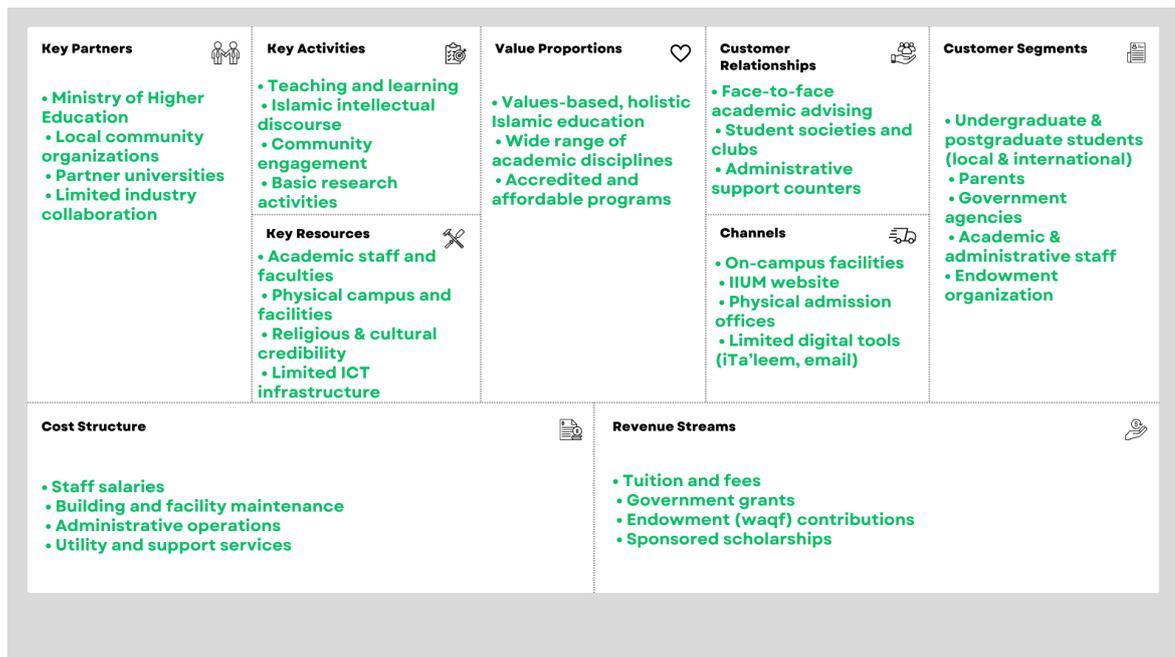

Key Partners
- Ministry of Higher Education
- Local community organizations
- Partner universities
- Limited industry collaboration

Key Activities
- Teaching and learning
- Islamic intellectual discourse
- Community engagement
- Basic research activities

Key Resources
- Academic staff and faculties
- Physical campus and facilities
- Religious & cultural credibility
- Limited ICT infrastructure

Value Proportions
- Values-based, holistic Islamic education
- Wide range of academic disciplines
- Accredited and affordable programs

Customer Relationships
- Face-to-face academic advising
- Student societies and clubs
- Administrative support counters

Channels
- On-campus facilities
- IIUM website
- Physical admission offices
- Limited digital tools (iTa'leem, email)

Customer Segments
- Undergraduate & postgraduate students (local & international)
- Parents
- Government agencies
- Academic & administrative staff
- Endowment organization

Cost Structure
- Staff salaries
- Building and facility maintenance
- Administrative operations
- Utility and support services

Revenue Streams
- Tuition and fees
- Government grants
- Endowment (waqf) contributions
- Sponsored scholarships

Fig. 4. IIUM current business model, using BMC framework, based on its current (a) Business Strategic Plan & (b) IT/Digital Strategic Plan.

Higher education business model canvas

Australia's universities are monolithic institutions that control all aspects of their teaching and research activities, anchored by physical spaces and time-bound schedules. Digital transformation is challenging this dominant model. As universities evolve from faculty-centred to learner-centric institutions, they may well find it necessary to unbundle their many functions as well as their degree programs to differentiate and maintain competitive advantage.

■ Potential areas of disruption

How do universities create value?

| Who are our customers? | Domestic students | International students | Continuous learners | Government | Industry |

| What are the jobs to be done for customers? | Acquiring knowledge | Developing hard and soft skills | Accessing employment opportunities | Coming of age | Learning flexibly | Discovering new ideas | Transferring new knowledge |

| What products/ services are we providing? | Undergraduate degrees | Postgraduate degrees | Courses | Other services | Research |

| How do customers get our services? | Teaching and learning | Campus and residential facilities | Online | Virtual reality | Artificial intelligence | Publications | Research projects | Partners | Other |

How do universities deliver value?

| How do we produce it? | Teaching activities | Develop content | Deliver content | Assess learning | Credentialise learning |
| | Research activities | Develop proposal | Fund proposal | Conduct research | Publish research | Commercialise research |

| How do we distribute it? | Academic schools and faculties | Physical campus | Digital campus | Printed materials |

| How do we support it? | Student administration | Student services | Research administration | Marketing | Back office services | Technology | Other |

| Who are our key partners and suppliers? | Government | Other universities | Industry | Outsourcers |

How do universities capture value?

| What are our major investments? | Campus infrastructure | Digital infrastructure | Back office transformation | Industry engagement | Research | Talent |

