

Smart Education Readiness Index (SERI)

National Report on Digital
Transformation
of Public Higher Education
and TVET Institutions in
Brunei Darussalam





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Introduction

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Way Forward



Commissioned by HiED, MOE, and implemented by SEAMEO
VOCTECH, the SERI HEI project assessed the readiness of six
public higher education and TVET institutions in Brunei
Darussalam to adopt and sustain digital transformation.



6

Public HEIs &
TVET Institutions

40

Participating
Schools/ Faculties



OBJECTIVES



Evaluate the current digital readiness among the 6 public HE and TVET institutions using the developed SERI Framework



Identify institutional strengths, gaps, and challenges related to Digital Transformation (DT)



Validate findings through triangulation of quantitative and qualitative data



Develop recommendations and action plans for each institution to strengthen DT strategies



Provide evidence-based insights to support HiED in formulating national policies and frameworks for advancing DT in HEIs

METHODOLOGY

This study employed a **mixed-methods approach** by combining SERI HEI self-assessment scores with qualitative evidence from respondents' remarks, supporting documents, validation interviews and on-site observations

Quantitative

SERI self-assessment
scores via JotForm

Qualitative

Validation Interviews &
supporting evidence

Triangulation

Verify scores to reflect
current practices



THE VALIDATION PROCESS USED **THREE** MAIN TYPES OF EVIDENCE

DOCUMENT EVIDENCE

This includes module guidelines, Memorandum of Understanding (MoUs), students' assignments, screenshots of reports, records and other supporting materials

INTERVIEW EVIDENCE

Interview evidence provided context and clarification beyond the documents, helping validators verify the scores and better understand the institution's practices

OBSERVATION EVIDENCE

Observation evidence is optional. This includes visiting and observing digital systems infrastructure and facilities, as well as reviewing student work such as projects or prototypes





UNIT OF ANALYSIS

40

Participating
Schools/ Faculties

- The unit of analysis for each building block varies according to where the relevant practices are primarily managed.
- The **Process Block** was either assessed at the faculty/school or programme level.
- The **Technology** and **Organisation Blocks** were all assessed at the institutional level because the related systems and services were mostly centrally managed.

DATA COLLECTION PROCESS

2

Each institution completed the assessment through three respondent groups, with one group assigned to each building block

3

HEIs received three separate JotForm links and respective QR codes via email—one form for each SERI HEI building block: Process, Technology and Organisation

1

SEAMEO VOCTECH developed a standardised SERI HEI assessment tool and distributed it to the six participating HEIs via JotForm

4

The research team reviewed scores and evidence prior to scheduling validation visit to participating HEIs



