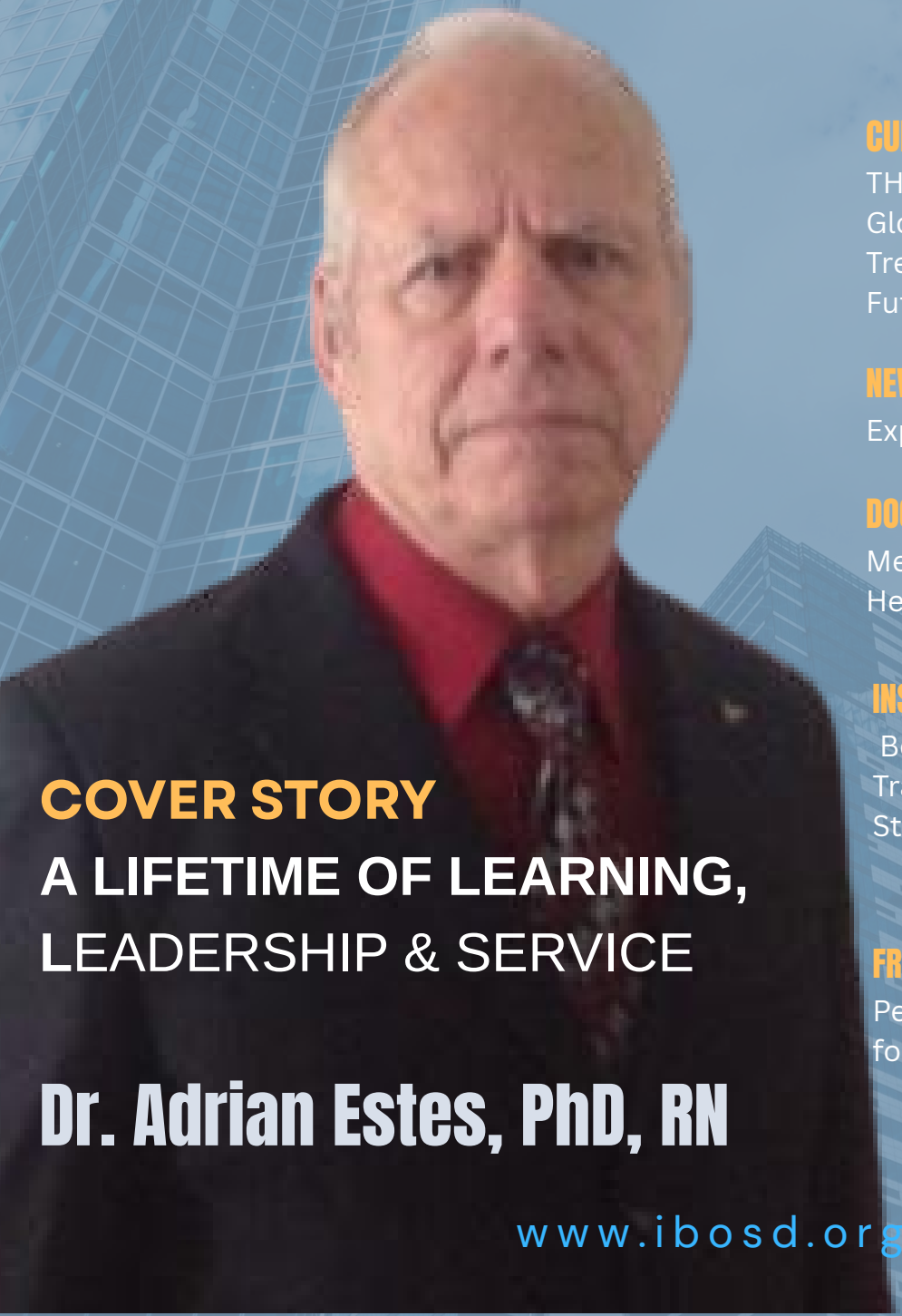
ISSUE 01

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IBOSD INSIGHT

Ideas • People • Skills • Success

THE GLOBAL E-MAGAZINE OF IBOSD - UK LTD.



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COVER STORY

A LIFETIME OF LEARNING, LEADERSHIP & SERVICE

Dr. Adrian Estes, PhD, RN

www.ibosd.org

FROM THE EDITOR

Knowledge becomes more valuable when it is shared.

Welcome to IBOSD INSIGHT

It gives me great pleasure to welcome you to the inaugural issue of IBOSD INSIGHT, a free global e-magazine created to connect people through ideas, knowledge, experience and opportunity.

We live in a world where learning is no longer confined to classrooms or qualifications. Every professional journey, every workplace experience, every challenge overcome and every new idea has something valuable to teach us.

IBOSD INSIGHT is built around a simple philosophy: learn something new every month.

Through these pages, we will bring together inspiring life stories, practical professional knowledge, emerging ideas, career opportunities, CSR initiatives, training and workshops, and perspectives from professionals, SMEs, trainers, organisations and IBOSD Authorized Training Providers around the world.

Our New Learning section will provide short, accessible insights across different professional fields, while our cover stories will introduce people whose journeys, experiences and lessons can inspire others.

This magazine is intended to be free to read, free to share and open to meaningful professional contribution.

I invite you not only to read IBOSD INSIGHT, but also to become part of it. Share your knowledge.

Share your experience. Share opportunities. And above all, keep learning.

Welcome to our journey.



Saju Mathew
Chief Editor.
IBOSD INSIGHT
The Global E-Magazine of IBOSD – UK Ltd.

COVER STORY

A LIFE BEYOND THE ORDINARY

War • Medicine • Learning • Leadership • Service



The remarkable journey of Dr. Adrian Estes, PhD, RN

At nineteen, Adrian Estes arrived in Vietnam as a young U.S. Army medic. What followed was not simply a military career, but the beginning of a lifetime shaped by service, practical learning, resilience and encounters with people and cultures across the world.

Born in October 1951, Adrian grew up without knowing his biological father, who had died in an electrical accident. His father had served as a U.S. Marine during the Second World War, while his older brothers and other family members also had military experience. As the Vietnam War continued, the young Adrian became determined to follow that tradition of service.

Getting into the Army was itself a challenge. He recalls being rejected twice during his physical examination because he was underweight before finally succeeding on his third attempt. After basic training and medical training, he was initially assigned to Fort Hood, Texas. Within a month, however, he volunteered for Vietnam.

On his 19th birthday, he was aboard a flight bound for Vietnam. Soon afterwards, he was assigned to an infantry company of the 101st Airborne. His arrival offered an immediate introduction to the realities of war: as his C-130 came in to land, the runway was hit by mortar fire and the aircraft was damaged during the landing.

But Adrian did not remain safely at the aid station for long.

When members of a reconnaissance team arrived needing a replacement medic, he volunteered immediately.

> *That decision would change his life.*
> "WE NEED A DOC."

Those few words opened the door to a world in which knowledge could no longer remain theoretical.

As a reconnaissance medic, Adrian's experiences would include surviving a helicopter crash, stepping on a land mine that fortunately did not detonate, and operating in circumstances where decisions had immediate consequences.

More than five decades later, one principle still runs through his story:

You do not truly know whether you can perform until knowledge has to become action.

FROM THE BATTLEFIELD TO THE WORLD

Courage may have taken Adrian Estes into combat.

Experience taught him how to perform when circumstances offered no second chance.

Vietnam became Adrian's first great classroom—not a classroom of lectures and examinations, but one where decisions had consequences.



As a young medic working in extraordinarily demanding conditions, he learned to remain functional when circumstances around him were anything but predictable. His recollections include surviving a helicopter crash, stepping on a land mine that fortunately failed to detonate, and enduring dangerous operations with his reconnaissance team.

Yet some of the most lasting lessons came from people rather than combat.

Growing up in Oregon, Adrian says he had little meaningful interaction with Black Americans. That changed during his military service when he met Staff Sergeant Clinton. The two initially did not get along, but the relationship developed into a close friendship—one of the experiences that began broadening Adrian's understanding of people whose backgrounds were different from his own.



His journey subsequently took him to Camp Zama in Japan for treatment and then back to the United States, where he attended the Army's nursing school and later worked in a cardiac intensive care unit.