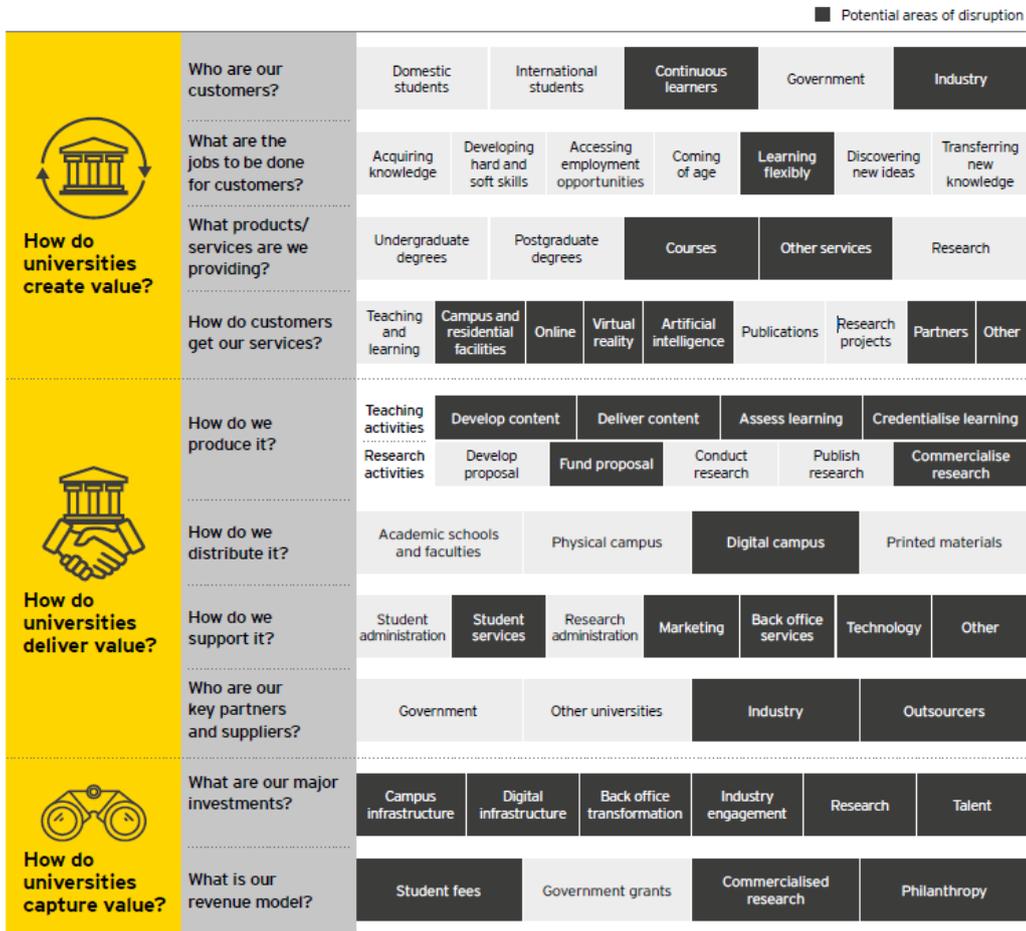| What is our revenue model? | Student fees | Government grants | Commercialised research | Philanthropy |

Fig. 5. Business model of university of tomorrow

The Higher Education Business Model Canvas, as illustrated in Fig. 5 (PwC Australia, 2018) provides a strategic lens through which this transition can be analyzed. It presents a comprehensive view of how future universities create, deliver, and capture value in a digitally evolving environment.

The model begins by identifying universities' diverse customer segments, including domestic and international students, continuous learners, government bodies, and industry. It recognizes that universities serve not only to deliver degrees but also to meet various learner needs such as skill development, employment readiness, and lifelong learning. Value creation is achieved through a blend of offerings including undergraduate and postgraduate degrees, short courses, research activities, and access to flexible learning environments such as online platforms, virtual reality, and AI-enabled learning systems.

This model is highly relevant to IIUM's transition to its University-of-Tomorrow (UoT). It aligns closely with IIUM's efforts to diversify its value propositions, digitize delivery mechanisms, and engage industry and global partners. The IIUM UoT

model can adopt similar principles while embedding Islamic values and regional context, particularly in redefining jobs-to-be-done, expanding flexible digital delivery, and integrating values-based entrepreneurship. By adapting this model, IIUM strengthens its alignment with the MyDigital framework and global shifts in higher education innovation.

5. INITIAL BUSINESS MODEL (BM) – USING BMC & VPC

The strategic UoT transition of IIUM depends on two analytical instruments borrowed from Design Thinking and Business Model Innovation using Business Model Canvas (BMC) and Value Proposition Canvas (VPC) framework. The combined collection of tools enables IIUM to determine strategic alignments while identifying stakeholder requirements and institutional capabilities and innovating areas which make the institution competitive in the digital transformation era. IIUM utilizes the Business Model Canvas to develop a visual framework which depicts its essential operational operations. The university uses eight essential components which detail its capability to deliver stakeholder value through Key Partners and Key Activities combined with Value Propositions and Customer Relationships and Customer segments and required key resources within Channels and Revenue Streams and Cost Structure systems.