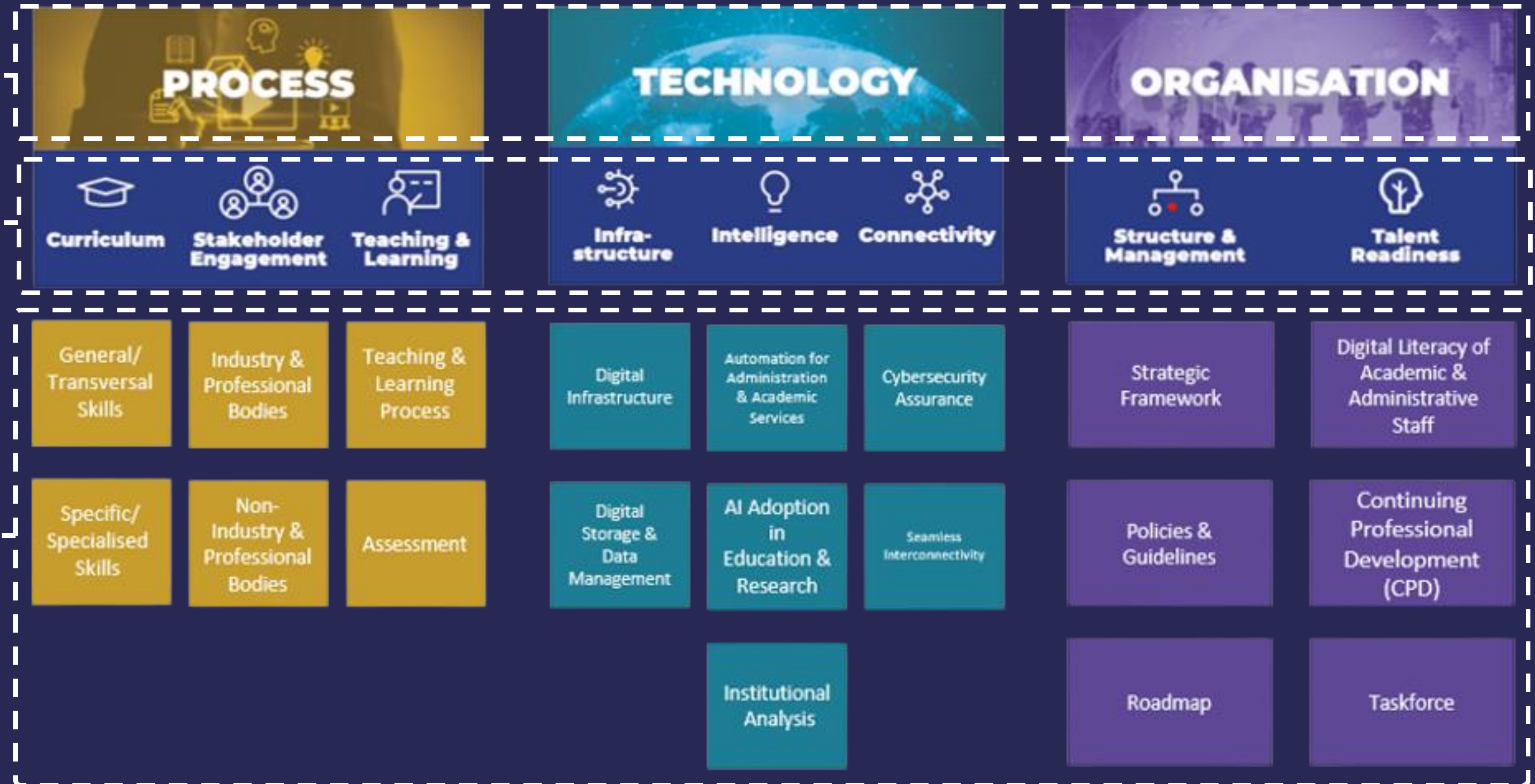
SERI HEI Framework



3 Blocks

8 Pillars

19 Dimensions



SERI HEI
full
document



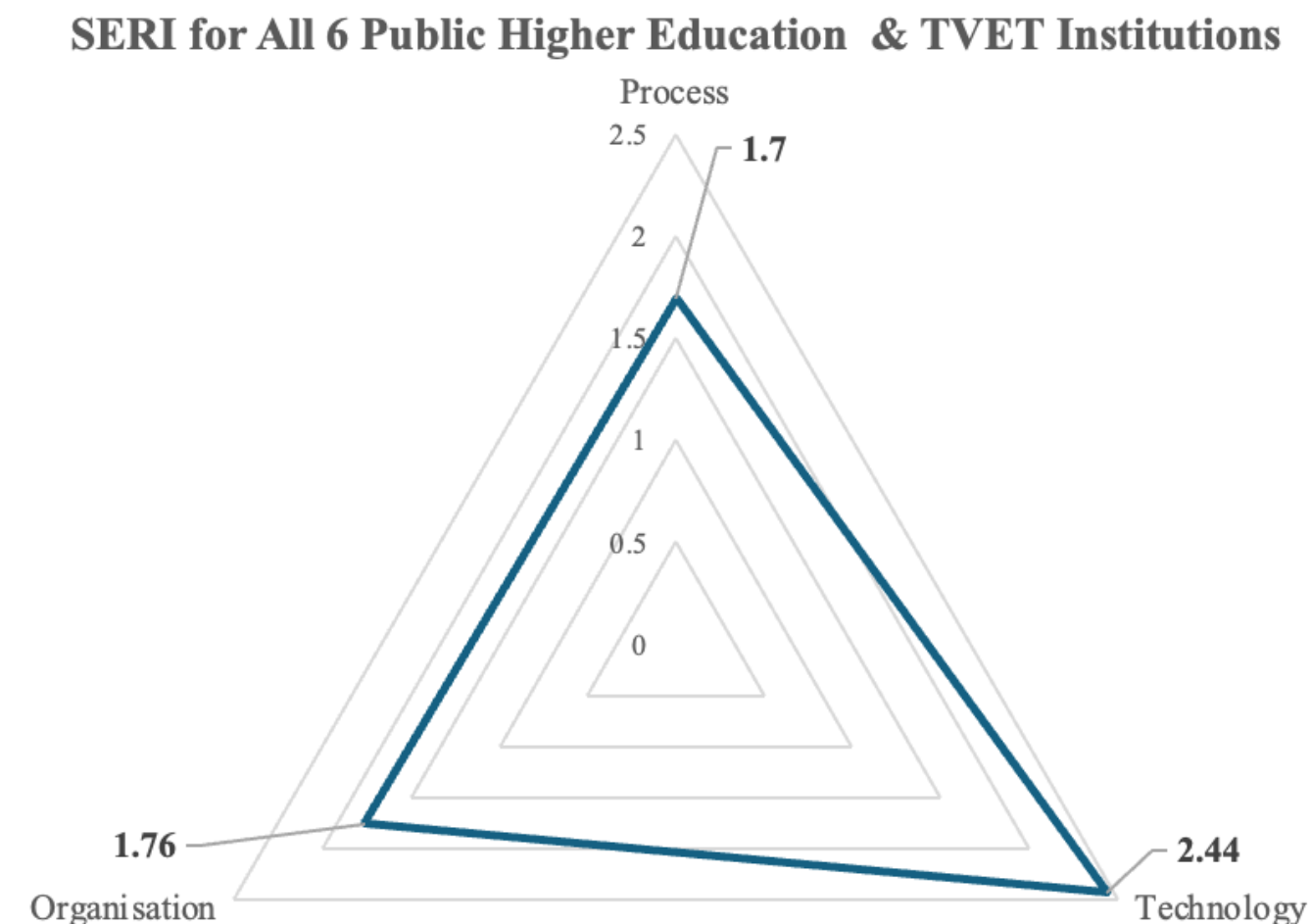
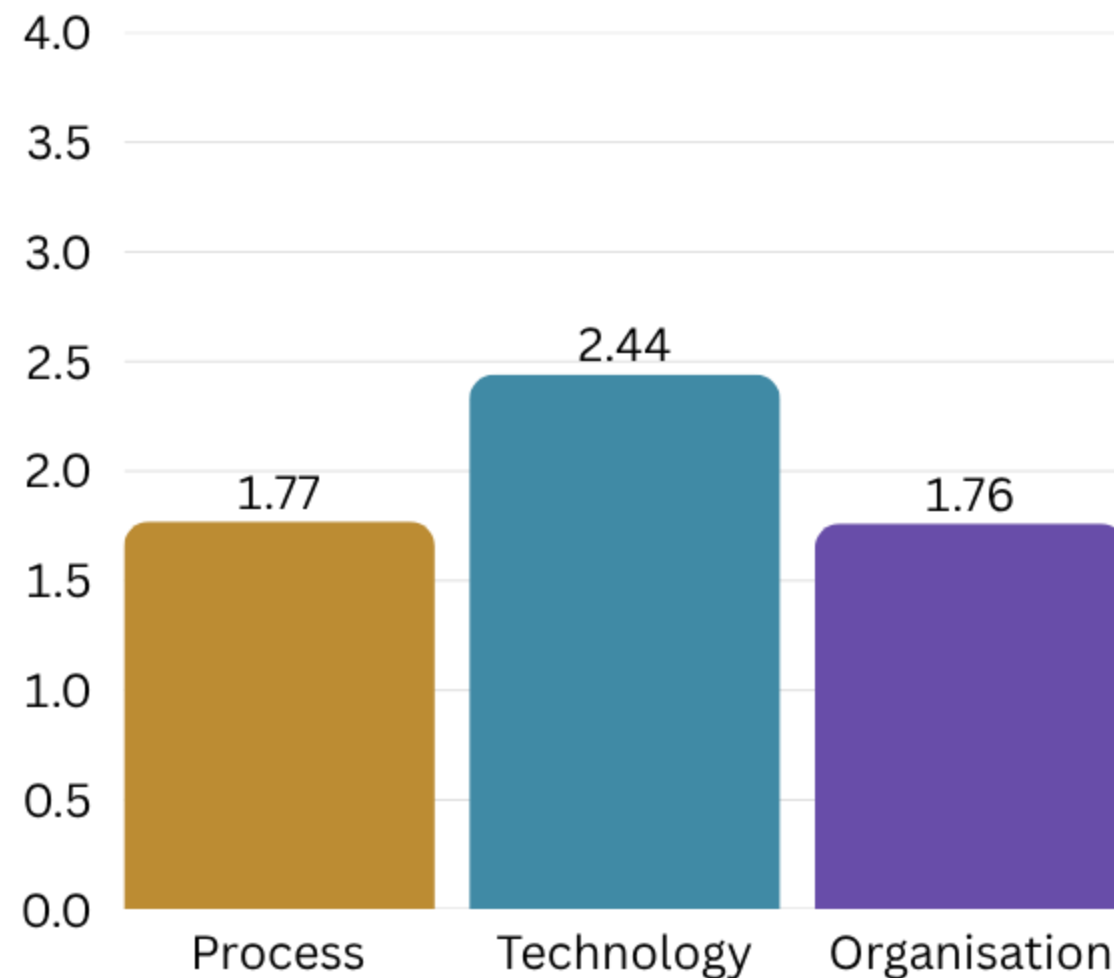
- Tested at the regional level
- Originally designed for TVET & Training institutions
- Adapted for HEI, with greater emphasis on DT, AI in education and research, and overall institutional readiness