THEN CAME KOREA

An assignment to Korea opened another chapter.

Adrian was sent to Kimpo, where he became responsible for a military dispensary. His work exposed him to emergencies and medical situations very different from those he had encountered in Vietnam.

Then, approximately seven months into his Korean assignment, something unexpected happened.



Two men arrived at his clinic and asked for him by name.

Adrian and his ambulance driver, Roger, were taken to the 121st Hospital in Seoul. Throughout the day, doctors and nurses were assembled there without initially being told why.

Eventually, the explanation came:

President Gerald Ford was visiting Korea.

Twenty-two medical personnel had been assembled to provide medical support for the presidential visit. While others were assigned positions along the route, Adrian and Roger were told that they would accompany the President's motorcade.

Adrian immediately pointed out something rather important:

He wasn't a doctor.

The response he remembers receiving provides one of the defining messages of his professional life.

His combat experience was precisely why he had been selected. He knew how to operate in the field without depending upon sophisticated equipment.

EXPERIENCE WHEN IT MATTERS

For two days, Adrian remained close enough to provide emergency medical assistance if required. When President Ford visited the Demilitarized Zone, Adrian travelled in the following helicopter

as part of the medical support arrangements. Fortunately, no emergency intervention became necessary. He later received a letter from the White House thanking him for his service during the presidential visit.

The experience reinforced something Adrian would carry into education and occupational safety many years later:

Qualifications create knowledge. Practice develops capability. Experience teaches you what to do when the unexpected happens.



FROM COMBAT MEDIC TO SAFETY EDUCATOR

When one chapter of Adrian Estes' life was forced to close, he turned experience into education—and began another.

After years of military medical service, Adrian faced a challenge that would permanently change the direction of his career.

Persistent problems with his feet eventually resulted in repeated treatment and surgery. After 16 years of Army service, he received a medical discharge.

For someone whose professional identity had been built around military medicine and service, it could easily have represented an ending.

Instead, it became a transition.

AN UNEXPECTED ROAD TO SAFETY

The Army agreed to fund Adrian's master's studies, and initially he considered becoming a hospital administrator.

Then came one of those seemingly ordinary conversations that can redirect an entire life.

While waiting to meet a hospital administrator, Adrian began talking with a safety professional. The conversation sparked his interest in occupational safety.



At the time, Adrian recalls, formal educational opportunities in the field were limited. Working with a professor at Illinois State University, he developed a curriculum for a master's degree in Occupational Health and Safety Management, while also working at a lock and dam during his studies.

After completing his master's, he moved to Arizona and worked with a safety consulting company.

But he wasn't finished learning.

TAKING EDUCATION FURTHER

Adrian subsequently decided to pursue doctoral study in Occupational Health and Safety Management.

Again, he recalls that an established programme matching what he wanted was not available, so he worked with a professor to develop an appropriate curriculum. Adrian says that, to the best of his knowledge, he subsequently became the first person in the United States to receive a PhD in Occupational Safety and Health Management.

Editor's note: This statement reflects Dr. Estes' personal recollection and has not been independently verified by IBOSD INSIGHT.

> *But the qualification itself was not the destination.*
> *Adrian had identified a much larger problem.*
> “YOU'RE THE SAFETY GUY.”

In Adrian's experience at the time, workplace safety responsibility was frequently handed to employees who had received little preparation for the role.

Regulatory training existed, but Adrian believed that knowing standards alone was not enough.

Safety professionals needed to understand how to perform the job.

That belief led him to establish IBOEHS and develop a Safety Officer programme. His first programme was delivered once a week over eight weeks.

The philosophy behind it was remarkably consistent with what he had learned years earlier as a combat medic:

> *Knowledge matters.*
> *Practice matters more.*
> *Competence is demonstrated when knowledge becomes action.*

MEDICINE MEETS SAFETY

Adrian's background as a registered nurse gave him another advantage.

Rather than abandoning his medical knowledge when he entered occupational safety, he integrated the two disciplines. He initially focused particularly on healthcare safety and wrote the Nursing Home Guide to Safety, which he states is held by the Library of Congress in Washington, D.C. He also supported safety activities connected with his brother's construction company and began travelling throughout the United States delivering his two-day Safety Officer programme.

And Adrian adopted another habit that reveals something important about his approach to expertise.

When students asked questions he couldn't answer, he didn't pretend to know.

He researched the subject—and came back with an answer.

That simple practice became part of a much larger philosophy:

A true professional never reaches the point where there is nothing left to learn.

THEN THE WORLD STARTED CALLING

After years of teaching across the United States, requests began arriving from overseas.

Philippines • Vietnam • Cambodia • Thailand • Malaysia • Myanmar • Ghana The young man who had once travelled overseas as a 19-year-old soldier was now crossing borders for an entirely different reason: to teach.

FROM SOLDIER → MEDIC → NURSE → SAFETY PROFESSIONAL → EDUCATOR

> *Different careers.*
> *Different countries.*
> *Different challenges.*

But one principle connected them all:

NEVER STOP LEARNING.

LESSONS FROM A LIFE BEYOND THE ORDINARY

From a 19-year-old medic entering a war zone to an educator taking safety knowledge across international borders, Adrian Estes' journey carries lessons that extend far beyond any single profession.

A career spanning military medicine, nursing, occupational safety, education and international training did not develop according to a carefully prepared plan.

> *Again and again, Adrian's story changed direction.*
> *Sometimes through choice.*
> *Sometimes through circumstance.*
> *Sometimes through an unexpected conversation.*

But throughout those changes, several principles remained remarkably consistent.

01 — KNOWLEDGE MUST BECOME COMPETENCE

Perhaps the strongest theme in Adrian's story is his belief in learning by doing.

During his later Army service in Germany, Adrian discovered that medics were practising emergency procedures without actually opening dressings, preparing equipment or starting IVs because medical supplies were not permitted to be used for training.

He challenged the restriction.

Eventually, after taking the issue to senior command, permission was granted for genuine hands-on practice. Other battalions subsequently contacted him about the change.

Years later, the same philosophy would appear again in his approach to occupational safety education.

Knowing what to do and being capable of doing it are not necessarily the same thing.

02 — TRAIN SOMEONE TO REPLACE YOU

Korea taught Adrian an unusual leadership lesson.

His 14-month assignment was extended because no replacement was available. From then on, he says that whenever he arrived at a new assignment, he immediately began training someone who could take his place.

It is a deceptively simple management principle:

Leadership is not making yourself indispensable. It is developing other people until the organisation can succeed without depending entirely upon you.

03 — NEVER PRETEND TO KNOW EVERYTHING

Years later, while teaching safety programmes across the United States, students sometimes asked Adrian questions for which he did not immediately have an answer.

> *His response was simple.*
> *He researched them and came back with the answer.*
> *Expertise did not mean knowing everything.*
> *It meant being willing to continue learning.*

04 — PEOPLE CAN CHANGE OUR WORLD

International experience exposed Adrian to people whose backgrounds and experiences were very different from his own.

One early example came in Vietnam. Adrian recalls that growing up in Oregon had given him little meaningful interaction with Black Americans. His relationship with Staff Sergeant Clinton initially began with friction but developed into a close friendship.

His subsequent journey would take him through different parts of the United States and overseas, eventually including teaching assignments in the Philippines, Vietnam, Cambodia, Thailand, Malaysia, Myanmar and Ghana.

Different countries provided different experiences, but the broader journey continually brought Adrian into contact with new people, professions and cultures.

05 — START AGAIN WHEN LIFE CHANGES THE PLAN

A medical discharge after 16 years in the Army could have defined the remainder of Adrian's professional life.

> *Instead, it led to postgraduate education.*
> *Education led to occupational safety.*
> *Safety led to teaching.*
> *Teaching led to IBOEHS.*

And eventually, classrooms in the United States led to classrooms around the world.

> *Sometimes the end of one career is simply the beginning of another.*
> *Personal Growth.*

THE JOURNEY CONTINUES

Soldier. Medic. Nurse. Safety Professional. Educator. Founder. International Trainer.