Key Partners
·Alumni
·Schools and Agents
·Industry partners (internships, research, innovation)
·Government agencies
Parents and Donors
-Global Islamic Universities & Research Institutions
e.g., International Islamic University Islamabad (IIUI), Al-Azhar University (Egypt), Hamad Bin Khalifa University (Qatar), Universitas Islam Indonesia (UII)

Key Activities
· Teaching & Learning (digitally enhanced, blended, hybrid)
· Research & Development (R&D)
· Faculty digital training and upskilling
Community engagement and student services

Key Resources
·Academic and non-academic staff
·Student services division
·Buildings, labs, media production tools
LMS platform (e.g., iTa'leem) and mobile apps

Value Proportions
· Offer broad academic disciplines: health sciences, arts, business, law, education, etc.
· Humanized, values-based education (Islamic)
· Entrepreneurial and industry-ready graduates
· High institutional reputation and research impact
Islamic – Garden of Knowledge & Virtue, Rahmatan lil alamin

Customer Relationships
· Roadshows and open days (online/offline)
Alumni engagement platforms.
· Digital campus.

Channels
·On-campus (blended/hybrid delivery)
·IIUM LMS and mobile applications
Social media, Telegram, YouTube
· Digital campus.

Customer Segments
· Local students
· International students
· Industry partners/ employers
· Working professionals (lifelong learners)
· Alumni (continuing education)
Donors and funding partners

Cost Structure
·Staff and faculty salaries
·Student services operational cost
·Maintenance of digital infrastructure (cloud, labs, Wi-Fi)
·Content development and LMS platform fees
·Staff digital training and upskilling
Cybersecurity and compliance costs

Revenue Streams
·Tuition (on-campus and online)
·Research grants and industry-sponsored projects
·Endowments, waqf contributions
·Consultancy and community training programs
Government and international education funding

Fig. 6. Initial IIUM University-of-Tomorrow (UoT) Business Model, using BMC framework

Value Proposition Canvas

A complete Value Proposition Canvas (VPC) examines the ways IIUM designs its offerings to match stakeholder expectations and resolve their problems and satisfy their ambitions with their main stakeholder groups. The three segments in the VPC structure separate the diverse needs and motivations associated with the university's primary customer groups.
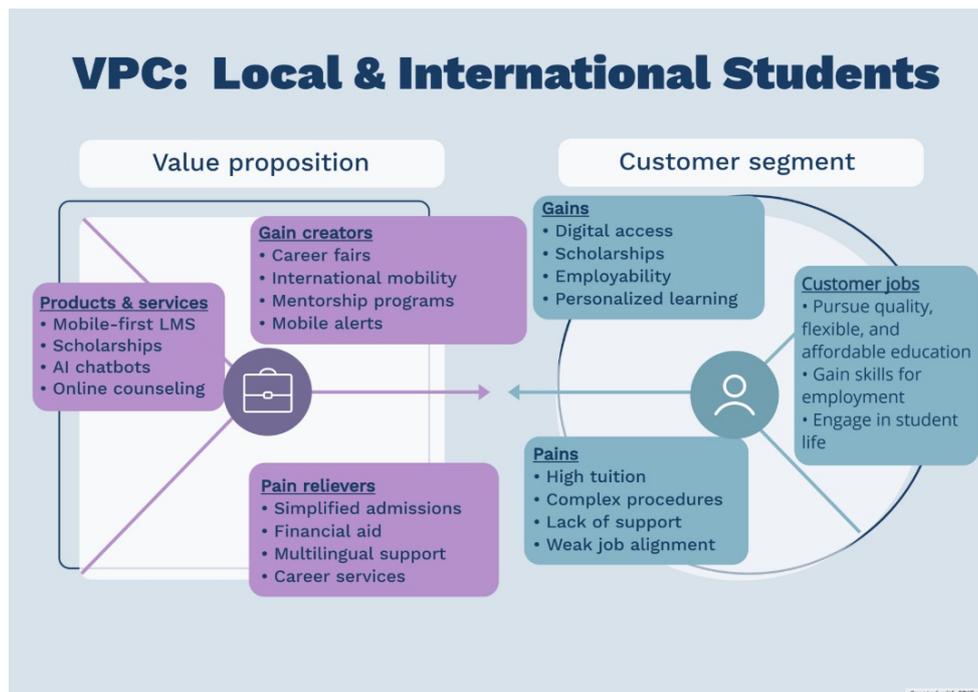

