

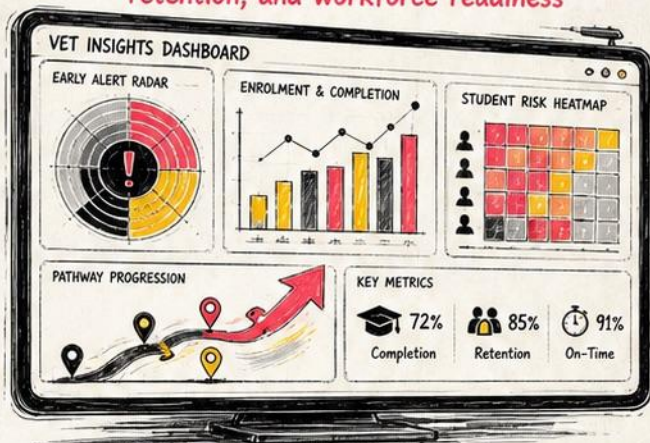
Data-Driven Decisions Transform VET

Better guidance.
Stronger outcomes.

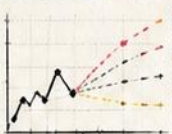
Turn evidence into action for better learning,
retention, and workforce readiness

STAY COMPLIANT.
Build Trust.

- ☒ Privacy
- ☒ Security
- ☒ Fairness
- ☒ Transparency



FORECAST THE FUTURE



- Top in-demand roles
- Data Analyst
 - Renewable Tech
 - Cyber Security
 - Advanced Manufacturing

Forecast skills shortages earlier.

TEST. LEARN. IMPROVE.

A/B TEST THUMBNAILS



CTR 2.1%



CTR 5.8%

Small tests. Big impact.



**PURDUE REDUCED
WITHDRAWAL RATES**
using early course signals.



**FORECASTING SKILLS
SHORTAGES EARLIER**
helps future-proof training.



**ANALYTICS COMPLEMENTS
TEACHER JUDGMENT—**
not replaces it.



**DATA AS THE
NEW OIL**
Valuable when
refined and used
responsibly.



**DASHBOARDS AS
EARLY-WARNING RADAR**
See risks sooner.
Act faster.
Protect outcomes.

A. WHY IT MATTERS



- Data turns uncertainty into strategy.
- VET needs actionable insights.
- Predictive analytics supports timely interventions.
- Data-informed decisions strengthen resilience.

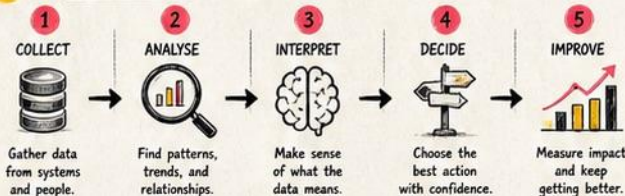
B. LEARNING OBJECTIVES



- Understand how data drives better decisions.
- Interpret dashboards and key indicators.
- Apply insights to improve learner outcomes and workforce readiness.



C. WHAT DATA CAN DO



D. REAL-WORLD CASES

Purdue Course Signals



Early alerts identify at-risk students.
↓ Withdrawal rates reduced.

UPS ORION



Route optimisation driven by data.
↑ Efficiency. Lower costs.

Netflix Thumbnail Testing



A/B testing boosts engagement.
Better clicks. Better retention.

E. WHERE VET BENEFITS



Retention



Compliance



Quality Assurance



Labour-Market Alignment



Trainer Development



Personalised Pathways

F. BUILD ANALYTICS FLUENCY



- Ask the right questions.
- Tell stories with data.
- Read dashboards with confidence.
- Filter noise, spot signals.
- Earn micro-credentials that count.

G. QUICK FAQ



- Q: What is big data?
A: Large, varied data that needs new tools to analyse.
- Q: Why does visualisation matter?
A: It turns complex data into insights you can act on.
- Q: How does personalisation help?
A: It tailors learning to needs—improving engagement.
- Q: Is it only for big institutions?
A: No—start small. Value grows with smart use.

H. TAKE THE NEXT STEP



LAUNCH A PILOT DASHBOARD

Start small.
Learn fast.
Show impact.



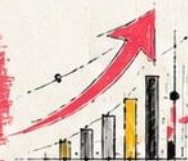
TRAIN YOUR STAFF

Build skills.
Build confidence.
Build capability.