FINDINGS: Block level; Overall Readiness

National readiness scores = **1.97/4.0**

SERI READINESS SCALE: 0 Conventional → 1 Early Adopter → 2 Learner → 3 Experienced → 4 Leader
Higher scores indicate greater digital-readiness maturity.

This indicates that DT can be observed across the 6 institutions (“learner stage”), but its implementation remains uneven and is not yet systematically embedded across all aspects of curriculum, teaching and learning, institutional technology, governance and workforce development.



Block scores for all six HEIs

SERI Across the Six Institutions

Institution	Process	Technology	Organisation	Overall
UBD	1.89	3.26	2.13	2.43
UTB	2.32	2.32	2.25	2.30
UNISSA	1.42	1.99	2.49	1.97
PB	1.60	2.37	1.21	1.73
IBTE	1.21	2.36	1.61	1.73
KUPU SB	1.79	2.35	0.90	1.68
All institutions	1.70	2.44	1.76	1.97

Readiness on Infrastructure (High, 2.75)

HEIs has a relatively strong technological foundation, with established connectivity, hardware, and digital learning platforms

SERI in Higher Education Institutions and TVET Institutions at Pillar Level

Institution	Curriculum	Stakeholder Engagement	Teaching and Learning	Infrastructure	Intelligence	Connectivity	Structure and Management	Talent Readiness
UBD	2.37	1.40	1.91	3.25	2.53	4.00	1.42	2.83
UNISSA	1.83	1.10	1.32	2.00	1.97	2.00	1.97	3.00
UTB	2.86	2.05	2.06	3.00	1.97	2.00	2.33	2.17
PB	2.16	1.16	1.41	3.00	2.11	2.00	1.25	1.17
IBTE	1.09	1.03	1.17	2.75	2.33	2.00	1.39	1.83
KUPU SB	2.00	1.23	2.15	2.50	2.06	2.50	0.64	1.17
National average	2.05	1.33	1.67	2.75	2.16	2.42	1.50	2.03

Readiness on Stakeholder Engagement (Low, 1.33)

Strengthening structured and sustained partnerships/collaborations is a major national priority. This is especially important to ensure programmes adapt to evolving workplace technologies and emerging skills demands

Block scores

UBD PILLAR	INSTITUTIONAL SCORES	FACULTY SCORES										
		Academy of Brunei Studies (APB)	Faculty of Arts and Social Sciences (FASS)	UBD PAPRSB Institute of Health Science (IHS)	Faculty of Integrated Technologie s (FIT)	Faculty of Science (FOS)	UBD School of Business and Economics (SBE)	School of Digital Science (SDS)	Sultan Hassanal Bolkiah Institute of Education (SHBIE)	Sultan Omar 'Ali Saifuddien Centre for Islamic Studies (SOASCIS)		
		Curriculum	2.37	1.60	2.00	2.30	3.80	3.00	1.60	3.70	2.10	1.20
		Stakeholder Engagement	1.40	1.03	1.12	1.54	2.64	1.21	1.54	2.10	1.36	0.05
		Assessment	1.91	1.08	1.60	1.60	3.50	1.88	1.54	2.73	1.98	1.31
Overall Block Mean	1.89	1.24	1.58	1.81	3.31	2.03	1.56	2.84	1.81	0.85		

UNISSA PILLAR	INSTITUTIONAL SCORES	FACULTY SCORES										
		Faculty of Health Science & Sustainable Tourism	Faculty of Islamic Development Management	Faculty of Islamic Economics and Finance	Faculty of Islamic Technology	Faculty of Agriculture	Faculty of Arabic Language	Faculty of Shariah	Faculty of Usuluddin	Sultan Haji Hassanal Bolkiah Faculty of Law		
		Curriculum	1.83	1.90	2.10	2.00	2.90	2.10	1.10	1.00	1.30	2.10
		Stakeholder Engagement	1.10	1.06	1.65	1.43	1.74	1.23	0.36	0.3	0.35	1.76
		Assessment	1.32	1.69	0.96	1.67	1.98	1.31	1.38	1.04	0.85	0.98
		Overall Block Mean	1.42	1.55	1.57	1.7	2.21	1.55	0.945	0.78	0.83	1.61