Fig. 7. VPC Local & International Students

Local & International Students

This sector comprises the fundamental student base of IIUM which expects more than standard classroom teaching. The present-day student requests adaptable learning opportunities based in digital platforms combined with career-centered curricula. The value proposition for this academic group highlights IIUM's capability to conduct mobile-oriented learning and personalized educational support together with globally esteemed credentials through micro-credentials. Through this segment the institution solves students' problems related to funding needs and maze-like university processes and bureaucratic systems by providing career support along with tuition aid and instant learning progress reports that align with its value-centered education philosophy.
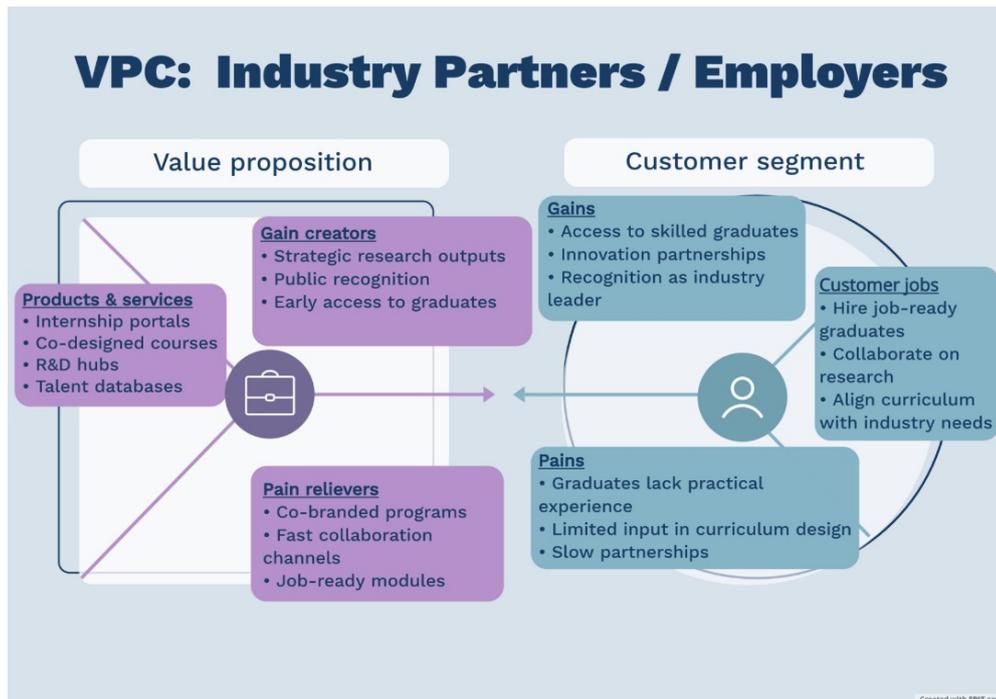
Fig. 8. VPC Industry Partners / Employers

Industry Partners / Employers

The members of the industry fulfill critical responsibilities by helping improve both curriculum content and job readiness of graduates. The VPC demonstrates IIUM's dedication to achieving academic-industry partnership enhancement by developing co-designed learning curricula and research relationships as well as talent development pathways. IIUM undertakes initiatives to meet industry demands about graduate practical experience and curriculum development so it can establish itself as an active partner in workforce preparation. The gain creators—such as early access to graduates, public recognition, and research commercialization—support long-term, mutually beneficial engagement.
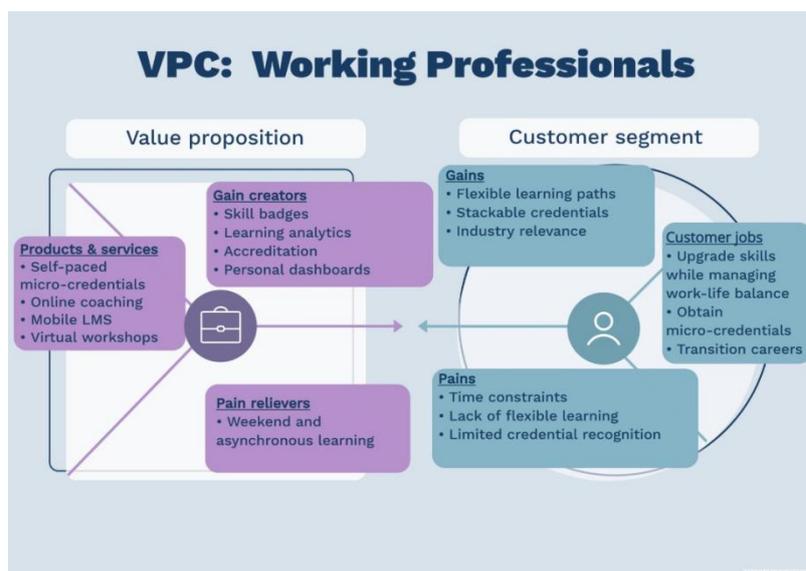
Fig. 9. VPC Working Professionals

Working Professionals

The customer base comprises people who need flexible learning programs to upskill or reskill or progress their careers. The VPC for lifelong learners at IIUM provides self-paced micro-credential programs together with professional coaching and continuous professional development (CPD) pathways and modular educational opportunities. Time-efficiency together with cost-effectiveness and acknowledgment issues find specific solutions through this segment that provides adaptable digital infrastructure and customizable learning control systems. Through this segment IIUM expands its educational range along with revenue sources to support the national aims of lifelong learning and adaptable workforce development.
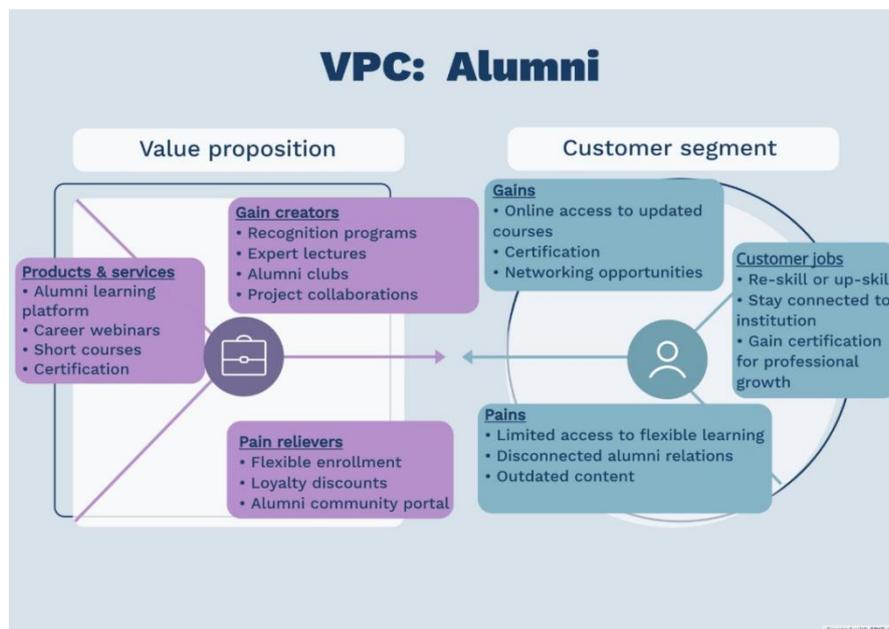
Fig. 10. VPC Alumni