EMBED ETHICS EARLY

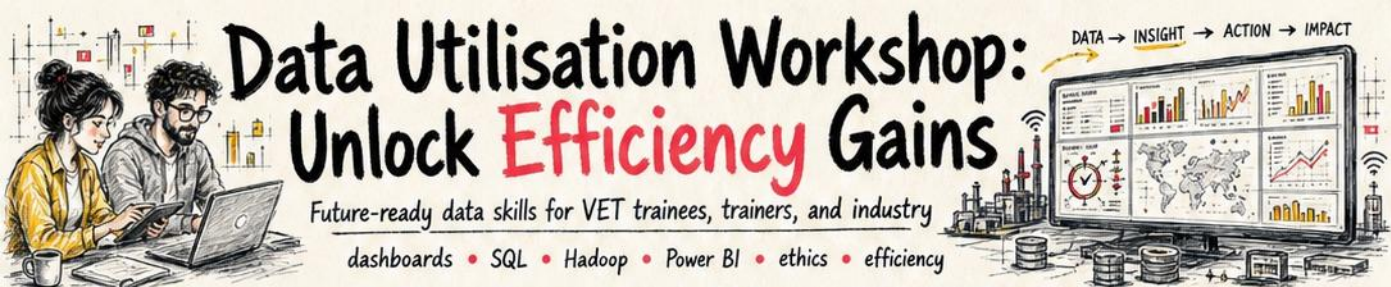
Protect privacy.
Ensure fairness.
Build trust.



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1 LEARNING OBJECTIVES

- 1 Interpret and communicate dashboards to drive decisions.
- 2 Use SQL, Hadoop, and Power BI to extract, analyse, and visualise data.
- 3 Understand the 5 Vs of Big Data: Volume, Velocity, Variety, Veracity, Value.
- 4 Overcome data silos and ethical challenges to build trust and impact.

2 NEED ANALYSIS

- ✓ VET needs stronger data pipelines, analytics capacity, and governance.
- ✓ Bridge theory and practice with real-world datasets and tools.
- ✓ Align training with labour-market needs and future skills.
- ✓ Close gaps in data literacy, tools access, and decision culture.

3 SECTOR-WIDE PRODUCTIVITY GAINS

MANUFACTURING	HEALTH	LOGISTICS	OUTCOMES
<ul style="list-style-type: none"> • IIoT + dashboards reveal downtime & waste. • Predictive maintenance lifts OEE & throughput. <p>OEE 72% → 89%</p>	<ul style="list-style-type: none"> • Inventory & demand forecasts reduce stockouts. • Automate records, free staff for care. <p>Stockouts ↓ -35%</p>	<ul style="list-style-type: none"> • Route optimisation cuts fuel & time. • Real-time visibility improves SLAs. <p>On-time Delivery 88% → 96%</p>	<ul style="list-style-type: none"> ✓ Faster curriculum updates ✓ Lower carbon footprints ✓ Smarter funding and accountability ✓ Evidence-based decisions

4 EMPLOYABILITY FOR VET TRAINEES

- ✓ Data literacy is a core career asset.
- ✓ Ask the right questions. Find the signal.
- ✓ Interpret dashboards with confidence.
- ✓ Manipulate CSV data. Clean. Combine.
- ✓ Use SQL to query and join data.
- ✓ Visualise with Power BI for impact.
- ✓ Become problem-solvers in AI-enhanced workplaces.

5 PEDAGOGICAL RENEWAL FOR VET TRAINERS

- ✓ Use dashboards to inform instruction and track outcomes.
- ✓ Think ETL: Extract, Transform, Load, Analyse.
- ✓ Build lessons with authentic datasets from industry.
- ✓ Engage in CPD and communities to keep curricula agile.

DATA (Extract) → CLEAN (Transform) → ANALYSE (Model) → INSIGHT

6 PREDICTIVE ANALYTICS IN MANUFACTURING

CASE: ADVANCED AUTOMOTIVE SUPPLIER (INSPIRED BY NEXTEER)

- IIoT sensors capture vibration, torque, temperature, and pressure.
- Machine-learning models predict defects before they occur.
- Predicts defects with 95% confidence.
- Reduces scrap, rework, and downtime.
- Improves first-time-pass rates and customer satisfaction.

Defect Prediction Accuracy 95% | Scrap Reduced -31% | Downtime Reduced -24% | First-Time-Pass Rate 78% → 93%

7 ENERGY-EFFICIENCY IN BIOPHARMA

CASE: GSK-INSPIRED

- Random Forest forecasting predicts energy demand and batch loads.
- Simulation models optimise batch schedules and utilities.
- Sharper forecasts → fewer surprises.
- Cuts energy use, emissions, and cost.
- Builds resilience for continuous supply.