UTB BLOCK	PILLAR	INSTITUTIONAL SCORES	FACULTY SCORES					PB BLOCK	PILLAR	INSTITUTIONAL SCORES	FACULTY SCORES				
			School of Applied Communications (SAC)	Faculty of Engineering (FOE)	School of Applied Sciences & Mathematics (SASM)	UTB School of Business (SB)	School of Computing & Informatics (SCI)				School of Business	School of Health Science	School of Information and Communication Technology	School of Petrochemical	School of Science and Engineering
PROCESS	Curriculum	2.86	2.80	3.10	3.00	1.60	3.80	PROCESS	Curriculum	2.20	1.90	2.06	2.13	2.60	2.30
	Stakeholder Engagement	2.05	1.29	2.22	2.73	1.09	2.91		Stakeholder Engagement	1.12	0.94	1.27	0.82	0.96	1.41
	Assessment	2.06	1.81	2.02	2.10	1.79	2.56		Assessment	1.47	2.00	0.70	1.01	1.82	1.84
	Overall Block Mean	2.32	1.97	2.45	2.61	1.49	3.09		Overall Block Mean	1.60	1.61	1.34	1.32	1.79	1.85

IBTE PILLAR	INSTITUTIONAL SCORES	FACULTY SCORES										
		School of Agro- Technology and Applied Sciences	School of Aviation	School of Building Technology Services	School of Business	School of Energy and Engineering Central	School of Energy and Engineering Satellite	Brunei Maritime Academy	School of Hospitality and Tourism	School of Information and Communication Technology		
		Curriculum	1.29	0.54	1.2	1.7	1.38	0.59	0.99	1.38	1.5	2.3
		Stakeholder Engagement	1.10	0.82	1.07	1.21	0.72	0.88	0.95	1.62	1.51	1.16
		Assessment	1.26	0.84	1.46	1.47	0.99	0.96	1.06	1.05	1.69	1.79
Overall Block Mean	1.21	0.73	1.24	1.46	1.03	0.81	1.00	1.35	1.56	1.75		

KUPUSB BLOCK	PILLAR	INSTITUTIONAL SCORES	FACULTY SCORES		
			Faculty of Education and Social Sciences	Faculty of Usuluddin	Faculty of Syariah
PROCESS	Curriculum	2.00	2.00	2.00	2.00
	Stakeholder Engagement	1.23	1.26	1.21	1.21
	Assessment	2.15	2.73	1.85	1.85
	Overall Block Mean	1.79	2.00	1.69	1.69

- **Best Practices Process Score: 3.31**

UBD – Faculty of Integrated Technologies (FIT)

- Strong integration of transversal and specialised digital skills across programmes.
- Active industry collaboration through advisory panels, MoUs and partnerships with organisations such as Hengyi, Shell and TelBru.
- Structured Discovery Year placements with guidelines, work diaries, supervisor marking schemes and faculty coordination.
- External assessors contribute to final-year project evaluation, with external assessment forming part of the overall grade.
 - Industry support contributes to laboratories, equipment, software and student opportunities.
- Students engage in internships, field trips, external projects, international exposure and applied technology learning.
 - Uses Canvas, Microsoft Teams, specialist engineering software, simulations, AI tools and multimedia demonstrations.
- Assessment includes student-developed simulations, project presentations, continuous feedback and gaming-related assignments.

Best Practices Process Score: 3.09

UTB – School of Computing and Informatics (SCI)

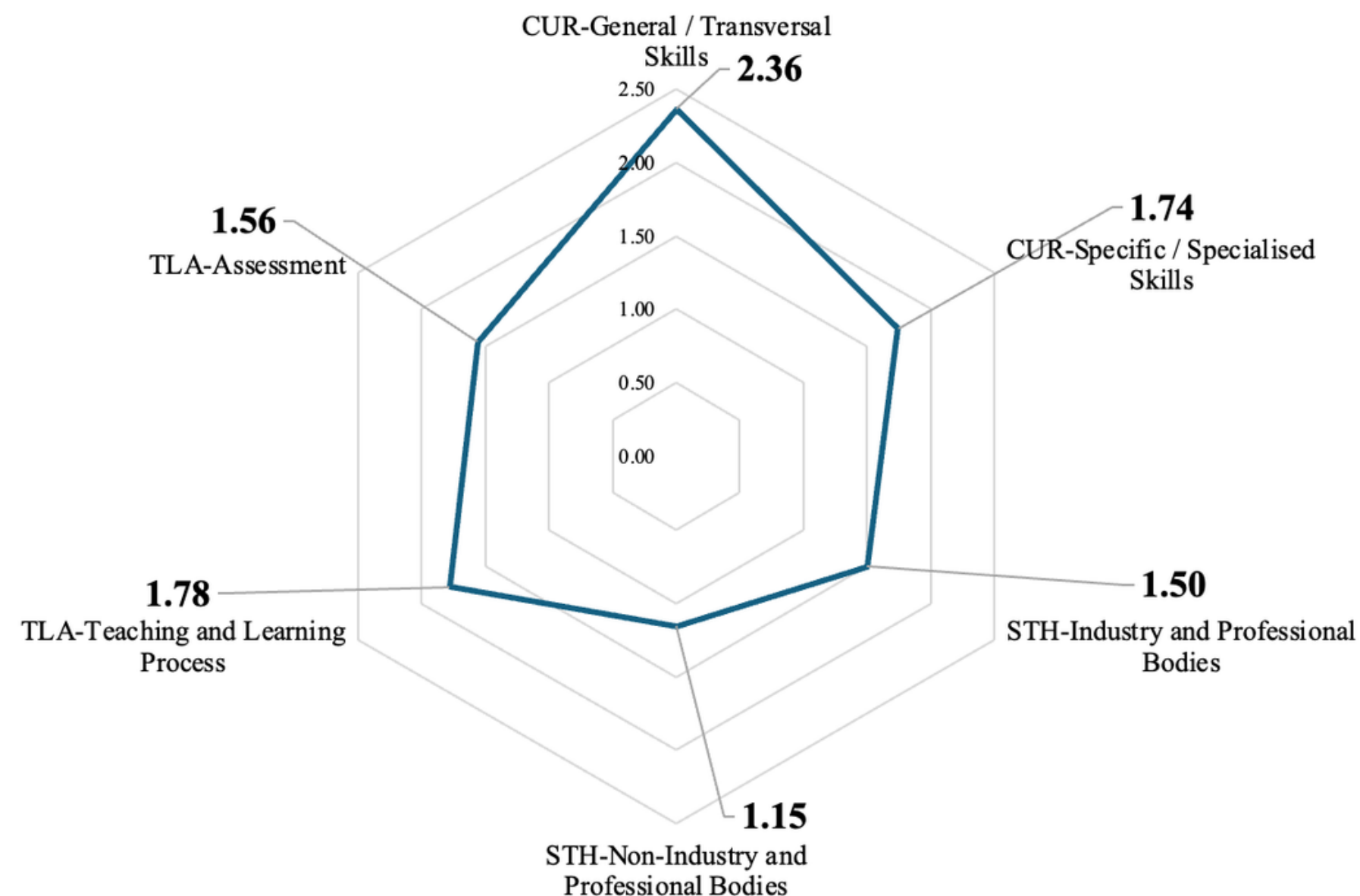
- Strong programme-wide mapping through PILOs and MILOs, covering technical, research and transferable skills.
- Digital and AI-related capabilities are embedded across computing, information systems, networks and security programmes.
- Ethical AI use, cybersecurity, sustainability and efficient computing are integrated into learning.
- Group assignments, peer assessment and rubrics strengthen communication and collaboration skills.
- Industry-linked capstone projects address real problems; some student-developed systems are actively used beyond the university.
- Industry supports curriculum relevance, capstone projects, equipment/software and specialist expertise.
- Microsoft Teams supports digital learning materials, presentations, feedback and accessibility.
 - Industry feedback is incorporated into role-play/client-based assessments.