Alumni

The alumni of IIUM serves as brand ambassadors while continuing their learning and collaboration throughout their lives. Through ongoing educational programs and networking services and certification programs the VPC segment develops alumni engagement profiles. Main steps in response to alumni discontent about old material and weak university connections include transforming entry policies for loyal graduates and enabling flexible learning opportunities and access and expert lecture series events. The initiatives establish and maintain alumni connections which strengthens both the university's professional network while developing a worldwide support system based on mutual values.
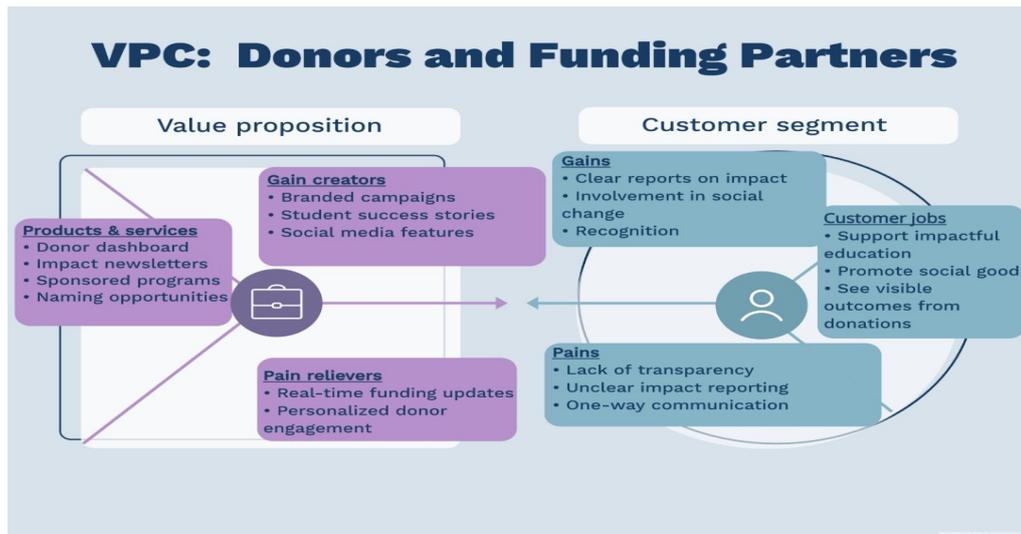
Fig. 11. VPC Donors and Funding Partners

Donors and Funding Partners

This part of supporters comprises philanthropic contributors as well as waqf sponsors and institutional supporters who require organizational transparency while seeking social impact and strategic investment opportunities. The VPC for donors and funding partners demonstrates IIUM's ability to match donor objectives with community results by using impact tracking systems and person-made engagement together with value-driven promotional initiatives. The institution uses pain relievers through real-time funding reports and clear communication channels to deliver relief and gain creators such as named sponsorships and student success stories and recognition events to demonstrate IIUM's mission-driven status and measurable societal value.

6. CONDUCT VALIDATION OF INITIAL BUSINESS MODEL & KEY FINDINGS

The initial Business Model (BM) for IIUM's University-of-Tomorrow (UoT) received validation through interviews and feedback sessions directed at key Customer Segments (CS) 8 of respondents for each different CS such as Local & International students, Industry partners and employers, Working professionals (lifelong learners), Alumni, Donors and funding partners. The evaluation aimed to verify whether the suggested value propositions and key activities together with delivery approaches were appropriate and executable. A semi-structured session led the dialogue when investigating value propositions combined with channels based on the nine BMC blocks. Analyzed responses by identifying recurring patterns which identified the major problems and user preferences. An evaluation process utilized the collected feedback to modify the first BM until it matched the university's directives as well as stakeholder objectives.