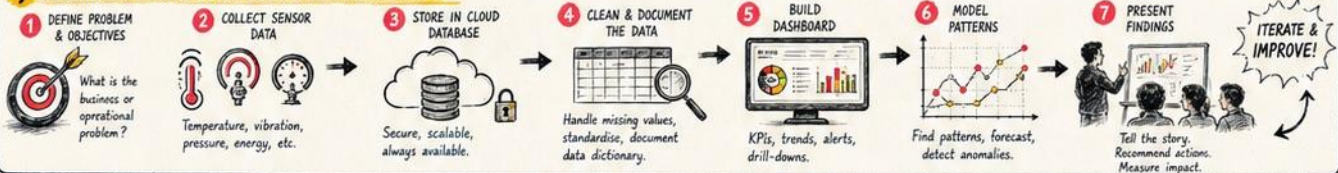
8 AI IN HEALTHCARE

CASE: HOSPITAL GROUP

- AI models predict inventory demand and potential shortages.
- Automated processing of purchase orders and alerts.
- Fewer stockouts. Lower costs.
- Staff time freed for higher-value patient care.



9 PRACTICAL WORKSHOP FLOW: BUILD A MINI DIGITAL TWIN



10 RESOURCES FOR LEARNING

- UNESCO-UNEVOC TVET Data Session (2024) Building Data Skills for Evidence and Impact.
- OECD Working Paper No. 311 (2024) Data-Driven Skills and Productivity.
- TUV Akademie Big Data & Data Science Fundamentals (2025)
- edX AdelaideX Big Data Fundamentals
- AnyLogic Case Study Library (2024) Explore simulation & digital twin cases.

11 FAQ

- Q: What counts as big data in VET?
- A: Any dataset that is large, fast, diverse, and complex enough to need new tools.
- Q: Do I need advanced maths?
- A: No. You need curiosity, logic, and the right tools.
- Q: How is it different from a conventional MIS?
- A: It handles bigger, faster, messier data and uncovers patterns for prediction, not just reporting.
- Q: What about privacy and ethics?
- A: Respect privacy, be transparent, minimise data, secure access, and obtain consent.
- Q: Will AI take VET jobs?
- A: AI augments people. Skilled VET workers with data skills are in higher demand.

12 TIPS FOR IMMEDIATE ACTION

- START SMALL, BUT END-TO-END: Solve a real problem from start to finish.
- QUESTION FIRST, DATA SECOND: Clarify the problem before collecting data.
- DOCUMENT ASSUMPTIONS: Keep a data dictionary and decisions log.
- BRIDGE SILOS: Share data and insights across teams.
- ETHICS ALWAYS: Build trust through fairness, privacy, and transparency.

13 ANALOGIES

- DATA AS CRUDE OIL VS REFINED FUEL
- Raw data is crude oil. Processing turns it into insights that power decisions and outcomes.
- DASHBOARDS AS AN AIRCRAFT COCKPIT
- Many instruments. Clear view. Early warnings. Better decisions. Safer landings.

14 CONCLUSION / CALL TO ACTION

- ✓ Collect one dataset.
 - ✓ Ask one key question.
 - ✓ Share one insight.
- Join the Module 4 Community Forum to learn, share, and grow together.
- Follow us for updates & resources!
- in YouTube Instagram Email



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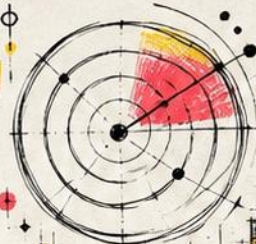
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Risk Analysis Data: Unlock Future-Proof Strategies

Future-ready risk intelligence for VET trainees and trainers

Big data • resilience • compliance • employability



SEE RISK.
THINK AHEAD.
ACT NOW.

1 LEARNING OBJECTIVES



Critically analyse principles of risk analysis data.



Use big data methodologies to reduce business risks.



Integrate theory with practice to anticipate and mitigate risks.



Understand trainer competence in evolving VET curricula.

2 NEED ANALYSIS

- Disruptive tech, Industry 4.0 and AI in finance reshape risk.
- Extreme-weather analytics amplifies operational & societal risk.
- High demand for complex data-analysis skills.
- GDPR and ISO 31000 compliance are non-negotiable.
- Building resilience and public trust is crucial.



3 UNDERSTANDING RISK ANALYSIS DATA IN EVOLVING DIGITAL LANDSCAPES



VOLUME



VARIETY



VELOCITY



VERACITY

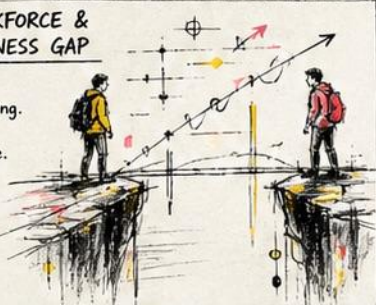


VALUE

- Real-time threat monitoring across connected systems.
- OECD skills gap highlights urgent capability shortfalls.
- UNESCO alignment promotes inclusive digital skills.
- Strong governance builds public confidence and trust.

4 BRIDGING THE WORKFORCE & VET TRAINEE READINESS GAP

- Shift from manual tasks to data-augmented decision-making.
- Understand data provenance, bias and statistical confidence.
- Detect IoT anomalies and evaluate risk signals.
- Address privacy issues and build ethical judgement.
- Stronger skills = higher employability and impact.