> *The titles changed.*
> *The countries changed.*
> *The circumstances changed.*
> *But the willingness to learn, adapt, serve and share knowledge remained.*

And perhaps that is the most powerful lesson of Adrian Estes' journey:

> *Your past may shape you.*
> *It does not have to limit what comes next.*

ADRIAN, IN HIS OWN WORDS

"If I could give one piece of advice to the next generation, it would be...Never stop learning"

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CURRENT AFFAIRS

THE WORLD IN FOCUS

Global Developments • Emerging Trends • Events That Shape Our Future

01 EDUCATION & ARTIFICIAL INTELLIGENCE

9 September 2026 | Paris, France

UNESCO Calls for Responsible Artificial Intelligence in Education

Artificial intelligence is rapidly transforming how students learn, teachers teach and educational institutions assess knowledge.

During UNESCO's Digital Learning Week, held in Paris from 8–11 September 2026, education ministers and representatives from more than 25 countries endorsed a statement calling for education to remain a human right and a common good in the age of AI.

The discussions emphasised responsible AI governance, protection of learners' rights, teacher development, transparency and equitable access to digital technologies.

The central message was clear: AI should strengthen human learning and professional judgement rather than replace them.

> **WHY IT MATTERS**
> Educators and training institutions must develop AI literacy while ensuring that critical thinking, ethical judgement and genuine learning remain central to education.

Source: UNESCO, 9 September 2026.

02 SUSTAINABLE DEVELOPMENT

18 September 2026 | New York, USA

United Nations Calls for Faster Progress Towards the 2030 Global Goals

World leaders and development stakeholders gathered at the United Nations for the 2026 Sustainable Development Goals (SDG) Moment under the theme Together, We Can Do It.

The meeting highlighted the urgent need to accelerate international progress towards the 17 Sustainable Development Goals.

According to the United Nations Sustainable Development Goals Report 2026, only 36% of targets with available trend data were on track or showing moderate progress.

Climate-related disruptions, inequalities, financial constraints and international conflicts continue to challenge development efforts.

The discussions emphasised stronger partnerships, investment, practical solutions and collective responsibility.

> **WHY IT MATTERS**
> Sustainable development requires competent professionals in ESG, environmental management, social responsibility, education and organisational leadership.

Source: United Nations, September 2026.

03 CLIMATE ACTION & GREEN ECONOMY

23 September 2026 | New York, USA

Global Leaders Push for Faster Climate Action and a Just Energy Transition

The United Nations Climate Summit 2026 brought together representatives from governments, businesses, financial institutions and civil society to accelerate international climate action.

The discussions focused on clean energy, climate finance, environmental resilience and the need to ensure that the transition towards a low-carbon economy benefits workers and communities. Leaders highlighted the importance of translating climate commitments into practical action, particularly through investment, technological development and international cooperation.

The summit also reinforced the importance of supporting vulnerable communities facing the consequences of climate change.

> **WHY IT MATTERS**
> The transition to a low-carbon economy is increasing the importance of carbon accounting, ESG management, renewable energy expertise and green workforce skills.

Source: United Nations Climate Summit, 23 September 2026.

04 GLOBAL SKILLS & EMPLOYMENT

22–27 September 2026 | Shanghai, China

WorldSkills Shanghai 2026 Highlights the Importance of Practical Skills

The 48th WorldSkills Competition brought international attention to technical excellence, vocational education and the importance of skilled professionals in a changing global economy.

Held in Shanghai, the event celebrated practical competence across a wide range of occupational disciplines.

The International Labour Organization used the occasion to emphasise the importance of inclusive skills systems, decent employment, green skills and digital transformation.

The ILO and WorldSkills International also strengthened their cooperation to support vocational education, occupational standards and workforce development.

> **WHY IT MATTERS**
> Practical competence, industry-relevant training and credible skills assessment are essential for improving employability and supporting economic development.

Sources: WorldSkills International and International Labour Organization, September 2026.

05 GLOBAL ECONOMY

13 October 2026 | International

IMF Warns of Uneven Global Economic Growth

The International Monetary Fund released its October 2026 World Economic Outlook, projecting global economic growth of 3.1% in 2026 and 3.4% in 2027.

The report highlighted continuing economic uncertainty arising from geopolitical tensions, trade disruptions, fiscal pressures and changing expectations surrounding artificial intelligence.

Although the global economy has demonstrated resilience, growth remains uneven across countries and industries.

The IMF emphasised the importance of economic stability, productivity improvements, sound financial policies and international cooperation.

> **WHY IT MATTERS**
> Economic uncertainty increases the importance of workforce adaptability, continuous professional development, technological competence and effective organisational risk management.

Source: International Monetary Fund, World Economic Outlook, 13 October 2026.

06 EDUCATION, INCLUSION & SOCIAL PROGRESS

11 October 2026 | International

International Day of the Girl Child Reinforces the Importance of Equal Opportunities

The International Day of the Girl Child, observed annually on 11 October, provides an opportunity to recognise the rights, aspirations and potential of girls around the world.

The observance draws attention to challenges involving educational access, discrimination, safety, economic opportunity and participation in society.

Investing in girls' education and skills development can help strengthen communities, improve economic participation and create pathways towards leadership and financial independence.

WHY IT MATTERS

Providing access to education and practical skills is an important part of building inclusive societies.

This principle also aligns with IBOSD's commitment to supporting educational opportunities for underprivileged girls through its CSR initiatives.

Source: United Nations, International Day of the Girl Child, 11 October 2026.

DOCTOR'S CORNER

Medical Insights | Health Awareness | Healthy Living

Control Your Blood Sugar: Small Changes, Better Results

Dr. Vishnudas Mohandas, MBBS
Physician | Occupational Health & Safety Specialist.



Even while taking medication, many people struggle to maintain normal blood sugar levels.

A few daily changes can make a real difference:

Eat at regular intervals: Prefer smaller, balanced meals rather than large portions.

Choose wisely: Include protein-rich foods, vegetables and healthy fats while controlling carbohydrate portions. For example, appam with chana masala, eggs and vegetables.

Make dinner lighter: Choose fibre-rich, low-GI foods such as ragi, cholam or vegetables with a protein source.

Include a handful of nuts: Prefer them as an evening snack.

Always try to maintain perfect protein and fat ratio give much importance to that than carbohydrate because studies showing that the fat and protein British slower your glucose spike

Walk for 10 minutes after meals: This helps reduce post-meal blood sugar spikes.

Prioritise sleep: Avoid frequent late nights and irregular sleep schedules.

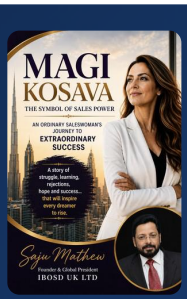
Remember: Consistency in lifestyle changes, along with prescribed medication, is the key to better blood sugar control.

INSIGHT BOOKSHELF

Books That Inspire • Ideas That Transform
Stories Worth Sharing

MAGI KOSAVA: THE SYMBOL OF SALES POWER

An Ordinary Saleswoman's Journey to Extraordinary Success
Author: Saju Mathew · Featured Book | November 2026



Can an Ordinary Person Achieve Extraordinary Success?

Success stories often begin far away from recognition, wealth or professional achievement. They begin with ordinary people who dare to dream, accept challenges and pursue opportunities.

Magi Kosava: The Symbol of Sales Power, written by Saju Mathew, introduces the inspiring theme of an ordinary saleswoman's journey towards extraordinary success.

The book's central premise invites readers to reflect on the power of determination, personal growth and the human qualities that contribute to achievement.

Beyond Sales: A Story of Human Potential

Sales is more than selling products. It involves understanding people, building relationships, communicating value and developing trust.

Magi Kosava's journey offers a starting point for reflecting on the importance of confidence, perseverance, communication and continuous learning.

These qualities are valuable not only for sales professionals but also for entrepreneurs, managers, educators and aspiring leaders.

Five Reflections for Readers

> Believe in your potential. Your starting point does not determine your destination.

> Develop confidence. Growth often begins outside familiar boundaries.

> Understand people. Listening and empathy are essential professional strengths.

> Learn from challenges. Difficult experiences can become opportunities for improvement.

> Keep growing. Lasting achievement requires commitment and continuous learning.

INSIGHT TAKEAWAY

Extraordinary success can begin with an ordinary person and an extraordinary determination to grow.