Validation Summary Table

Table 1: Validation Summary Table

Customer Segment	Key Needs Identified	Feedback Insights	Model Adjustments
Local & International Students	Flexible, affordable, and mobile-first learning with career-focused outcomes	Desire for real-time academic tracking, AI support, and better user experience	Enhanced chatbot features, UI improvement, mobile notification integration
Industry Partners / Employers	Access to job-ready graduates, involvement in curriculum, and collaborative R&D	Support for co-designed programs, but need faster engagement processes	Created fast-track collaboration pathways and co-branded curriculum options
Working Professionals (Lifelong Learners)	Modular, certified learning paths that can fit around professional schedules	Positive response to online credentials and asynchronous delivery	Expanded self-paced course catalog and weekend workshop formats
Alumni (Continuing Education)	Opportunities for professional development and stronger institutional connection	Appreciation for alumni-focused webinars and loyalty discounts	Added alumni portal features, recognition programs, and professional certificates
Donors and Funding Partners	Transparent reporting, social impact, & meaningful engagement opportunities	Interest in personalized communication and evidence of student impact	Developed donor dashboard with custom reports and periodic impact stories

The Validation Summary Table records findings from five main customer groups who participated in developing the UoT business model for IIUM. The model refinement was directed by specific needs and expectations of five distinct customer segments which included students as one of the segments of 12 respondents. Students including both national and international participants told researchers that adaptability together with affordable education costs and immediate academic support were essential needs. The implemented changes to mobile interface structures and AI chatbots functionality along with academic notification enhancements came from user feedback. The industry partners requested quicker collaboration tools and curriculum influence, so the college launched co-branded educational programs and simplified its partnership process. The interest from lifelong learners in modular and self-paced learning systems caused the institution to create more weekend classes and asynchronous micro-credentials. An engagement platform for alumni came into existence alongside new professional development programs which were developed by analyzing alumni feedback. The drive for transparency from donors led to the establishment of donor dashboards and individualized impact reporting systems. Through this validation process the business model maintained its user-focused nature and its relevance to concrete needs shared by every target group.

7. VALIDATED BUSINESS MODEL – BMC FRAMEWORK

The validated Business Model Canvas (BMC) for IIUM's University-of-Tomorrow (UoT) incorporates essential stakeholder feedback and follows both national policy requirements as well as worldwide digital transformation standards.

- **Customer Segments**

  IIUM's UoT business model serves diverse customer segments including local and international students, lifelong learners, alumni, underprivileged and war-torn region students, communities (both global and local), academic staff, industry partners, and government agencies. Each segment presents distinct needs ranging from accessible education to collaborative innovation and ethical talent development.

- **Value Proposition**

  The value proposition centers on delivering holistic, values-based education through flexible, modular, and digitally enabled platforms tailored to each customer segment (CS). For local and international students, IIUM offers personalized learning via AI-guided systems, micro-credentials, and real-world problem-solving opportunities to enhance employability. For lifelong learners and working professionals, the model provides upskilling through stackable, flexible courses aligned with industry demand. For industry partners and employers, IIUM delivers job-ready graduates with ethical grounding and practical competencies. Donors and funding partners are offered transparent, impact-driven initiatives such as waqf-linked innovation programs. All offerings are embedded within Islamic ethical frameworks to produce globally competent, spiritually grounded, and socially responsible individuals.

- **Channels**

  IIUM utilizes an integrated digital campus (DC) as its central delivery channel, supported by mobile-first platforms, cloud-based systems, and LMS-integrated environments. The digital campus provides unified access to learning resources, academic services, communication tools, and collaboration features across departments and global partners. Key functions of the digital campus include real-time academic tracking, virtual classrooms, AI-enabled advising, administrative self-services, and portals for alumni and industry interaction. These ensure that students, educators, and external stakeholders have seamless access to personalized education and institutional engagement, regardless of location or time.

- **Customer Relationships**

  IIUM nurtures strong customer relationships through personalized learning journeys, academic advising, AI-driven support systems, digital feedback loops, mentorship programs, and an actively engaged alumni network. These relationships extend lifelong learning and continuous support to stakeholders.

- **Revenue Streams**

  IIUM generates revenue through tuition and program fees, micro-credential offerings, research commercialization, consultancy services, grants, and philanthropic contributions such as waqf and zakat. Additional income streams may emerge from collaborative ventures with industry and government bodies.

- **Key Resources**

  The model relies on academic talent, digital infrastructure (including cloud and LMS platforms), AI and data analytics capabilities, content creation studios, partnerships, and its Islamic educational content identity. These resources support innovation, delivery, and institutional resilience.

- **Key Activities**

  Core activities include digital content development, curriculum modularization, platform and infrastructure management, stakeholder engagement, and academic-industry collaborative research. The institution also prioritizes community outreach, social entrepreneurship, and internationalization efforts.

- **Key Partners**

  IIUM partners with EdTech firms, accreditation bodies, ministries, global universities, private industries, and Islamic development organizations. These include government entities from under-developed and conflict-affected nations, who sponsor and support student mobility and institutional collaborations.

- **Cost Structure**

  Key costs involve cloud service subscriptions, cybersecurity and governance, faculty digital skill development, content production, platform maintenance, marketing, and partnership coordination. Investments are also directed toward accessibility enhancements for underserved and international learners.