5 ENHANCING TRAINER COMPETENCE & CURRICULUM EVOLUTION

- Upskill trainers in data ethics, visual analytics and cloud tools.
- Design authentic risk-analysis projects using real datasets.
- Align with DigCompEdu for digital teaching excellence.
- Embed ISO 31000 and GDPR principles in assessments.



6 REAL-WORLD SCENARIOS IN RISK ANALYSIS DATA

1 Predictive Maintenance in Manufacturing

IoT sensor data + ML models predict equipment failure.

OUTCOME:
Reduced downtime and maintenance cost.



2 Credit-Risk Analytics in Finance

Alternative data + credit scoring for SMEs.

OUTCOME:
Better credit assessment and fewer loan defaults.



3 Disaster-Risk Alerts for Communities

Satellite + weather + social feeds detect emerging threats.

OUTCOME:
Earlier warnings and timely city evacuations.



7 RESOURCES FOR LEARNING IN RISK MANAGEMENT THROUGH BIG DATA

- edX Risk Management Professional Certificate
- Coursera Big Data Specialisation
- MITx The Analytics Edge
- OpenLearn Risk Management course
- DigCompEdu Toolkit



8 FAQ

- Q1** What is risk management through big data?
A: Using large, diverse data to anticipate and reduce risks.
- Q2** How is it different from traditional risk matrices?
A: It's continuous, data-driven and real-time.
- Q3** Do small organisations need big data skills?
A: Yes. Affordable tools level the playing field.
- Q4** What baseline skills should VET trainees master first?
A: Data literacy, statistics, excel, and critical thinking.

9 TIPS FOR IMMEDIATE ACTION



Start with one high-impact use case.



Document data lineage with a data passport.



Pair domain experts with data mentors.

10 ANALOGIES



Big Data as an Early-Warning Radar
Scans far & wide to spot signals early.



Data Lake as a Risk Black Box Recorder
Captures everything. Helps explain what happened & why.



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SEE MORE. UNDERSTAND BETTER. ACT SMARTER. —> TURN RISK DATA INTO FUTURE STRENGTH.

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Big Data Innovation for Personalisation Success

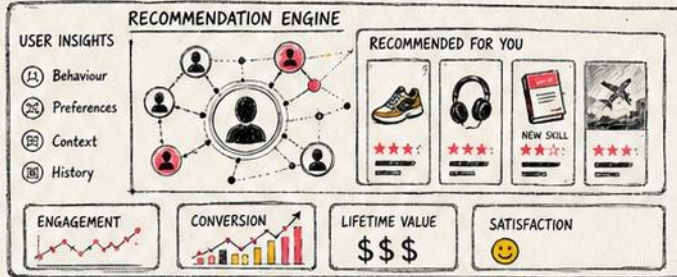
Future-ready strategies for VET trainees and trainers

customisation • recommendation engines • ethics • employability

RIGHT CONTENT
RIGHT TIME
RIGHT PERSON

PERSONALISED

- ✓ EXPERIENCES
- ✓ OUTCOMES
- ✓ OPPORTUNITIES



1 LEARNING OBJECTIVES

- Analyse the impact of big data on personalisation.
- Apply data wrangling and visual analytics.
- Design and prototype recommendation engines.
- Evaluate ethics, privacy, bias mitigation, informed consent.



2 NEED ANALYSIS

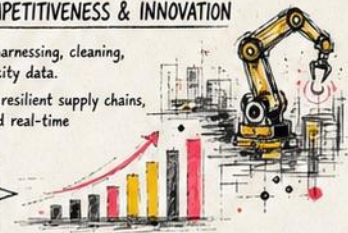
- Big data drives competitive advantage.
- Hyper-personalised services respond to changing consumer needs.
- Organisations that ignore it risk losing market share.
- VET needs data-informed learning models.
- Trainers need strong data skills.



3 SECTOR-WIDE COMPETITIVENESS & INNOVATION

- Industry 4.0 depends on harnessing, cleaning, and interpreting high-velocity data.
- Profitable personalisation, resilient supply chains, predictive maintenance, and real-time decision-making.

MARKET GROWTH:
\$199B in 2024
→ \$510B by 2032



4 BIG DATA IN RETAIL AND HEALTHCARE

RETAIL: PERSONAL OFFERS

- Smart recommendations
- Personalised promotions
- Omnichannel experiences
- Higher conversion
- Rising revenue



HEALTHCARE: PATIENT-CENTRIC

- Unified patient passports
- Personalised treatment plans
- Better outcomes
- Lower costs
- Higher satisfaction



✓ Built on trust, governance, ethics, and security.