Best Practices Process Score: 1.75

IBTE – School of Information and Communication Technology (SICT)

- Clear integration of digital, analytical and communication skills through module learning outcomes.
 - Students use Microsoft Teams and complete IT project presentations with assessment rubrics.
- Strong applied-learning approach through HNTec/NTec programmes and the Seria Innovation Lab.
 - Regular PDEC meetings support curriculum review and updates.
 - Structured student work placements with assessment.
- Final-year project showcase supports community engagement and authentic student outputs.
- Uses programme assessment plans, instructor records and student feedback to support teaching improvement.

Dimension level; Process Block



General/ Transversal Skills (2.36)

This reflects the institution-wide compulsory first-year core modules covering digital literacy, basic ICT skills, and AI awareness in academics

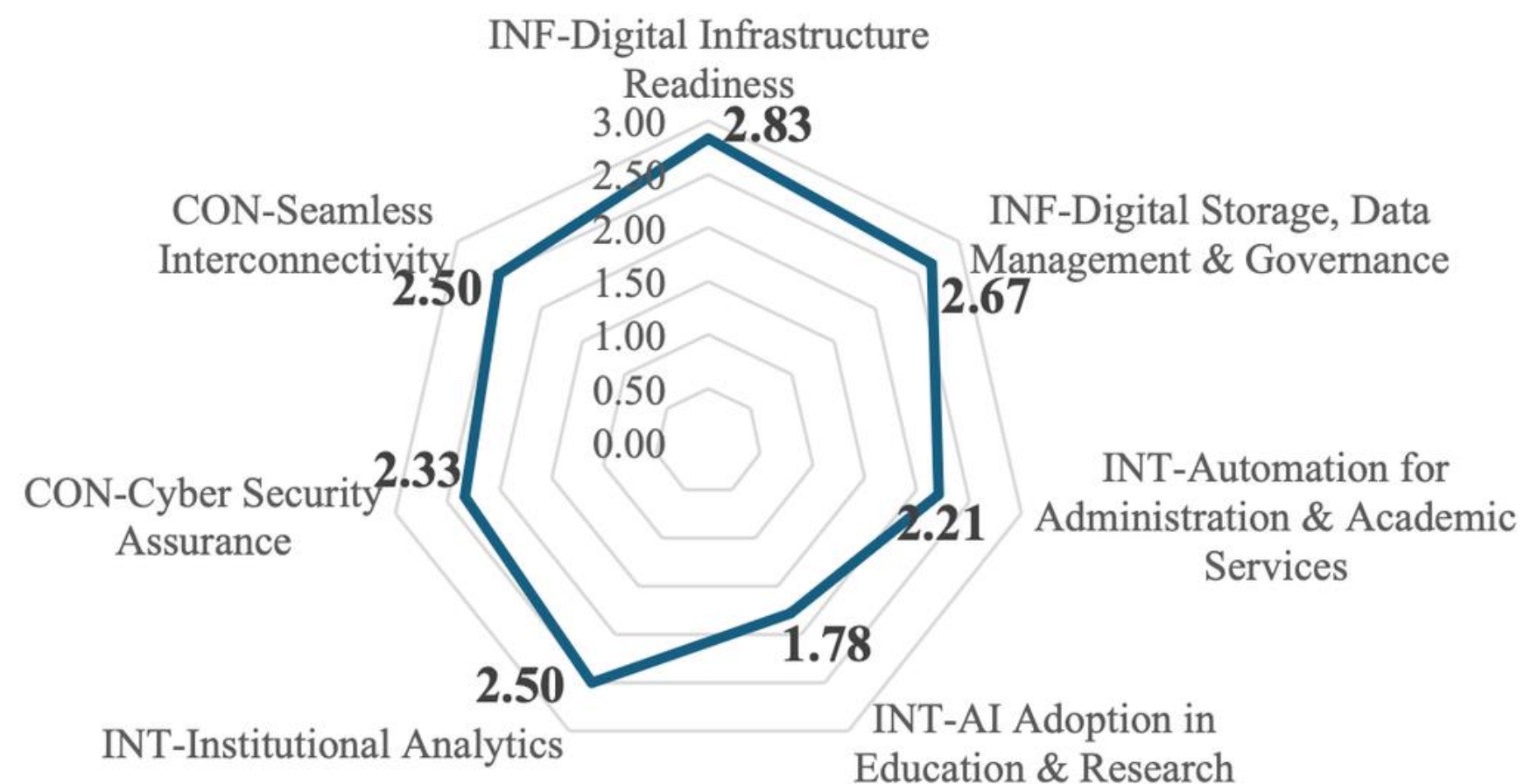
Non Industry & Professional Bodies (1.15)