About the Author

Saju Mathew is the Founder and Global President of the International Board of Skills and Development (IBOSD) – UK Ltd. His professional background includes safety education, training, leadership and skills development.

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Every Admission Creates an Opportunity.

EXPERT VOICES

Leading HSEQ Through Shutdowns, Turnarounds and Regional Uncertainty



Arun Anandan

Arun Anandan is an HSEQ Manager with 16 years of experience across the Middle East's oil and gas, petrochemical, refinery, power and industrial sectors. Specialising in operational risk management, emergency preparedness and workforce safety, he advocates practical, people-centred HSEQ leadership built on effective planning, communication and proactive safety intervention.

HSEQ Leadership Under Pressure

Shutdowns and turnarounds are among the most demanding phases in the oil and gas, petrochemical, refinery, power, and industrial service sectors. Unlike routine operations, these projects combine high manpower density, compressed schedules, multiple subcontractors, simultaneous high-risk activities, and intense client expectations. In such environments, HSEQ leadership is not only about compliance; it is about control, coordination, communication, and calm decision-making under pressure.

Regional Shutdown Experience

Over the past 16 years, I have had the opportunity to work across major UAE and Middle East industrial operations, supporting shutdowns, turnarounds, maintenance campaigns, and specialist services for leading organizations including ADNOC Refining, ADNOC Gas, ADNOC Sour Gas, Borouge, Emirates Steel, ENOC, EGA, Dolphin Energy, QatarEnergy, Qatar Shell, EQUATE, BAPCO, ARAMCO, Ma'aden, MIDOR, Fertiglobe, OPD Oman, Emdad Groups, and Contract Resources.

My career has been strongly connected with high-risk activities such as catalyst handling, inert entry, confined space entry, high-pressure water jetting, ultra-high-pressure water jetting, chemical cleaning, hydro-milling, hot work, lifting and rigging, vacuum truck operations, NDT, PWHT, refractory works, scaffolding, and SIMOPS management. Each activity brings its own risk profile, but during shutdowns the real challenge is the combination of all these activities happening together within limited time and space.

Mobilization and Readiness

One of the biggest HSEQ challenges in shutdown and turnaround execution is manpower mobilization. A major shutdown may involve hundreds of personnel arriving from different companies, countries, and skill backgrounds. Before work even begins, the HSEQ function must ensure competency verification, client approvals, medical fitness, training, inductions, PPE compliance, site access, camp approval, transport arrangements, and emergency preparedness. Any weakness in this preparation stage can directly affect site safety performance.

Planning, Rescue and Control

During my involvement in ADNOC and other regional shutdowns, I have seen how critical preplanning is. HSE plans, rescue plans, journey management plans, waste management plans, heat stress plans, emergency response arrangements, and method statements must be practical, not just documents prepared for approval. For example, inert entry and catalyst handling require highly disciplined planning, continuous gas monitoring, rescue readiness, trained standby teams, communication protocols, breathing apparatus control, and clear escalation routes. In such work, there is no room for assumptions.

SIMOPS and Field Execution

Another major challenge is SIMOPS. In turnaround environments, one team may be performing hot work, another team may be carrying out confined space entry, another may be involved in lifting, while others are conducting HPWJ or chemical cleaning nearby. The HSEQ team must act as the control point to identify interface risks, stop unsafe overlaps, verify permits, and ensure that work fronts are properly segregated. A permit-to-

work system is effective only when people understand the hazards behind the permit.

Heat Stress and Journey Risk

Heat stress is also a major concern in the UAE and wider Middle East. During summer operations, especially in ADNOC and industrial sites, heat stress management requires more than distributing water. It requires work-rest cycles, shaded rest areas, hydration monitoring, supervisor awareness, early symptom reporting, emergency response readiness, and strict compliance with regulatory requirements such as UAE midday break periods. In my experience, proactive heat stress planning prevents both medical cases and productivity loss.

Transport and journey management have also become increasingly important. Shutdown teams often travel long distances between accommodation, fabrication areas, client sites, and remote operational locations. Managing driver fatigue, vehicle condition, route planning, emergency contact systems, and client-specific vehicle requirements such as AFDD implementation is part of modern HSEQ responsibility. A serious road incident outside the plant boundary can affect the entire project, so journey risk must be treated with the same seriousness as process safety risk.

Regional Conflict and Continuity

In recent years, regional conflicts and geopolitical tensions have added another layer of complexity to HSEQ management. The Middle East has experienced security concerns, maritime disruptions, airspace changes, supply chain delays, and heightened client expectations around emergency preparedness. For HSEQ leaders, these situations require fast but controlled responses. We must assess travel risks, monitor official advisories, review emergency response plans, ensure business continuity arrangements, communicate clearly with site teams, and avoid panic-driven decisions.

During periods of regional tension, one of the most important responsibilities of an HSEQ leader is to maintain workforce confidence. Employees working away from home can become anxious when they hear news about regional conflict, drone threats, shipping disruptions, or border-related issues. Clear communication helps reduce uncertainty. Teams need to know who to contact, what actions to take during emergencies, where assembly points are located, and how management is monitoring the situation.

Business continuity is another important lesson from recent regional challenges. Shutdowns cannot be managed only from a site perspective. HSEQ must work closely with operations, HR, procurement, logistics, camp management, transport providers, and client representatives. Delays in manpower, equipment, PPE, chemicals, vehicles, or accommodation can quickly become safety concerns if not controlled properly. Good HSEQ management therefore requires strong coordination across departments.

Leadership Lessons

One of the most valuable lessons from my career is that HSEQ leadership is not about policing people. It is about influencing behavior, building trust, and making safety practical for the workforce.

A technician working inside a confined space, a hydro-jetting operator handling high pressure, a rigger preparing a critical lift, or a supervisor managing night shift pressure must feel that HSEQ is supporting safe execution, not only stopping work.

At the same time, strong intervention is sometimes necessary. In shutdowns, schedule pressure can silently push people toward shortcuts. A good HSEQ professional must have the courage to stop unsafe work, even when the project is under pressure. The cost of delay is always less than the cost of a serious injury, fatality, environmental incident, or major client non-compliance.

Looking back, my journey across companies and clients such as ADNOC, Borouge, Emirates Steel, ENOC, EGA, Dolphin Energy, QatarEnergy, Qatar Shell, EQUATE, BAPCO, ARAMCO, Ma'aden, Emdad Groups, and Contract Resources has taught me that HSEQ excellence depends on preparation, field presence, communication, and leadership commitment. Procedures are important, but people make them live.

The Future of HSEQ

Shutdown and turnaround HSEQ management will continue to evolve. Client expectations are in-

creasing, regulatory requirements are becoming stronger, and regional risks are becoming more dynamic. Future HSEQ leaders must be technically competent, digitally aware, emotionally intelligent, and ready to manage both site-level hazards and wider business risks.

For me, HSEQ is not only a profession. It is a responsibility to ensure that every worker returns home safely, every project is executed responsibly, and every organization builds a culture where safety is part of planning, execution, and leadership. In high-risk industries, success is not measured only by completing the shutdown on time. True success is completing it safely, with people, environment, assets, and reputation protected.

EXPERT VOICES

Process Safety Management (PSM): The backbone of energy industry safety



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Introduction

In the energy industry comprising oil and gas, petrochemicals, power generation, renewables and emerging energy systems, risk is inherent, complex, and often unforgiving. While occupational safety focuses on preventing personal injuries, Process Safety Management (PSM) addresses low-frequency but high-consequence events such as explosions, fires, toxic releases, and catastrophic equipment failures. These events, though rare, can result in severe loss of life, environmental damage, asset destruction, and reputational collapse. PSM is therefore not just a compliance requirement, it is the structural backbone of operational integrity in high-risk industries. Organizations that treat PSM as a living system rather than a static framework consistently outperform peers in safety, reliability, and long-term profitability.

Understanding Process Safety Management (PSM)

Process Safety Management is a systematic approach to managing hazards associated with industrial processes, particularly those involving hazardous chemicals, high pressures, high temperatures, and complex interactions between human, technical, and organizational elements. At its core, PSM seeks to answer three fundamental questions:

- What can go wrong? (Hazard identification)
- How likely is it? (Risk analysis)
- What controls are in place? (Risk prevention and mitigation)

Global frameworks such as OSHA PSM, CCPS Risk-Based Process Safety, and ISO-based management systems provide structured guidance, but the effectiveness of PSM depends largely on implementation discipline and organizational culture.