7.1. Transform from cost-center to profit center

To support IIUM's transformation from a cost center to a profit center, the following strategic digital initiatives are recommended. These initiatives aim to generate sustainable revenue while aligning with IIUM's mission, digital capabilities, and academic excellence:

a) IIUM Micro-Credential & Lifelong Learning Marketplace

Develop and commercialize a digital platform offering industry-aligned micro-credentials, professional certificates, and modular short courses. These offerings can target working professionals, international learners, and alumni, generating revenue through flexible online programs while enhancing IIUM's global educational outreach.

b) Digital Waqf Innovation Platform

Create a centralized digital waqf and endowment management system that enables global donors and alumni to contribute to strategic projects. This fintech-based waqf model can include real-time dashboards, AI-driven transparency tools, and impact reporting—enhancing trust and attracting sustainable philanthropic funding for research, scholarships, and infrastructure.

c) IIUM EdTech-as-a-Service (EaaS) Hub

Establish IIUM as a regional provider of Islamic digital education tools and consulting services. This initiative could involve licensing custom-built platforms (e.g., LMS, AI chatbots for student support), offering content development services for partner universities, and monetizing IIUM's expertise in integrating Islamic values into digital education frameworks

7.2. Environmental Map (EM)

The Environmental Map identifies four key external factors influencing IIUM's transformation into the UoT:

Table 2: Environmental Map Table

External Factor	Description	Supporting Literature
Market Forces	Increasing demand for flexible, skills-based, and digitally delivered education options across borders; competition for international students	World Economic Forum (2020); Economic Planning Unit (2021)
Key Trends	Widespread adoption of AI and EdTech in learning, rising prominence of micro-credentials, and alignment with national policies like MyDigital and 4IR	Ministry of Science, Technology, and Innovation (2021); PwC (n.d.); Osterwalder & Pigneur (2010)
Industry Forces	Heightened expectations from industries for job-ready graduates, emphasis on applied research, and rising calls for curriculum co-design	Ministry of Entrepreneur Development and Cooperatives (2020); Ahmad & Ramli (2022)
Macro-Economic Forces	Budget constraints, widening digital divide, NEP 2030 directives for inclusive entrepreneurship, and post-pandemic educational recovery challenges.	Ministry of Entrepreneur Development and Cooperatives (2020); UNESCO (2020)

Through the Environmental Map, IIUM gains strategic visibility into external transformation factors at work. Higher education institutions now operate in a competitive zone as market forces show that educational institutions should present flexible digital learning programs with international relevancy to draw and maintain their student population. IIUM must expedite its digital transformation based on key education trends of AI adoption and EdTech development as well as MyDigital national strategy initiatives. Industry forces underline the necessity for universities to create learning experiences jointly with industries because they demand graduates who possess job-readiness alongside practical and entrepreneurship abilities. IIUM must refine its operations because macro-economic conditions include COVID-19 recovery requirements and financing limitations together with sustainability targets. The UoT model equips IIUM to stay sustainable by analyzing these four substantial areas.
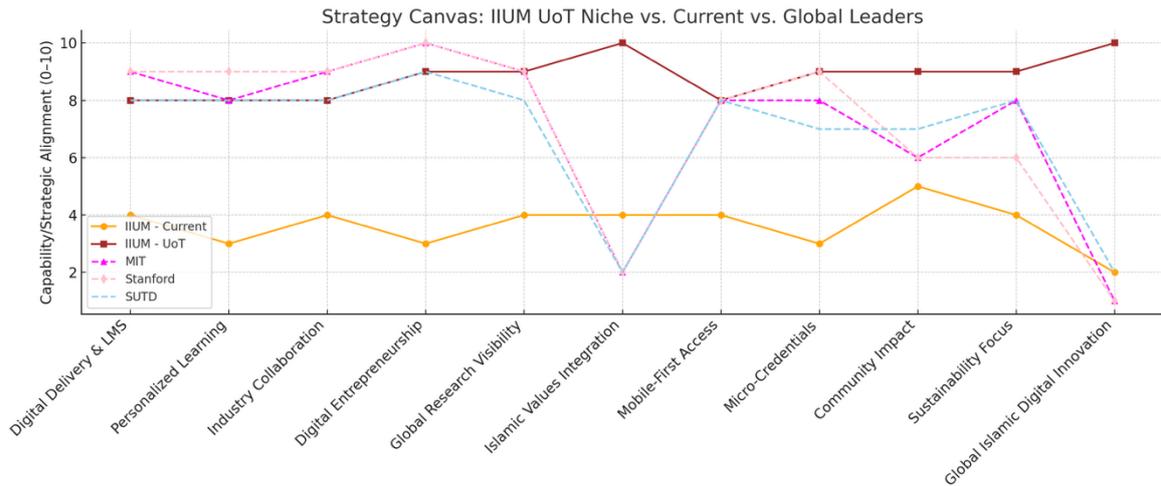
7.3. Strategy Canvas

Fig. 12. Strategy Canvas: IIUM current vs. UoT vs. MIT, Stanford University, and SUTD

The updated Strategy Canvas illustrates a comparative assessment of IIUM's current digital capabilities, its envisioned University-of-Tomorrow (UoT) model, and global benchmark institutions such as MIT, Stanford, and SUTD. The analysis spans across eleven strategic dimensions, including digital delivery, personalized learning, research visibility, mobile access, and a newly introduced dimension - Global Islamic Digital Innovation. While global leaders consistently score high in areas like digital entrepreneurship and industry collaboration, they register notably low in dimensions related to Islamic values and faith-integrated digital ecosystems.