Institutions tend to prioritise industry partnerships, while engagement with non-industry stakeholders remains less formal and inconsistent

SERI Process BLOCK Qn1 to Qn7 finding

SERI READINESS SCALE: 0 Conventional → 1 Early Adopter → 2 Learner → 3 Experienced → 4 Leader

Dimension level; Technology Block



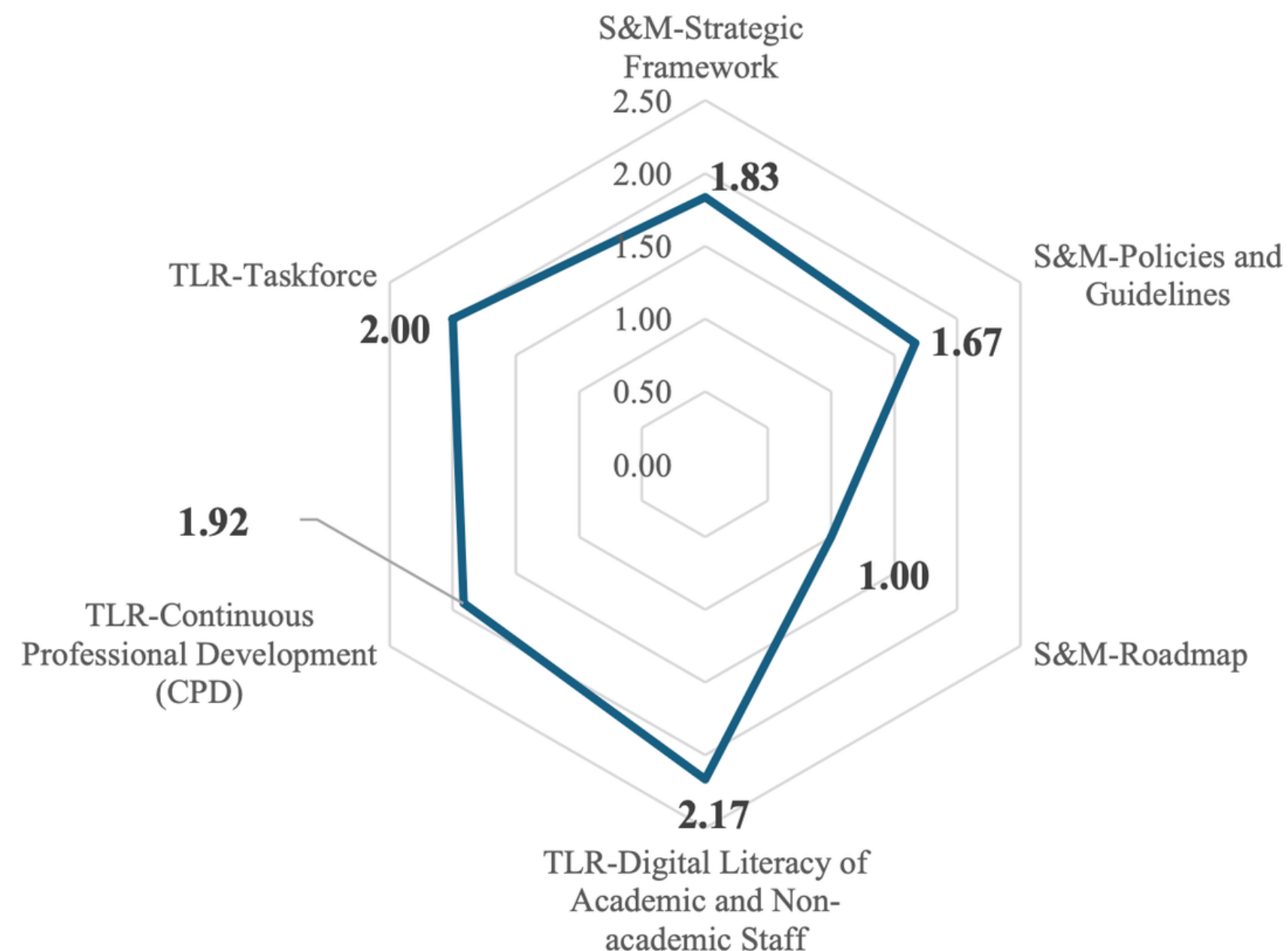
Digital Infrastructure Readiness (2.83)

All HEIs have standard internet access, hardware, digital platforms and systems supporting operations

AI Adoption in Education and Research (1.78)

AI usage is experimental; remains limited, emerging, or inconsistent across institutions

Dimension level; Organisation Block



Digital Literacy of Staff (2.17)

Staff's basic digital capabilities are developed through training, professional development, and everyday use of digital tools