Key elements of effective PSM

Although models vary slightly, robust PSM systems typically include the following critical elements:

Process Safety Information (PSI): Accurate and up-to-date technical data on process design, chemicals, equipment, and operating limits is foundational. Without reliable PSI, all downstream safety decisions are compromised.

Process Hazard Analysis (PHA): Structured methodologies such as HAZOP, What-If analysis, and Fault Tree Analysis are used to identify and evaluate potential hazards. Effective PHAs are systematic, multidisciplinary, and periodically updated.

Operating procedures: Clear, accessible, and practical procedures ensure consistency in operations, especially during startups, shutdowns, and abnormal conditions—where most incidents occur.

Training and competency: Personnel must not only be trained but also competent in recognizing

process hazards and responding appropriately. This includes both technical skills and human factors awareness.

Mechanical integrity: Equipment failures are a leading cause of major incidents. A robust mechanical integrity program ensures that critical assets are designed, installed, inspected, tested, and maintained to perform as intended.

Management of Change (MOC): Uncontrolled changes are a silent threat. MOC ensures that any modification; technical, procedural, or organizational is systematically reviewed for risk implications before implementation.

Permit to Work (PTW): A structured PTW system controls high-risk activities such as hot work, confined space entry, and line breaking, ensuring hazards are identified and mitigated before work begins.

Incident Investigation: Effective organizations treat incidents and near-misses as learning opportunities. Root cause analysis, not superficial blame, drives continuous improvement.

Emergency Preparedness and Response: Despite best efforts, incidents may still occur.

Preparedness ensures rapid, coordinated, and effective response to minimize consequences.

Auditing and Continuous Improvement: Regular audits and performance reviews ensure that PSM systems remain effective, relevant, and aligned with evolving risks.

Common failures in PSM implementation

Despite well-defined frameworks, major incidents continue to occur across the energy sector.

Analysis of past disasters reveals recurring weaknesses such as:

Weak safety culture: Organizations often prioritize production over safety, leading to risk normalization where deviations from safe practices become accepted over time.

Inadequate hazard identification: Superficial or outdated PHAs fail to capture emerging risks, especially in aging facilities or during process modifications.

Poor management of change: Many catastrophic events can be traced to unreviewed or poorly managed changes, including temporary fixes that become permanent.

Breakdown in communication: Critical safety information is often siloed, misinterpreted, or not effectively communicated across teams and shifts.

Human factors neglect: Designs that ignore human limitations such as fatigue, cognitive overload and poor interface design lead to predictable human errors under stress.

Mechanical integrity gaps: Deferred maintenance, inadequate inspections, and aging infrastructure increase the likelihood of equipment failure.

Ineffective learning from incidents: Organizations frequently fail to institutionalize lessons learned, resulting in repeated incidents across different locations or time periods.

Strengthening PSM controls: A strategic approach

To move from compliance to excellence, organizations must adopt a holistic and proactive approach to PSM such as Embed a strong process safety culture: Leadership must visibly prioritize process safety through decision-making, resource allocation, and accountability. Safety should be treated as a core value, not a competing priority.

Integrate human factors engineering: Design systems with the operator in mind. This includes ergonomic control rooms, intuitive interfaces, and procedures aligned with real-world conditions and not ideal assumptions.

Digitize and modernize PSM systems: Leverage digital tools for real-time monitoring, predictive maintenance, and data-driven risk assessment. Integrated dashboards can enhance visibility and decision-making.

Strengthen management of change: Adopt rigorous MOC processes supported by checklists, risk assessments, and cross-functional reviews. No change should bypass formal evaluation.

Enhance competency-based training: Move beyond classroom training to scenario-based simulations, drills, and competency assessments that reflect actual operational challenges.

Improve asset integrity management: Implement risk-based inspection (RBI) and predictive maintenance strategies to proactively address equipment degradation.

Foster learning organizations: Establish mechanisms for capturing, sharing, and institutionalizing lessons from incidents and near-misses across the organization.

Conduct independent audits: Periodic third-party audits provide objective insights into system weaknesses and help prevent organizational blind spots.

The role of leadership and governance

Ultimately, the effectiveness of PSM is a reflection of leadership commitment. Boards and executives must:

- Demand transparency in safety performance
- Monitor leading indicators (e.g., near-misses, safety critical equipment status)
- Ensure adequate investment in safety systems
- Hold management accountable for PSM performance

Strong governance transforms PSM from a technical function into a strategic business imperative.

Conclusion

Process Safety Management is not merely a regulatory checkbox, it is the foundation upon which safe, reliable, and sustainable energy operations are built. In an industry where the margin for error is minimal, robust PSM systems protect lives, safeguard assets, and preserve organizational reputation.

The path forward lies in integrating technology, human factors, and leadership commitment to create resilient systems capable of anticipating and managing risk in an increasingly complex energy landscape.

Organizations that invest in strengthening their PSM frameworks today will not only prevent tomorrow's disasters, they will also position themselves as industry leaders in safety excellence and operational performance.

For energy professionals, the message is clear: PSM is not optional, it is indispensable.

EXPERT VOICES

Bridging the Skills Gap in Construction Logistics Management: Facts, Challenges and Solutions



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Introduction

Construction logistics management is a critical yet frequently overlooked component of successful project delivery. It involves the planning, procurement, transportation, storage, handling and distribution of materials, equipment and resources across construction sites.

As construction projects become larger, more complex and technologically advanced, the demand for competent logistics professionals continues to increase. However, a significant gap remains between industry expectations and workforce capabilities.

Understanding the Skills Gap

Construction logistics requires a combination of technical knowledge, operational coordination, digital competence and risk-management skills. Traditionally, many construction organisations have relied on experienced supervisors and storekeepers without providing structured professional training in logistics management.

The World Economic Forum's Future of Jobs Report 2025 identifies technological change and

evolving skill requirements as major forces transforming employment worldwide.

These developments are equally relevant to construction supply chains.

Key competency gaps in construction logistics include:

1. **Supply Chain Planning:** Limited knowledge of procurement scheduling, supplier coordination and just-in-time material delivery.
2. **Inventory and Warehouse Management:** Inadequate understanding of stock control, material traceability, preservation and waste minimisation.
3. **Digital Technology:** Insufficient proficiency in Building Information Modelling (BIM), Enterprise Resource Planning (ERP), barcode systems and digital inventory platforms.
4. **Health, Safety and Environment:** Weaknesses in lifting operations, material handling, traffic management, hazardous-material storage and environmental compliance.
5. **Leadership and Communication:** Poor coordination between procurement teams, contractors, warehouse personnel and project management.

Impact on Construction Projects

Skills deficiencies can contribute to material shortages, excess inventory, equipment downtime, unsafe storage conditions and project delays.

Construction logistics failures also create financial consequences. Poorly coordinated deliveries can increase transportation expenses, while inadequate material handling may cause damage, wastage and workplace accidents.

Research by the McKinsey Global Institute has highlighted persistent productivity challenges in the construction industry. Although these challenges have multiple causes, improved planning, coordination and operational capability remain important opportunities for better performance.

Practical Solutions

Addressing the skills gap requires coordinated action by employers, training institutions and professional certification bodies.

1. **Competency-Based Training:** Introduce structured programmes covering procurement, inventory management, warehouse operations, transportation, digital systems and construction-site logistics.
2. **Practical Assessment:** Evaluate professionals through real-world scenarios, site-layout planning, material-flow exercises, risk assessments and operational problem-solving.
3. **Digital Skills Development:** Provide practical exposure to BIM, ERP systems, inventory software and data-driven logistics monitoring.
4. **Industry–Training Partnerships:** Encourage collaboration between construction companies and authorised training providers to align learning outcomes with actual workplace requirements.
5. **Continuous Professional Development:** Establish periodic refresher programmes addressing emerging technologies, sustainability, regulatory changes and operational best practices.
6. **Performance Measurement:** Monitor delivery reliability, inventory accuracy, material wastage, safety incidents and logistics-related delays to evaluate training effectiveness.