In contrast, IIUM UoT is positioned to lead in two distinctive areas: Islamic Values Integration and Global Islamic Digital Innovation. These dimensions represent IIUM's strategic niche, offering a unique value proposition that aligns advanced digital transformation with Islamic ethics, heritage, and global community impact. This differentiation sets IIUM apart as the only institution among the comparators that fuses technology, values-based education, and transnational Islamic collaboration. By emphasizing this niche, IIUM UoT not only strengthens its global relevance but also fulfills its mission to serve as a digitally empowered institution grounded in the philosophy of *rahmatan lil-'alamin*.

The Strategy Canvas Fig. 12 compares:

    a) IIUM's Current Organization vs. University-of-Tomorrow (UoT)

    b) IIUM UoT vs. Industry Leaders i.e. MIT, Singapore University of Technology and Design.

Table 3: Strategy Canvas Table

Strategic Factor	IIUM – Current	IIUM – UoT	MIT	Stanford	SUTD
Digital Delivery & LMS	4	8	9	9	8
Personalized Learning	3	8	8	9	8
Industry Collaboration	4	8	9	9	8
Digital Entrepreneurship	3	9	10	10	9
Global Research Visibility	4	9	9	9	8
Islamic Values Integration	4	10	2	2	2
Mobile-First Access	4	8	8	8	8
Micro-Credentials	3	9	8	9	7
Community Impact	5	9	6	6	7
Sustainability Focus	4	9	8	6	8
Global Islamic Digital Innovation	2	10	1	1	2

The updated Strategy Canvas Table highlights IIUM's strategic transformation from its current digital profile to the envisioned University-of-Tomorrow (UoT), benchmarked against leading global institutions such as MIT, Stanford, and SUTD. While global institutions demonstrate high capability across conventional metrics like digital delivery, research visibility, and entrepreneurship, they lack emphasis in areas such as Islamic values integration and digital innovation from an Islamic worldview. IIUM UoT distinguishes itself by excelling in these two strategic domains, notably Islamic Values Integration and Global Islamic Digital Innovation - both scoring 10. These dimensions represent IIUM's "purple cow" or niche capabilities, where it leads globally by aligning digital transformation with the philosophy of *Tawḥīd* and the mission of *rahmatan lil-'alamin*. These niche areas support IIUM's differentiation as a values-driven, future-ready institution that advances inclusive, ethical, and faith-based digital education in the Muslim world and beyond. The table serves as a strategic benchmarking tool to guide DISP implementation and validate IIUM's unique position in the global higher education landscape.

To ensure effective implementation of the University-of-Tomorrow (UoT) model, IIUM adopts the Skills Framework for the Information Age (SFIA) to guide digital talent development and capability mapping across the institution, especially within the Information Technology Division (ITD). SFIA enables IIUM to align roles and responsibilities with clearly defined competencies across areas such as cybersecurity, service design, data analytics, and digital strategy. By incorporating SFIA, IIUM ensures that ITD staff possess the necessary skills at appropriate responsibility levels to support emerging digital initiatives, foster continuous professional growth, and maintain operational excellence in alignment with national frameworks such as MAMPU and the ICT Strategic Plan.

8. CONCLUSION AND FUTURE WORKS

This paper addressed the complex challenges faced by the International Islamic University Malaysia (IIUM) in maintaining relevance amidst digital disruption, evolving learner demands, and institutional inefficiencies. Key customer segments—such as students, academic staff, industry partners, and donors—face critical pains including fragmented digital services, lack of personalized learning, and limited real-world application of knowledge. Their key jobs-to-be-done include

accessing flexible education, receiving ethical and industry-aligned learning experiences, and engaging in meaningful, lifelong learning pathways. To address these needs, this study developed a validated conceptual business model for the University-of-Tomorrow (UoT) at IIUM, grounded in Design Thinking methodology and supported by the BMC, VPC, EM, and Strategy Canvas frameworks. A distinct strength of the UoT model is its alignment with IIUM's foundational values, particularly its commitment to nurturing holistic, ethical, and globally competent individuals. Rooted in tawhidic epistemology and guided by ummatic excellence, the model integrates spiritual, intellectual, and professional development through humanized education and digital innovation.

The proposed UoT model presents several "purple cow" differentiators that act as effective pain relievers and gain creators across segments. These include mobile-first digital delivery, modular micro-credential pathways, AI-enabled academic support, and the integration of Islamic values into digital learning environments. Furthermore, the model introduces innovative funding mechanisms such as waqf-based research investment and establishes global Islamic digital innovation as a strategic niche. These features collectively position IIUM as a digitally empowered, ethically grounded, and globally relevant higher education institution. The model not only strengthens IIUM's competitive position but also offers a scalable and contextually adaptable framework for other institutions seeking digital transformation.

Future work will focus on developing a comprehensive Digital Implementation Strategic Plan (DISP) that will operationalize the UoT business model. The DISP will detail the necessary digital infrastructure, governance structures, human capital development, delivery phases, and risk mitigation frameworks required to transition from IIUM's current business model to its envisioned UoT. It will also include performance metrics, stakeholder engagement protocols, and mechanisms for continuous evaluation. Further empirical validation through stakeholder surveys, system testing, and benchmarking will help refine the model and ensure long-term institutional sustainability and national policy alignment. This conceptual UoT BM offers viable options for decision makers & planners to consider, adopt or adapt in enhancing & innovate their own organizations.

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