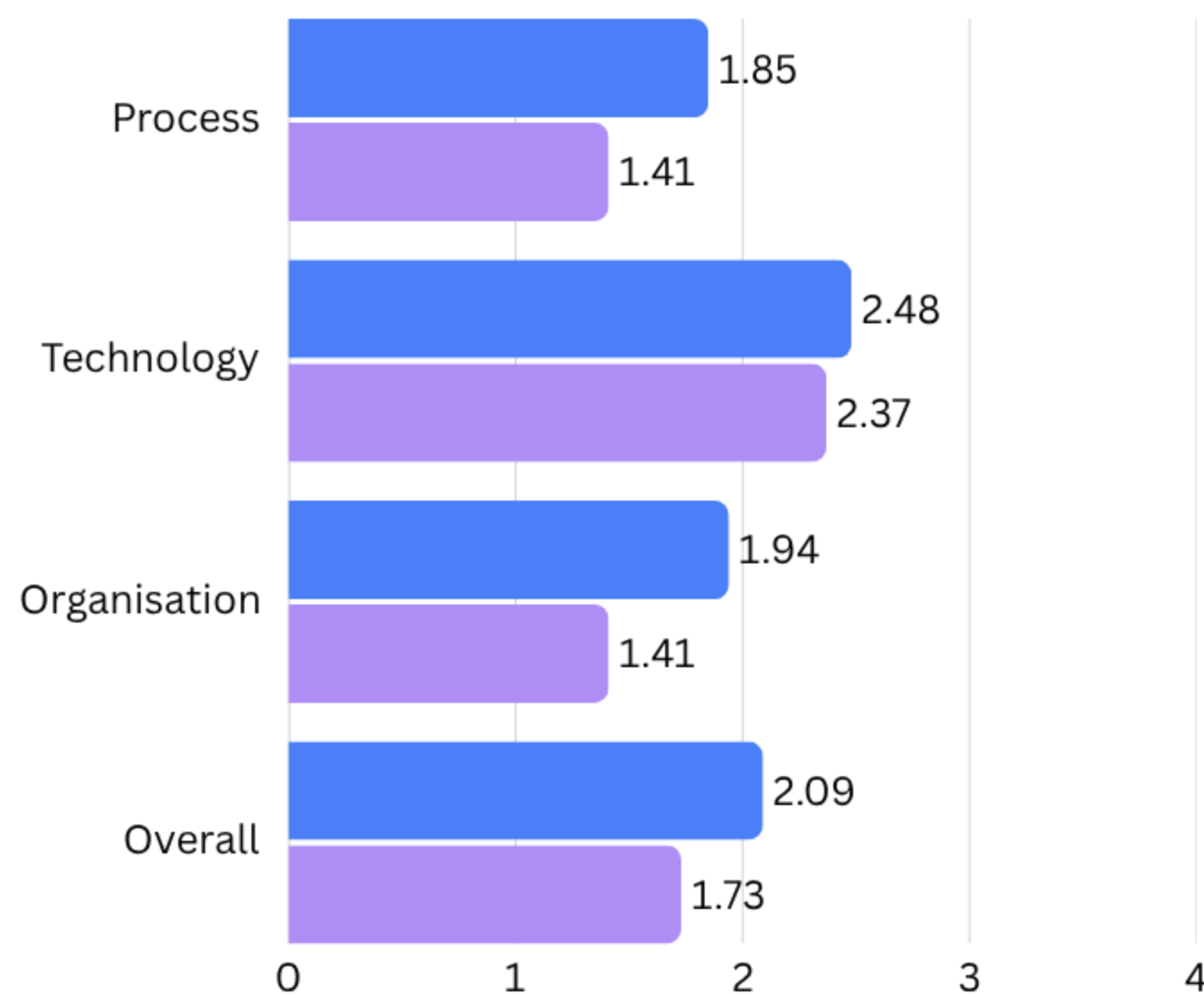
Roadmap (1.00)

Their missions, visions, and strategic frameworks are not all explicitly DT-focused. Although some strategic initiatives may be, they are not consolidated into a clear roadmap

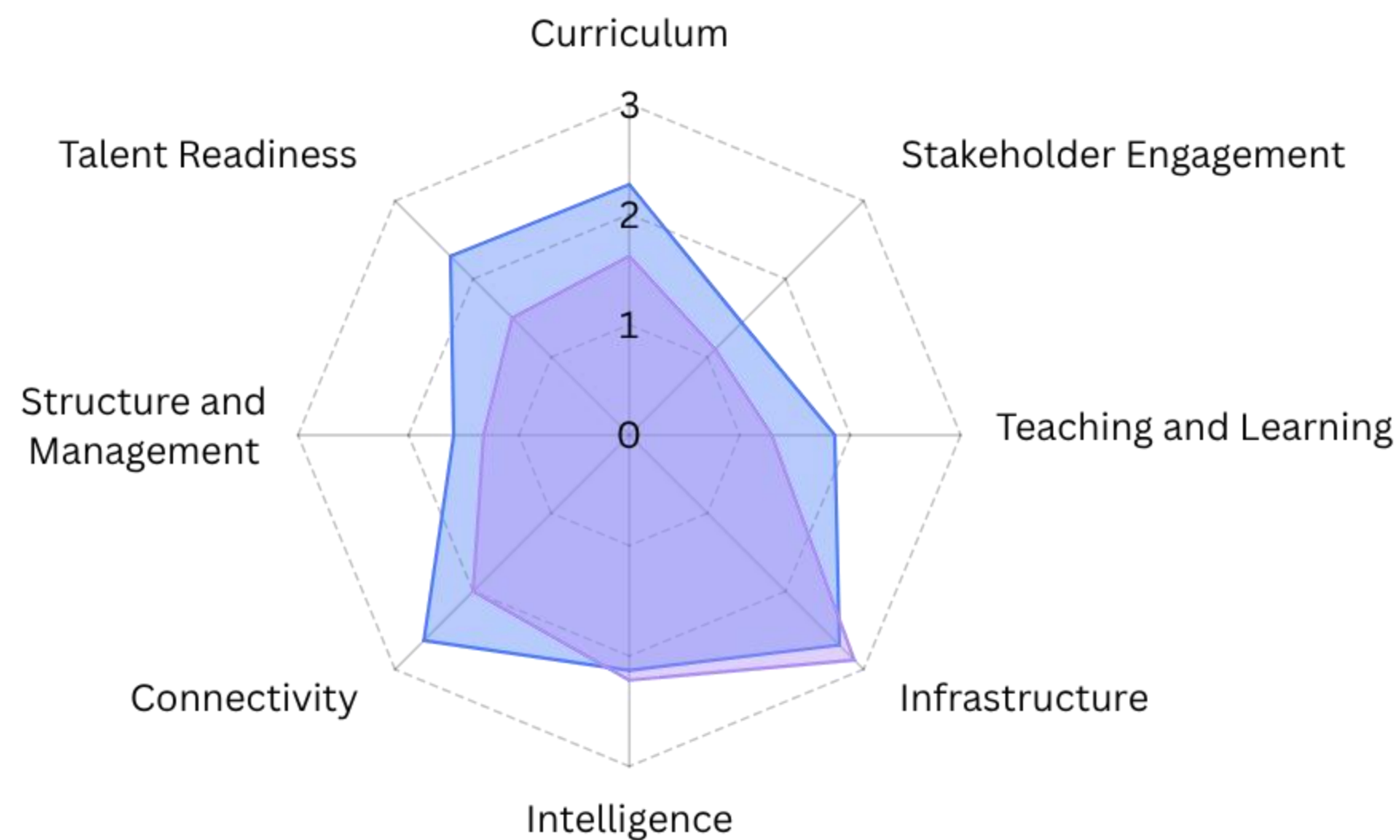
Institutions	Strengths	Areas for Improvement
UBD	• Technology infrastructure • Analytics and cybersecurity • Staff capability and CPD	• Clear implementation roadmap • Non-industry engagement • Institution-wide implementation
UTB	• General and specialised digital skills • Infrastructure and data management • Organisational planning	• AI adoption • Institutional analytics • Sustained professional development
UNISSA	• Digital literacy • Professional development • Taskforce arrangements	• Stakeholder engagement • Teaching and learning • Systematic academic transformation
PB	• Technology infrastructure • Data-management capacity • General digital skills	• Stakeholder engagement • Assessment and roadmap • CPD and taskforce arrangements
IBTE	• Data management • Institutional analytics • Technology infrastructure	• Specialised digital skills • Technology-supported assessment • Institution-wide coordination
KUPU SB	• General digital skills • Teaching, learning and assessment • Infrastructure and interconnectivity	• Policies and roadmap • Professional development • Governance and taskforce arrangements