Conclusion

Closing the skills gap in construction logistics management is essential for improving productivity, workplace safety, cost efficiency and project sustainability. Professional competence must extend beyond experience-based learning towards structured training, practical assessment and continuous development.

For construction organisations, investing in logistics competencies is not merely an educational expense; it is a strategic investment in operational excellence, competitiveness and long-term project success.

A skilled construction logistics workforce is fundamental to delivering safer, smarter and more sustainable construction projects.

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EXPERT VOICES

Beyond the Prompt: How Prompt Engineering Is Evolving in the Age of Generative AI



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From enhancing a photograph to generating cinematic video, music and sequences of connected scenes, generative AI has transformed what a written instruction can set in motion. Prompt engineering has evolved with it: from describing an output to directing a creative process.

From Pixels to Moving Stories

For many people, their first encounter with generative AI was asking a chatbot to write a paragraph or using an image tool to create, enhance or edit a picture. Image platforms such as ChatGPT Images, Midjourney, Adobe Firefly and Ideogram let creators guide subject, setting, composition, lighting, style and mood. Midjourney's own guidance stresses clear descriptions over unnecessarily long lists of instructions.

Video generation adds another dimension: time. A useful video prompt may need to describe not only what appears in a shot, but also the subject's action, camera movement, framing, atmosphere and how the scene changes. Google's Veo 3.1 supports generated audio, reference images, first-and-last-frame direction and video extension; Runway's guidance likewise separates visual description from motion. Tools including Google Flow, Runway, Luma and Kling are making AI-generated shots increasingly useful for storyboards, adverts, music videos and short-film production.

Yet this does not mean that a complete, coherent series can reliably be created with one prompt. Character consistency, dialogue, pacing, continuity, rights checks and editing still demand human supervision. The practical shift is from generating a single asset to planning and refining a sequence of assets.

One Idea, Multiple Media

Prompting is also becoming multimodal. Depending on the platform, creators can combine text with reference images, audio or video, then use AI to develop other elements. Suno's September 2026 v6 release, for example, describes workflows that create music from text, audio, images and video, alongside natural-language editing of selected song sections. ElevenLabs offers prompt-based sound-effect generation, while Adobe Firefly brings image, video, audio and design capabilities into one creative environment.

The broader landscape now includes general-purpose assistants such as ChatGPT, Claude and Gemini; image tools such as Midjourney, Firefly and Ideogram; video systems such as Veo, Runway, Luma and Kling; music tools such as Suno and Udio; and integrated design environments such as Canva. These products are not interchangeable: each has different strengths, controls and usage rules.

Access is similarly varied. Some services provide free tiers or limited daily generations; others use credits, subscriptions or usage-based pricing, and premium models may require payment even when the platform itself is free to try. Adobe, for instance, lists a free Firefly option alongside paid plans and credit-based access to some premium features.[6]

Availability, model names and limits can change by country and over time, so creators should check each platform's official plan page before committing. OpenAI's Sora web/app ended on 26 April 2026 and its API on 24 September 2026, illustrating how quickly even prominent products can change.

Beyond Writing "Better Prompts"

Prompt engineering is no longer about discovering a secret formula or making every instruction longer. OpenAI's prompting guidance recommends clear instructions, relevant context, examples and testing; Runway similarly encourages creators to begin with the essential visual and motion elements, then iterate. The best approach depends on the model: a concise image prompt may work well in one tool, while a video task may need explicit movement, timing and reference frames in another.

The skill is becoming a cycle: define the goal, choose the right platform, provide context and constraints, generate, evaluate, refine and verify. For professional

use, that final verification matters. AI outputs can contain factual errors, visual inconsistencies, biased assumptions or material that raises privacy, copyright or consent concerns. Human review is not an optional finishing touch; it is part of responsible production.

Training the Human Behind the Prompt

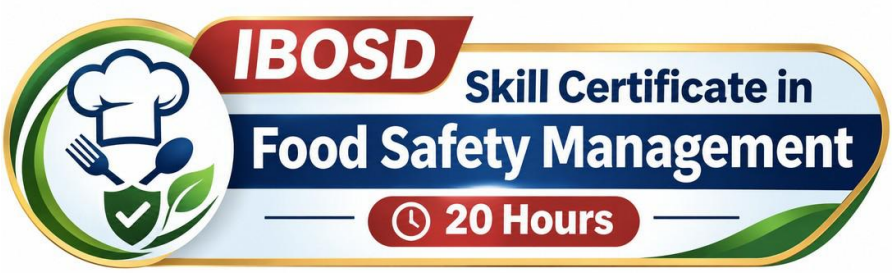
As models become more capable, training must move beyond memorising templates.

Professionals need to practise framing problems, choosing tools, directing outputs, checking claims, understanding limitations and deciding when not to use AI. These capabilities transfer even when a favourite platform changes or disappears.

The future of prompt engineering will not belong only to people who know the most keywords. It will favour people who can translate an intention into clear instructions, orchestrate different tools, assess the result critically and apply human judgment.

We began by asking AI to generate content. We are learning to direct it across media and workflows. The prompt is evolving—from a command into a conversation, and from a piece of text into a process guided by human purpose.

curtesy:- Midjourney ,Google — Veo 3.1 ,Runway — ElevenLabs & Adobe Firefly



FROM THE EDITOR'S DESK

Skill Development: The Need of the Hour

Bridging the Global Skills Divide, Empowering Developing Nations and Building a Workforce for Tomorrow

(An editorial perspective on human capital, employment, productivity, economic development and the urgent need for competency-based education)

The world has a skills problem

The world is experiencing a remarkable transformation. Artificial intelligence, automation, digitalisation, changing supply chains, renewable energy and new industrial technologies are reshaping economies at an unprecedented pace. Yet, behind these advances lies a serious challenge: millions of people are entering the labour market without the competencies required to participate meaningfully in the modern economy.

The consequences are particularly severe in developing countries, where unemployment, underemployment, educational inequality and limited access to quality vocational training frequently exist alongside genuine shortages of skilled workers.

A nation may possess abundant natural resources, a growing population, extensive infrastructure ambitions and promising investment opportunities. However, without an adequately skilled workforce, these advantages cannot be fully converted into sustainable economic progress.

The wealth of a nation is determined not merely by the resources it possesses, but also by the knowledge, skills, productivity and innovative capacity of its people.

For developing nations, skill development must therefore be recognised as a central pillar of national economic policy rather than an optional component of the education system.

The International Board of Skills and Development (IBOSD – UK Ltd) believes that employability, practical competence, continuous professional development and accessible learning opportunities deserve greater attention from governments, industries, educational institutions and professional organisations.

The central question is no longer whether countries should invest in skills development. It is whether they

can afford the economic and social consequences of failing to do so.

1. The global skills crisis: What the statistics reveal

Several international studies demonstrate the scale of the challenge.

GLOBAL SKILLS AND EMPLOYMENT INDICATORS

63%
of surveyed employers identify skills gaps as a major barrier to business transformation.
WEF, 2025

39%
of workers' existing skill sets are expected to change or become outdated by 2030.
WEF, 2025

256M
young people aged 15–24 were not in employment, education or training in 2023.
ILO, 2024

70%
estimated learning poverty among 10-year-olds in low- and middle-income countries following pandemic disruptions.
World Bank and partners, 2022

Sources: World Economic Forum, Future of Jobs Report 2025; ILO, Global Employment Trends for Youth 2024; World Bank and partners, State of Global Learning Poverty 2022.

These indicators measure different aspects of the education and employment challenge and should not be treated as interchangeable.

World Economic Forum+2

The World Economic Forum's Future of Jobs Report 2025, based on a survey of more than 1,000 employers, projects that technological and economic changes could create 170 million jobs while displacing 92 million by 2030, producing a net increase of 78 million jobs.

However, these projected opportunities will not automatically benefit people whose competencies do not match emerging requirements.

The report also estimates that 59 out of every 100 workers will require upskilling or reskilling by 2030. These findings underline the importance of continuous learning throughout professional life.

World Economic Forum+1

2. Developing countries: Where the challenge is most acute

The term Third World has historically been used to describe less economically developed countries.