5 VET TRAINEES: EMPLOYABILITY & LEARNING PATHWAYS

- Data literacy supports advanced manufacturing, digital marketing, and smart healthcare support.
- Personalised dashboards improve skill mastery.
- AI tutors simulate work tasks.
- Big-data fluency future-proofs employability.



6 VET TRAINERS: PEDAGOGICAL TRANSFORMATION

- Trainers become learning engineers.
- Adaptive assessment for every learner.
- Data warehousing, visual analytics, ethical AI.
- Low confidence with analytics tools is a barrier.
- Continuous upskilling is essential.



7 HANDS-ON ANALYSIS & CROSS-INDUSTRY WORKSHOPS



- Mass-customisation
- Scheduling
- Throughput optimisation

- Conversion optimisation
- Customer segmentation

- RECOMMENDATION PROTOTYPE
- Build models
- Test & iterate
- Measure impact

8 MEDIA & WEB ANALYTICS

- Collaborative filtering
- Embeddings
- A/B testing
- Bias audits

Dynamic content and pricing can improve conversions by up to **85%**.



9 RESOURCES FOR LEARNING

- edX Big Data Fundamentals
- Coursera Big Data Specialization
- Google Cloud Skills Boost: Vertex AI recommendations
- AWS Data Analytics Fundamentals
- O'Reilly Big Data in Practice
- Acropolis blog use cases



10 FAQ

- Q** What counts as big data?
- A** High volume, velocity, variety & veracity.
- Q** Why does personalisation rely on it?
- A** It uncovers patterns to deliver the right experience at the right time.
- Q** Which skills should trainees prioritise?
- A** Data literacy, SQL, Python, analytics, ML basics, ethics.
- Q** How can trainers start without a dedicated lab?
- A** Use cloud tools, open datasets, and guided projects.



11 TIPS & ANALOGIES

- TIPS**
- Start small, scale fast.
- Visualise early, decide better.
- Document assumptions.

ANALOGIES



Data Lake = Pantry
Store diverse ingredients.
Cook valuable insights.

Recommendation Engine = Personal Shopper
Understands you.
Finds what you need before you ask.

12 CONCLUSION + CALL TO ACTION

Big data innovation is transforming how we customise products, services, and learning experiences. By mastering analytical, technical, and ethical skills, VET learners and trainers can shape smarter industries and future-proof their careers.

ENROL IN A MOOC • BUILD A SANDBOX • START A MICRO-PROJECT



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Big Data Roadmaps Enhance Career Growth

Future-ready strategies for VET trainees and trainers

• Data literacy • lifelong learning • resilience • employability

1 LEARNING OBJECTIVES OF BIG DATA ROADMAPS



Understand how to construct and apply big data roadmaps for educational strategy enhancement in VET environments.



Identify critical data literacy skills that increase resilience and adaptability in a future-focused workforce.



Develop tailored roadmaps for lifelong learning and for bridging skill gaps in digital and analytical roles.



Use data-informed strategies to anticipate labour-market trends and improve curriculum design to boost employability.

2 NEED ANALYSIS: THE ROLE OF BIG DATA ROADMAPS

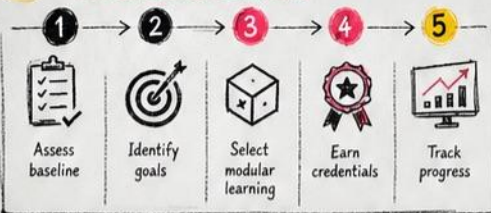
- Big data roadmaps strengthen educational foresight in VET.
- Strong data infrastructures support employability and smoother lifelong-learning pathways.
- Weak systems widen skill gaps, especially in digital fields.
- AI and big data are rising as key competencies, alongside analytical thinking and flexibility.



ETF, 2024

WEF, 2025

3 DEVELOPING INDIVIDUAL ROADMAPS FOR LIFELONG LEARNING



MOOCs and online courses



Micro-internships



Peer-learning circles



Learner passports



Recognised credentials that open doors

4 ADAPTABILITY & RESILIENCE WORKSHOPS



Simulated data crises



Scenario analysis



Communicating under pressure



Cross-functional coordination



Hands-on data labs help transform uncertainty into actionable insight.

Sources: Gartner 2024; BMW Group 2019

5 BIG DATA ROADMAPS ALIGNED WITH FUTURE SKILL NEEDS



Embedding roadmaps in VET helps institutions stay ahead of industry trends.

6 RESOURCES FOR LEARNING IN BIG DATA



Coursera: Big Data Specialization (UC San Diego)



FutureLearn: Data Literacy for All



Google Cloud Skills Boost



IBM SkillsBuild



Kaggle Learn



Bernard Marr: Big Data in Practice

7 FAQ ABOUT BIG DATA ROADMAPS



Q1: What counts as big data in VET?

A: Data whose volume, velocity, or variety exceeds normal spreadsheets, such as LMS records or sensor logs.



