# Shehnaz Index – Full Technical Framework

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**National Framework for Research, Innovation & Commercialization (RIC)**

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## INTRODUCTION TO THE SHEHNAZ INDEX

The Shehnaz Index is a standardized, evidence-based measurement framework designed to evaluate the performance, readiness, and economic impact of Research, Innovation, and Commercialization (RIC) ecosystems in universities, research institutions, and innovation organizations.

It provides:

- A unified RIC evaluation model
- Transparent, measurable indicators
- National benchmarking
- Global comparability
- Strategic guidance for policymakers

The Index empowers universities, industries, government agencies, and investors to make informed decisions regarding R&D, innovation planning, technology transfer, and startup development.

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## PURPOSE OF THE SHEHNAZ INDEX

The Shehnaz Index aims to:

1. Evaluate ORIC performance across research output, innovation capability, commercialization success, and governance.
2. Establish national and global benchmarks for comparison.
3. Strengthen linkages among academia, industry, government, and community stakeholders.
4. Enable evidence-based policy decisions at institutional and governmental levels.
5. Drive economic and social impact by transforming research into commercially viable innovations.

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## STRUCTURAL FRAMEWORK OF THE SHEHNAZ INDEX

The Shehnaz Index consists of:

- **5 Major Pillars**
- **15 Sub-Pillars**
- **75 Measurable Indicators**

These assess an institution's ability to create knowledge, innovate, commercialize technologies, develop startups, and maintain governance and global engagement standards.

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## PILLAR 1 — RESEARCH PRODUCTIVITY (RP)

**Weight: 25%**

### Sub-Pillars

1. Research Output Quality
2. Research Grants & Funding
3. Research Capacity & Infrastructure

### Key Indicators (Examples)

- Indexed publications (Scopus / Web of Science)
- Citation impact and H-index contribution
- National & international funded research projects
- Research labs & advanced facilities
- Active research groups
- Access to digital research resources

### Outcome Focus

High-quality knowledge creation & global academic visibility.

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## PILLAR 2 — INNOVATION CAPABILITY (IC)

**Weight: 20%**

### Sub-Pillars

1. Innovation Culture
2. Research-to-Innovation Conversion
3. Digital & AI Integration

### Key Indicators

- Innovation challenges & hackathons
- Prototype development (hardware/software)
- Proof-of-concept (PoC) projects
- TRL (Technology Readiness Level) progress
- AI tools used in research
- Data management & computational resources

### Outcome Focus

Transforming research into innovative, high-impact solutions.

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## PILLAR 3 — COMMERCIALIZATION & TECHNOLOGY TRANSFER (CTT)

**Weight: 25%**

### Sub-Pillars

1. IP Management
2. Commercialization Activities
3. Industry Partnerships

### Key Indicators

- Patents filed
- Patents granted
- Licensing revenue generated
- Startups commercialized
- Industrial prototype development
- Industry-funded R&D
- Consultancy projects
- Co-development partnerships

### Outcome Focus

Turning research into market-ready products and services.

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## PILLAR 4 — STARTUP & ENTREPRENEURSHIP DEVELOPMENT (SED)

**Weight: 20%**

### Sub-Pillars

1. Startup Ecosystem Strength
2. Startup Success Indicators
3. Entrepreneurial Capacity

### Key Indicators

- Incubation & acceleration programs
- Access to pre-seed & seed funding
- Startup revenue generated
- Jobs created
- Startup survival rate (3–5 years)
- Entrepreneurship curriculum
- Mentorship & advisory networks

### Outcome Focus

Economic impact and job creation through innovation-driven startups.

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## PILLAR 5 — GOVERNANCE, POLICY & GLOBAL ENGAGEMENT (GPGE)

**Weight: 10%**

### Sub-Pillars

1. ORIC Governance Structure
2. National & Global Linkages
3. Community Impact

### Key Indicators

- Institutional RIC policies & SOPs
- Reporting & accountability mechanisms
- International MoUs
- Joint research collaborations
- Membership in global innovation networks
- Social innovation & community programs

### Outcome Focus

Strengthened governance, credibility, and global visibility.

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## SCORING SYSTEM

### Indicator Score (0–5)

0 — No activity
1 — Minimal
2 — Developing
3 — Established
4 — Strong
5 — Outstanding / Global visibility

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## SCORE INTERPRETATION (Composite)

| SCORE RANGE | CATEGORY | INTERPRETATION |
|---|---|---|
| **85–100** | **Platinum** | World-class RIC performance |
| **70–84** | **Gold** | Strong performance |
| **55–69** | **Silver** | Moderately strong |
| **40–54** | **Bronze** | Developing stage |
| **0–39** | **Basic** | Needs significant improvement |

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## DATA COLLECTION FRAMEWORK

- Online submission portal for universities
- Verification committee (national/international experts)
- AI-based data analytics engine
- Annual Shehnaz Index publication
- Institutional scorecards
- Year-to-year progress analysis

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## IMPLEMENTATION PLAN FOR PAKISTAN

### Phase 1 — Pilot (6 Months)

- 20 universities selected
- Digital portal deployed

- Training workshops conducted

### Phase 2 — National Rollout (1 Year)

- Expansion to all public & private universities
- National rankings published
- Partnerships with HEC, PSF, Ignite, FPCCI, PBIT

### Phase 3 — Global Expansion (2 Years)

- Inclusion of OIC, Commonwealth, ASEAN, EU universities
- Launch of Global Shehnaz Index Rankings

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## STRATEGIC BENEFITS

### For Universities

- Improved ORIC performance
- Increased global visibility
- Stronger accreditation and ranking positions
- Attracting national and international funding

### For Government

- Evidence-based R&D planning
- Stronger innovation economy
- Policy formulation support

### For Industry

- Access to new technologies
- Collaboration opportunities
- Availability of trained innovators

### For Students

- Better entrepreneurship ecosystem
- Employability enhancement
- Access to quality research training

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## FINAL NOTE

The Shehnaz Index is Pakistan's first globally scalable RIC measurement framework. It aligns national ORIC development with international innovation systems such as:

- THE Impact Rankings
- Global Innovation Index (GII)
- ASEAN Research & Innovation Index (ARII)

It positions Pakistan as a rising leader in research measurement and innovation-driven development.