However, contemporary international development discussions generally favour the terms developing economies, low-income countries and lower-middle-income countries, which allow more precise comparisons.

These economies are diverse. Some have strong educational systems and internationally competitive industries, while others face significant shortages of teachers, training infrastructure, technology and investment.

Nevertheless, several recurring challenges deserve particular attention.

A. Africa: A growing workforce seeking productive opportunities

Africa possesses an enormous demographic opportunity. Its young population could become a major source of innovation, entrepreneurship and economic growth.

Yet, this potential depends on the availability of relevant education, practical training, productive enterprises and decent employment.

According to the International Labour Organization, approximately three in four young workers in sub-Saharan Africa lacked secure employment in the period examined by its Global Employment Trends for Youth 2024 report. This reflects the broader challenge of converting labour-market participation into stable and productive livelihoods.

International Labour Organization

The skills required for agriculture, mining, construction, energy, manufacturing, logistics, healthcare and emerging technologies are not always sufficiently supported by accessible training opportunities.

A young person may complete formal education without developing the practical competencies required to operate equipment safely, maintain industrial machinery, manage a warehouse, supervise construction activities or use digital business systems.

At the same time, an employer may struggle to recruit competent technical personnel despite high unemployment in the surrounding community.

This apparent contradiction illustrates the difference between the availability of labour and the availability of job-relevant skills.

However, training alone cannot solve Africa's employment challenges. Investment, infrastructure, business development, access to finance and functioning institutions are also essential.

B. South Asia: Educational expansion without sufficient employability

Countries across South Asia have made important advances in educational access and professional development. Nevertheless, the transition from education to productive employment remains difficult for many young people.

The ILO projected that the youth NEET rate in South Asia would reach approximately 26.6% in 2025. NEET refers to young people who are not in employment, education or training; it is not identical to the unemployment rate.

International Labour Organization

A central concern is the disconnect between academic learning and workplace requirements.

An engineering graduate may possess theoretical knowledge but lack practical experience in industrial safety, quality assurance, construction supervision, maintenance planning or digital project management.

Similarly, business graduates may have limited exposure to enterprise software, inventory management, procurement, customer relations or analytical decision-making.

This mismatch can create frustration among graduates, increase recruitment and training costs for employers and delay the development of a productive workforce.

India and neighbouring economies need stronger collaboration between academic institutions, industry, training providers and professional assessment bodies.

The objective should not be to replace academic education, but to complement it with demonstrable workplace competence. . Other developing regions: Unequal access to opportunity Parts of Latin America, Southeast Asia and other developing regions face related challenges involving informal employment, regional inequality, technological change and limited access to affordable training.

Rural communities often experience disadvantages because specialised training institutions, reliable internet access, modern equipment and qualified instructors are concentrated in urban centres.

Women may face additional barriers involving household responsibilities, safety, transport, discriminatory practices and restricted access to traditionally male-dominated occupations.

People with disabilities and workers displaced by economic restructuring may also encounter obstacles to retraining.

These challenges demonstrate that national skills strategies must be inclusive, geographically accessible and sensitive to the realities of different communities.

A successful skills policy must reach beyond major cities, universities and established industries. It must create pathways for those who have historically remained outside the formal training system.



3. The educational foundation: Learning poverty and future productivity

A country's skills challenge begins long before young people enter the workforce.

Foundational literacy, numeracy, communication and problem-solving abilities provide the basis for advanced technical and professional learning.

The World Bank and its development partners estimated in 2022 that approximately 70% of 10-year-olds in low- and middle-income countries were unable to read and understand a simple age-appropriate text.

The same assessment warned that pandemic-related learning losses could place an estimated US$21 trillion in potential lifetime earnings at risk globally. This was a modelled estimate, not an observed economic loss.

World Bank

The economic implications are profound.

A child who struggles with basic reading may later experience difficulty interpreting operating procedures, safety instructions, technical drawings, equipment manuals or digital information.

Poor numeracy can affect financial literacy, measurement, inventory control, engineering calculations and analytical decision-making.

Consequently, deficiencies in foundational education can accumulate across an individual's life and eventually affect workplace productivity.

Governments must therefore recognise that vocational skills development and foundational education are complementary investments.

Improving technical training without addressing basic literacy and numeracy will leave many learners unable to benefit fully from advanced programmes.

Equally, expanding schooling without creating effective routes into employment can produce educated young people who remain economically excluded.

The solution requires a connected education-to-employment system.

4. How skills deficiencies weaken national economic growth

The relationship between skills and economic development is multidimensional. Skills do not independently determine national prosperity, but they strongly influence how effectively countries use capital, technology, infrastructure and natural resources.

Lower productivity and industrial competitiveness

A workforce lacking essential technical and managerial competencies may require more time, supervision and resources to complete the same tasks.

In construction, inadequate planning and supervision can contribute to rework, material waste and project delays. In manufacturing, weak maintenance and quality-control capabilities can lead to equipment downtime, rejected products and inefficient production.

In logistics, insufficient inventory-management skills can cause delivery disruptions, stock discrepancies and higher operating costs.

These problems affect enterprise profitability and, when widespread, can weaken national competitiveness.

Reduced investment attractiveness

International investors evaluate more than taxation, infrastructure and labour costs. They also consider whether a country can provide competent engineers, technicians, supervisors, managers and skilled workers.

Where suitable personnel are unavailable, businesses may need to import specialist labour, invest heavily in remedial training or postpone expansion.

However, it is important not to attribute investment decisions solely to workforce skills.

Political stability, regulation, transport, electricity, financing and market access are equally significant.

Persistent unemployment and underemployment

A labour market may simultaneously experience unemployment among graduates and vacancies for skilled positions.

This mismatch can reflect unsuitable qualifications, limited practical experience, geographic barriers or poor information about employment opportunities.

The ILO's research shows that educational mismatch is especially significant in developing economies, with many young adult workers holding qualifications that do not correspond well to their jobs.

International Labour Organization

The result is a loss of human potential: individuals may work below their capabilities while employers struggle to recruit people with the competencies they require.

Slower technological adoption

Purchasing advanced equipment does not automatically improve productivity.

Organisations need personnel capable of installing, operating, maintaining, interpreting and improving technological systems.

Without adequate skills, investments in automation, artificial intelligence, digital construction, renewable energy or modern agricultural machinery may fail to deliver their expected benefits.

Weaker public services and infrastructure

Skill deficiencies also affect healthcare, public administration, utilities, waste management, education and infrastructure maintenance.

A country may build new facilities yet struggle to operate them efficiently without competent technical and managerial personnel.

Consequently, national skills development should extend beyond private-sector employment to the institutions responsible for delivering essential public services.

5. The skills mismatch: Qualifications versus competence

One of the most important challenges facing modern education is the assumption that possession of a qualification necessarily demonstrates professional competence.

Academic qualifications remain valuable. They establish knowledge, intellectual discipline and important foundations for professional development.

However, workplace competence requires more than the ability to recall information.

An occupational safety professional must be capable of identifying hazards, evaluating risks, recommending controls and responding appropriately to unsafe situations.

A logistics supervisor must be able to coordinate deliveries, manage inventory, maintain records and resolve operational disruptions.

An environmental professional must understand relevant requirements and apply appropriate monitoring, reporting and improvement methods.

A trainer must be capable of designing learning activities, communicating effectively and assessing whether learners have achieved the intended outcomes.

These competencies require a combination of knowledge, practical application, judgement, communication and ethical responsibility.

Therefore, education systems should place greater emphasis on measurable learning outcomes and authentic assessment.

Professional certification can contribute to this objective when it is supported by transparent standards, competent assessors, valid assessment methods, independent quality assurance and reliable verification procedures.

The objective of skills development should not be the production of certificates alone. It should be the development and credible demonstration of competence.

6. The economic importance of women's participation

No country can maximise its human capital while substantial sections of its population remain excluded from training and employment opportunities.

Women in many developing economies experience barriers to technical education, professional development, mobility, finance and workplace participation.

The ILO reported that approximately two-thirds of the world's young people who were not in employment, education or training in 2023 were women.

7. Why traditional training models require reform

Many vocational training systems face structural difficulties.