Q2: Do learners need coding?

A: Basic Python or R helps, but dashboard tools like Power BI or Tableau are good starting points.



Q3: How can small centres afford infrastructure?

A: Use cloud pay-as-you-go services and open-source tools like Apache Spark.



Q4: What about privacy?

A: Follow GDPR principles, anonymise learner data, and gain informed consent.

8 TIPS FOR IMMEDIATE ACTION



Start small with one week of attendance data.



Visualise early with simple charts.



Explore open-data portals such as data.europa.eu.



Build privacy and ethics into every project.

9 ANALOGIES FOR UNDERSTANDING BIG DATA

WEATHER SYSTEM



Many signals are combined to forecast future patterns.

OIL REFINERY



Raw data gains value after cleaning, analysis, and dashboarding.

10



Big data literacy is essential for a future-proof VET ecosystem. Build skills through MOOCs, labs, and practical projects to strengthen career growth, curriculum innovation, and sector resilience.

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Data-Driven Decisions Transform VET

Future-ready strategies for evidence-based vocational education

analytics • retention • forecasting • compliance • trainer capacity



1 LEARNING OBJECTIVES

- Analyse data for better decisions
- Employ analytic competencies in VET
- Translate complex datasets into actionable insights.



2 NEED ANALYSIS

- VET needs a data-driven strategy.
- Predictive analytics anticipates risk and unlocks opportunity.
- Skill development goes beyond mere access to data.



3 DECISIONS TURBO-CHARGED BY DATA

PURDUE
EARLY-WARNING SYSTEM



Detected at-risk students early and reduced withdrawals by up to **21%**.

UPS ORION
ROUTE OPTIMISATION



Smarter routes, less distance, saving millions in fuel and cost.

NETFLIX
A/B TESTING



Continuous testing improves content engagement and retention.

4 INTERPRET & APPLY ANALYTICS

- Frame the right questions.
- Filter noise, focus on signal.
- Interpret dashboards clearly.
- Tell stories with data.
- Enable citizen analysts across teams.



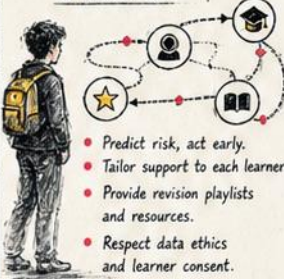
5 REGULATORY COMPLIANCE & QUALITY ASSURANCE



- Protect data, build trust.
- Meet accreditation standards.
- Maintain evidence-based records.
- Ethical stewardship, always.



6 PERSONALISED PATHWAYS & RETENTION



- Predict risk, act early.
- Tailor support to each learner.
- Provide revision playlists and resources.
- Respect data ethics and learner consent.

7 LABOUR-MARKET ALIGNMENT & FORECASTING

SKILLS IN DEMAND (2024-2030)



- Forecast skills shortages.
- Update certificates & curricula.
- Keep learners employable and CVs relevant.

8 CAPACITY BUILDING FOR VET TRAINERS



- Use dashboards to guide teaching.
- Regular CPD in analytics.
- Earn micro-credentials.
- Tell stories that inspire action.
- Practice responsible AI ethics.

9 RESOURCES FOR LEARNING



- Coursera Big Data Specialization
- edX Big Data Fundamentals
- Google Cloud Big Data & ML Fundamentals
- Data Literacy Specialization
- Bernard Marr Big Data in Practice

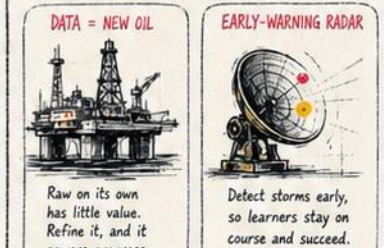
10 FAQ

- Q:** What counts as big data in VET?
A: Any data that is large, fast, varied, or complex.
- Q:** Do we need a data lake to start?
A: No. Start small with what you already have.
- Q:** How can small colleges afford analytics talent?
A: Upskill staff, use cloud tools, and partner smartly.
- Q:** Will analytics replace teacher judgment?
A: No. It augments human judgment, not replaces it.

11 TIPS FOR IMMEDIATE ACTION

- ⚡ START SMALL, ITERATE FAST**
 Pick one use case, launch a pilot, learn and improve.
- ❓ FOCUS ON QUESTIONS, NOT TOOLS**
 Great questions drive great decisions.
- 🛡️ EMBED ETHICS EARLY**
 Privacy, fairness, and transparency from day one.

12 ANALOGIES



Data-driven decisions improve educational outcomes, use resources wisely, and align VET with industry needs. Enroll your staff in free courses, create a data-ethics task force, and pilot an early-warning dashboard.

Start a pilot dashboard • Build data fluency • Subscribe for updates



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Data Utilisation Workshop: Unlock Efficiency Gains

From data to decisions. From insights to impact.