Higher Educations & TVET Institutions

● HEI (UBD, UNISSA, UTB, KUPU SB) ● TVET (PB, IBTE)



● HEIs ● TVET Institutions





DISCUSSIONS

1

Uneven Digital Transformation Maturity

National score of 1.97 indicates that DT remains uneven and partly institutionalised

Technology (2.44) progressed faster than Process (1.70) and Organisation (1.76), revealing a gap between technological readiness and institutional transformation

2

Technology–Practice Gap

Robust infrastructure forms a crucial foundation but alone doesn't guarantee improved educational outcomes

Hence, the challenge is not technology acquisition, rather, the systematic and purposeful integration of digital tools into pedagogy, governance, and institutional decision-making



DISCUSSIONS

3

Governance and Implementation Gap

Staff digital literacy are individual readiness and are rarely institution-wide transformation.

The lowest score of DT Roadmap (1.00) indicates that strategic intentions are not consistently translated into priorities, timelines, responsibilities and measurable outcomes

4

HEIs and TVET Gap

Universities achieved a higher average overall score (2.09) than TVET institutions (1.73)

While both groups possess comparable technological foundations, TVET colleges face much larger hurdles in adapting digital tools to hands-on, practical, and competency-based curricula



DISCUSSIONS



Process



Technology



Organisation

Digital tools are mainly used to support traditional teaching rather than transform learning. General digital skills are common, but specialised digital and AI skills, digital assessment, and stakeholder engagement remain limited.

Institutions have strong infrastructure and digital systems, but many systems are disconnected and data sharing is limited. AI adoption is also slow due to concerns about ethics, privacy, academic integrity, and staff capability.

Staff have basic digital skills, but professional development, governance, and policies are not well coordinated. The greatest weakness is the lack of clear digital transformation roadmaps with timelines, budgets, and measurable targets.

KEY NATIONAL RECOMMENDATIONS

01

Establish a National Digital Framework

Develop coherent national framework through the Ministry of Education to align digital transformation goals with Wawasan Brunei 2035

02

Draft Shared Policy Guidance

Formulate collective standards for ethical AI use, data governance, cybersecurity, and system interoperability

03

Embed Specialised Digital Competencies

Systematically map discipline-specific digital skills across academic programs and introduce authentic digital assessments

04

Mandate Institutional Roadmaps

Require each institution to develop a phased, resourced, and measurable digital transformation roadmap

05

Formalise Stakeholder Partnership

Require each institution to develop a phased, resourced, and measurable digital transformation roadmap

06

Sustain Evidence-Based Monitoring

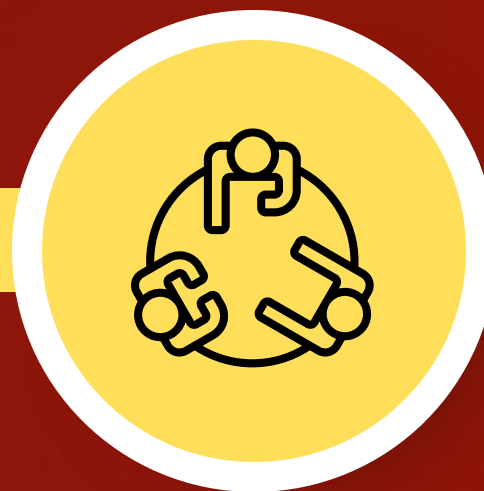
Conduct SERI assessment every two to three years to measure progress against the national baseline

PROPOSED IMPLEMENTATION PRIORITIES



Immediate: within 12 months

- Establish or confirm institutional taskforces
- Develop or update institutional roadmaps
- Conduct policy and staff-capability gap analyses
- Map digital competencies in priority programmes
- Prepare common guidance on AI, data governance and cybersecurity
- Establish baseline indicators



Medium term: 1–3 years

- Implement curriculum and assessment improvements
- Deliver structured professional-development pathways
- Formalise stakeholder-engagement mechanisms
- Improve system integration and institutional analytics
- Implement and evaluate responsible AI pilots
- Monitor roadmap progress



Longer term: 3–5 years

- Develop integrated and interoperable institutional ecosystems
- Expand predictive and learning analytics
- Scale validated promising practices
- Embed digital transformation in quality assurance and budgeting
- Conduct the next national SERI assessment and evaluate progress against the baseline

CONCLUSIONS

The SERI assessment provides the first consolidated national baseline of digital-transformation readiness across six public higher education and TVET institutions in Brunei Darussalam, covering 40 participating faculties, schools and equivalent academic units



Overall, the institutions established an important foundation for DT. The next phase should shift the emphasis from technology provision and individual digital initiatives towards integrated transformations

SERI should be used not just as an assessment, but also to guide improvement and monitor progress

These results provide a baseline for each institution to plan suitable actions and measure its DT over time



Thank you!

Prepared by: Department of Higher Education, September 2026