Programmes may be designed without sufficient consultation with employers. Curricula can remain unchanged despite technological developments. Practical facilities may be inadequate, and trainers may have limited recent industrial experience.

In some institutions, assessment focuses heavily on written examinations rather than practical performance.

International Labour Organization

This imbalance has consequences beyond individual earnings.

When women have better access to marketable skills, paid employment and entrepreneurship, households can benefit from additional income and greater financial resilience. Communities can also benefit from wider participation in economic activity.

Skills initiatives should therefore include flexible schedules, affordable learning opportunities, safe training environments, digital access and appropriate support for people with caregiving responsibilities.

Programmes should also encourage women to enter fields where they remain underrepresented, including engineering, construction, industrial safety, logistics, technology and renewable energy.

Such initiatives must be accompanied by fair recruitment practices and genuine employment opportunities. Training women without addressing barriers to work would deliver only partial progress.

8. Skills for the green and digital economies

The next phase of economic development will require new combinations of technical, environmental and digital competencies.

The World Economic Forum identifies artificial intelligence, big data, cybersecurity and technological literacy among the fastest-growing skill areas, while emphasising the continued importance of analytical thinking, resilience, leadership and collaboration.

World Economic Forum

Developing economies cannot afford to treat these developments as concerns relevant only to wealthy countries.

Agricultural enterprises increasingly benefit from digital information, modern equipment and improved supply-chain systems.

Construction projects require competence in digital planning, resource management, environmental controls and safer operational practices.

Manufacturing organisations need maintenance, automation, quality and energy-efficiency skills.

Energy-transition projects require technicians, engineers and supervisors familiar with renewable technologies and safe working methods.

Importantly, future-oriented training must not displace essential occupational skills.

Countries still need competent electricians, mechanics, welders, healthcare workers, warehouse personnel, construction supervisors, agricultural technicians and skilled tradespeople.

The most effective approach combines emerging technologies with the practical occupations that sustain everyday economic activity.

Another challenge is the lack of reliable evidence about training outcomes.

An institution may report the number of learners enrolled and certificates issued without systematically examining whether graduates obtained employment, improved their performance or progressed professionally.

A modern skills-development system should therefore evaluate outcomes, not merely participation.

Relevant indicators include assessment performance, employer satisfaction, job placement, retention, career progression, workplace safety and measurable improvements in productivity.

These indicators must be interpreted carefully because training outcomes are also affected by economic conditions and the availability of suitable jobs.

9. A practical ten-point action agenda

Transforming skills development requires cooperation between governments, employers, educators, professional organisations and communities.

01 **Develop national skills intelligence** Regularly identify occupational shortages, regional training needs and emerging competencies using labour-market evidence.

02 **Modernise vocational curricula** Align learning outcomes with current technologies, industry standards, safety requirements and real workplace tasks.

03 **Expand work-based learning** Support apprenticeships, supervised practical experience, workplace projects and employer-led training.

04 **Strengthen competency assessment** Evaluate practical application, judgement and problem-solving alongside theoretical knowledge.

05 **Support trainers and assessors** Invest in trainer development, industry exposure, assessment literacy and continuing professional development.

06 **Improve access for disadvantaged groups** Provide affordable, inclusive and accessible learning opportunities for women, rural communities, unemployed youth and persons with disabilities.

07 **Support small enterprises** Create practical, short-duration training pathways for SMEs that cannot maintain extensive internal training departments.

08 **Promote lifelong learning** Encourage workers to update their competencies throughout their careers rather than relying solely on initial qualifications.

09 **Build credible quality assurance** Ensure certification and training systems have transparent requirements, valid assessments and independent oversight.

10 **Measure real outcomes** Track employment, skills utilisation, productivity, safety, learner progression and employer feedback to improve programmes.

10. The role of industry and professional certification organisations

Governments have a major responsibility for national education and skills policy, but they cannot address every occupational requirement independently.

Industry associations, employers, training institutions and professional certification organisations can contribute specialised expertise, flexible delivery methods and occupationally relevant assessment.

Effective partnerships can identify emerging skill requirements, develop learning resources, support trainers and create pathways for continuous professional development.

For organisations such as IBOSD – UK Ltd, the opportunity lies in supporting a broader international culture of demonstrable competence.

The development of authorised training-provider networks, outreach partnerships, professional learning programmes and structured assessment systems can help extend access to occupational education across different geographical regions.

However, international certification must be presented responsibly. A professional certificate does not automatically constitute a government-recognised qualification, professional licence or guarantee of employment.

Recognition, regulatory status and certification scope must always be communicated accurately.

Professional credibility is built through transparency, assessment integrity, learner support and continuous improvement.

11. Skills development as an investment in national prosperity

National investment in skills development should not be judged solely by the immediate cost of training programmes.

Its wider economic value may include improved productivity, higher earning potential, better occupational safety, stronger enterprises, increased innovation and greater adaptability to economic change.

Nevertheless, training is not a substitute for job creation.

A country can develop a highly trained workforce and still experience unemployment if productive enterprises, investment and labour demand fail to expand.

This is why skills policy must be integrated with industrial development, infrastructure, entrepreneurship, trade, investment and social protection.

The World Bank's 2026 analysis of enterprise development in sub-Saharan Africa illustrates the scale of the broader employment challenge. It estimates that the region needs approximately 15 million new jobs annually to absorb its growing working-age population.

World Bank Blogs

Meeting challenges of this magnitude requires both competent workers and growing organisations capable of employing them.

For developing countries, the objective must be a productive economic cycle in which better education supports stronger businesses, stronger businesses generate better employment, and better employment creates resources for further investment in people.

12. The way forward: From population advantage to human capital strength

A large population is not automatically an economic advantage.

Its contribution depends on education, health, skills, access to opportunity and the capacity of the economy to create productive employment.

Developing countries possess extraordinary human potential. Young people demonstrate ambition, creativity and adaptability, often despite difficult circumstances.

What is frequently missing is an effective connection between their aspirations and accessible pathways to competence, employment and enterprise development.

The future demands a shift in emphasis.

Education must be linked more closely to learning outcomes. Training must respond to workplace realities. Certification must provide credible evidence of achievement. Employers must participate in developing talent. Governments must remove barriers to participation and support economic opportunities.

Above all, individuals must be encouraged to view professional development as a lifelong responsibility.

The transition from traditional occupations to increasingly digital, technology-enabled and environmentally responsible industries will not be completed through isolated training initiatives.

It requires sustained investment, institutional cooperation and a national commitment to human capital development.

13. From the editorial desk: A call to collective action

Skill development is not merely a mechanism for obtaining employment. It is a means of building dignity, confidence, economic independence and professional responsibility.

A competent workforce contributes to safer workplaces, stronger institutions, productive industries and resilient communities.

For developing nations, the cost of inaction can be substantial: unrealised talent, persistent underemployment, reduced productivity and missed opportunities for economic transformation.

The international community must therefore give greater priority to accessible, inclusive and industry-relevant learning.

Governments must strengthen foundational and vocational education. Employers must invest in their people. Training providers must maintain quality. Professional organisations must promote credible competence standards. Individuals must embrace continuous learning.

At IBOSD INSIGHT, we believe that meaningful development begins when people are given the opportunity to acquire, demonstrate and apply valuable skills.

The greatest resource of any nation is its people. The greatest investment a nation can make is in their capabilities.

Skill development is not simply the need of the hour. It is a continuing responsibility to future generations.

Suggested editorial closing statement

"A nation's future is not secured by the number of certificates it issues, but by the competence, creativity and opportunities it develops among its people."

Original editorial statement prepared for IBOSD INSIGHT

Sources and references

The following authoritative sources support the statistical and factual claims in the article. The prose is newly written and does not reproduce their original articles.

Organisation	Publication	Main evidence
World Economic Forum	Future of Jobs Report 2025	Skills gaps, occupational transformation, upskilling and reskilling
International Labour Organization	Global Employment Trends for Youth 2024	Youth employment, NEET, educational mismatch and insecure employment
ILOSTAT	Education and labour underutilisation	Differences in youth NEET rates by country income level
World Bank and partners	State of Global Learning Poverty 2022	Learning poverty and potential lifetime earnings losses
World Bank	Africa's firms are not growing (2026)	African enterprise growth and job-creation challenges

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