Your data. Your decisions.

- ✓ Better decisions
- ✓ Lower costs
- ✓ Stronger learners
- ✓ Future-ready workforce

A. WHY THIS WORKSHOP MATTERS

- Bridges the gap between theory and practice.
- Builds analytics, governance, and relevance in VET.
- Value for everyone:
 - Trainees – job-ready skills
 - Trainers – confident teaching
 - Industry – real efficiency gains



B. LEARNING OBJECTIVES

- Communicate insights with clear dashboards.
- Use modern tools: SQL, Hadoop, Power BI.
- Understand the 5 Vs of big data.
- Recognise data silos and ethics responsibilities.

C. KEY BIG DATA CONCEPTS

VOLUME	VELOCITY	VARIETY	VERACITY	VALUE
Massive amounts of data.	Generated and moving fast.	Many formats and sources.	Trustworthy, accurate, reliable.	Insight drives impact.

D. WHERE EFFICIENCY GAINS HAPPEN

MANUFACTURING Predict quality, prevent downtime, and optimise production.	LOGISTICS Optimise routes, reduce delays, lower costs.	HEALTHCARE Right stock, right time, better care, lower waste.	BIOPHARMA Forecast demand, save energy, ensure compliance.
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E. WORKSHOP ROADMAP



F. REAL-WORLD CASE SNAPSHOTS

NEXTEER PREDICTIVE QUALITY Sensor data + ML detects defects early, cuts scrap & rework.	GSK ENERGY FORECASTING Forecasts energy use to reduce cost and carbon footprint.	HOSPITAL INVENTORY AI ML forecasts demand, reduces stockouts and overstock.	LABOUR-MARKET DASHBOARDS Real-time skills data informs training & career pathways.
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G. TOOLS & SKILLS FOR EMPLOYABILITY

- SQL
- Power BI
- Dashboards & storytelling
- ETL & data thinking
- Ethics & data governance
- Communication & influence
- Problem-solving mindset

H. TRAINERS & CURRICULUM RENEWAL

- Build analytics confidence through CPD.
- Use adaptive, active teaching methods.
- Integrate industry datasets & tools.
- Align learning with future jobs & skills.

I. RESOURCES

- UNESCO-UNEVOC Big Data in TVET briefs & toolkits
- OECD Working Paper 311 Data and skills for productivity
- TUV Akademie Data Analytics & AI training
- edX AdelaideX Big Data Fundamentals
- AnyLogic Case Study Library Simulation & analytics cases

J. QUICK FAQ

- Q: What is big data in VET?
A: Using large, varied data to improve training & outcomes.
- Q: Do I need advanced maths?
A: No. Basic maths helps. Tools do the heavy lifting.
- Q: What's the difference vs MIS?
A: MIS reports history. Big data predicts & prescribes.
- Q: How do we handle privacy & ethics?
A: Anonymise, get consent, be transparent & secure.
- Q: Will AI replace jobs?
A: No. It augments people. Skills & judgement matter.

K. TAKE THE NEXT STEP



L. ANALOGIES THAT STICK

DATA = CRUDE OIL TO REFINED FUEL Raw data is potential. Refine it to create value.	DASHBOARD = AIRCRAFT COCKPIT All key information. At a glance. For safe decisions.
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Collect one dataset • Ask one key question • Share one insight • Your insight can change tomorrow. ★



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RISK ANALYSIS DATA: UNLOCK FUTURE-PROOF STRATEGIES

Build **risk literacy**, resilience,
and future-ready **VET skills**



A. WHY IT MATTERS

- Fast-changing threats in Industry 4.0 and AI
- Real-time analytics improve governance and disaster response
- VET learners need data-centric skills
- Compliance builds trust

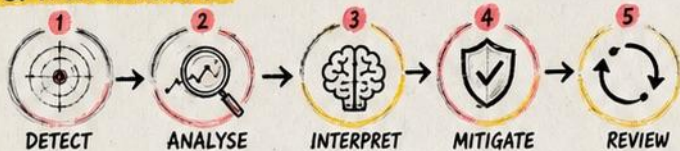


B. LEARNING OBJECTIVES

- Identify and monitor emerging risks using data.
- Analyse patterns and assess impact.
- Design and recommend mitigation strategies.
- Communicate insights for better decisions.



C. RISK ROADMAP



D. KEY SKILLS FOR THE FUTURE



E. REAL-WORLD SCENARIOS



F. LEARNING RESOURCES



G. QUICK FAQ

- How can big-data risk management help my organisation?
- What's the difference between traditional and real-time models?
- What baseline skills do I need to get started?

H. TAKE THE NEXT STEP



DATA-LITERATE VET LEARNERS AND TRAINERS STRENGTHEN **RESILIENT INDUSTRIES AND COMMUNITIES.**



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Big Data Innovation for Personalisation Success

Build data literacy, ethics, and personalisation skills for the future

> ANALOGIES THAT STICK <

Data Lake = Pantry

Store everything safely. Organise so it's easy to find later.



Recommendation Engine = Personal Shopper

Learns your tastes, checks options, and suggests what you'll love.



A. WHY IT MATTERS

- Personalisation is a competitive advantage.
- Big data helps organisations respond to consumer needs.
- VET must prepare learners for data-informed workplaces.
- Trainers need robust analytics skills.

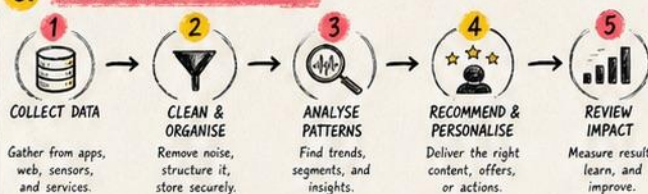


B. LEARNING OBJECTIVES

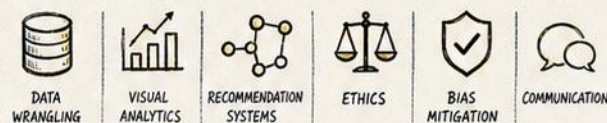
- Analyse the impact of big data on personalisation.
- Use data wrangling and visual analytics.
- Build recommendation-engine prototypes.
- Evaluate privacy, bias, and consent.



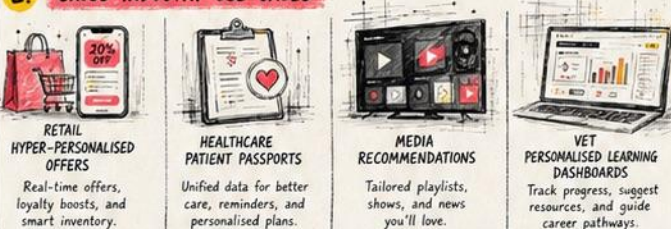
C. PERSONALISATION ROADMAP



D. KEY SKILLS FOR THE FUTURE



E. CROSS-INDUSTRY USE CASES



F. LEARNING RESOURCES

- edX Big Data Fundamentals
- Coursera Big Data Specialization
- Google Cloud Skills Boost
- AWS Data Analytics Fundamentals
- O'Reilly Big Data in Practice
- Acropolium use-case article



G. QUICK FAQ

- 1. What is big data?**
Large, varied, fast-moving data that requires new tools and thinking to unlock value.
- 2. Why does personalisation rely on it?**
It reveals patterns about people and context so we can deliver the right experience at the right time.
- 3. Which core skills matter most?**
Data wrangling, visual analytics, recommendation systems, ethics, and communication.
- 4. What if a school has no dedicated data lab?**
Use cloud tools, open datasets, and simple projects. Start small, iterate, and collaborate!



H. TAKE THE NEXT STEP



Big data fluency helps VET learners and trainers thrive in AI-powered workplaces.



LEARN. APPLY. PERSONALISE.
POWER THE FUTURE.

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Big Data Roadmaps Enhance Career Growth

Future-ready strategies for VET trainees and trainers

- Build data literacy, resilience, and employability

A Why It Matters



Strengthens educational foresight in VET



Supports lifelong learning and employability



Helps close digital and skill gaps



Aligns curricula with future labour-market needs

ETF 2024 • WEF 2025

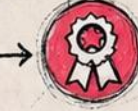
C Roadmap for Growth



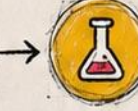
1 ASSESS
baseline data



2 PLAN
modular learning



3 LEARN
credentials



4 APPLY
data labs



5 PROGRESS
career growth

E Learning Resources



Coursera
Big Data
Specialization



FutureLearn
Data Literacy
for All



Google Cloud
Skills Boost



IBM
SkillsBuild



Kaggle
Learn



Big Data
in Practice

F Immediate Action



Start small with classroom
or attendance data



Visualise early
with simple charts



Explore open-data portals
and cloud tools

B Learning Objectives

1

Build and apply
big data roadmaps
in VET.

2

Strengthen data
literacy, resilience,
and adaptability.

3

Design personalised
lifelong-learning
pathways.

4

Use data to anticipate
trends and improve
curriculum design.

D Key Skills for the Future



Analytical
thinking



Big data
literacy



Adaptability



Resilience



Data
ethics



Communication

G Quick FAQ



Do I need coding?
Helpful, but dashboards
are a great start.



Can small centres afford it?
Cloud and open-source
tools reduce costs.



What about privacy?
Follow GDPR, anonymise
data, and obtain consent.

H Take the Next Step



Enrol in a course



Try a data project



Join a data clinic

Big data literacy helps VET learners and trainers stay competitive in an evolving job market.

