Engaging with Emerging Industries
Changed Horizons, New Opportunities

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THOUGHT BUBBLE

There exists a misalignment between how skills and knowledge are packaged in the national VET system and how they are consumed by businesses and workers.
Learner-centric evolution
Critical perspectives on change and the impact on emerging industries and the future workforce

Agenda for discussion

- Nature of change ........and how this impacts us
- Nature of emerging industries
- Nature of ‘work’
- Nature of knowledge
- How VET engages with emerging industries and the future workplace
The Nature of change

Episodic

Continuous

Disruptive
Episodic

Changes occur occasionally and affect work routines, practices and task performance
Continuous

Change occurs on an ongoing basis and impacts how we do business (people and processes)

Sourced from: http://www.thatericalper.com/wp-content/uploads/2013/06/6a00d83451b36c69e20192aad805a870d-800wi.jpg
Disruptive

Changes affect markets, society, behaviours and core organisational purpose and principles (vision and values). It can create new markets and value networks and displace older technology, and the ongoing success of businesses that sold products or services into that market.
Continuous disruptive innovation

The Digital Economy

We are in an age where disruptive innovation drives markets

Digital Metrics:
- # Internet subscriptions (global)
- # Broadband connections
- # Mobile internet subscribers
- # Households connected
- # Transactions online
- # Social media users
A connected society 1914
A connected society 2014
NOTE 1
THE SECOND INDUSTRIAL REVOLUTION IS ALTERING BUSINESS PARADIGMS

Engagement = Improve relevance to emerging models for business and work, not past paradigms
System 1
Fast thinking, rapid to respond and change:
• Future oriented
• Embraces innovation
• Agile
• Continuous innovation (systems focus)
• Short product and service lifecycles
• Responsive and resilient
• Competitive advantage lies in relationship with customer/market
Industry Characteristics
• Stage of Industry Development: YOUNG Emerging or Developing
• Strategy relies on harnessing environmental turbulence to transform business and seize opportunities
• Value lies in securing customers and improving the customer experience
• Growth driven by new business models and new strategies
• High differentiation, hard to replicate
• High multipliers (e.g. jobs growth and global competitiveness or other sectors)
• Employability emphasises professional knowledge and skills associated with complex roles
Bureaucracy
Slow to change

System 2
Slow thinking, slow to change:
- Embrace stability and standardisation
- Long term lifecycles for products and services
- Standardised and predictable systems
- Continuous improvement (focus on process efficiency and profitability)
- Competitive advantage lies in market share
System 2 Industries

• Stage of Industry Development: Mature
• Strategy relies on eliminating/ buffering environmental turbulence and protecting market share
• Value lies in profit growth through process improvement and product specialisation
• Low differentiation
• Low multipliers (e.g. jobs growth and global competitiveness or other sectors)
• Low salary to competency ratio
• Employability emphasises trades and technical skills for largely routine jobs
NOTE 2

‘Vocational outcomes’ needs to be reconsidered and escape the construct of a job = an occupation

Engagement = Relevance to real jobs and employment (not old, ABS classified occupations)
VET for System 2:
Traditional Paradigm: Occupations and Qualifications
VET for System 1
New Paradigm: Job Roles and Skills

Skills & Knowledge from…..

...Many Training Packages

Industry Skills Councils

Multi-disciplinary

80% learning occurs on the job

Multi-level

.....Many AQF levels

One Job Profile
Jobs do not always = ANZCO Occupations

- Enterprise Architect
  - 135111 Chief Information Officer
  - 135112 ICT Project Manager
  - 262112 ICT Security Specialist

- Team Leader
  - Call Centre
  - 149211 Call or Contact Centre Manager
  - 225211 ICT Account Manager
  - 139914 Quality Assurance Manager

- Marketing Analyst
  - Brand
  - 225111 Advertising Specialist
  - 225112 Market Research Analyst

- Leading Hand
  - Turbine Fabrication
  - 119311 Manufacturer
  - 712311 Engineering Production Worker

- Project Manager
  - Pipeline
  - 133111 Construction Project Manager
  - 133211 Engineering Manager
  - 139914 Quality Assurance Manager
NOTE 3
Job profiles reconfirm demand for applied, contextual skills and knowledge

Engagement = More focus on me and my personal skills and knowledge
Knowledge value and future work

Declarative

The knowledge of people, processes and objects and the ability to actively deploy that intelligence in everyday life or work.... UNDERPINNING KNOWLEDGE AND COGNITION

Procedural

The knowledge of how to do things, such as skills or competencies.... TECHNICAL SKILLS

Conditional

The knowledge that shapes perceptions and personal responses to people and things... HOW YOU THINK AND WHY YOU DO THINGS

Situational

The knowledge acquired to acquit everyday activities in a physical space...... EXPERIENCE
Value drivers lie beyond just occupational competency

- 'What I Can Do': My job or occupational performance
- 'Where I Have Been': My experiences
- 'Generic Skills': My life and work skills
- 'Who I am': How I think and act

Critical in a Dynamic Environment

Technical/Functional Competency
Experiences
Personal skills or behaviours
Personal Attributes
NOTE 4

Recognition will evolve beyond qualifications to micro-credentials

Engagement = New learning packages and credentials
Australia education market, 2013

Source: IBISWorld Industry Reports and ABS data sets September 2013
From mass supply to customised demand

The principles of new industries apply to VET. We need to escape

- The mass supply paradigm
- Supply brings demand
- Cost reduction over customer experience
- Market share over sustainability

We need to embrace mass customisation.

Let’s discuss micro-credentials
EG 1: Micro-credential readiness for work at a level of development or career pipeline

Level of progress

Entry

Individual operative, competent professional, emerging leader

Team leader, sn professional, technical expert

Sn Manager, advanced professional, technical specialist

Sn Executive, Expert Professional

CEO

Lead expert

Identified role by business terminology

Entry

Operative

Team leader, sn professional, technical expert

Supervisor

Operations Manager

Dep. Director or Business Owner

Executive Director

Transition ++

Transition

Transition

Transition
EG2: Micro-credential your transition from old to new job skills
EG 3: Micro-credential your focus and values
NOTE 5

VET has a critical role in System 1, Fast Pace new Industries

Engagement = Fast paced, globally competitive and sustained industries rely on highly skilled workers
Growth & Opportunity

Looking ahead

My hit list for System 1 learning adding value to new business and future jobs growth in Tasmania

<table>
<thead>
<tr>
<th>SYSTEM 2: ‘Graft’ system 1 onto existing industry/business</th>
<th>SYSTEM 1: Niche, high value, high knowledge, technology enabled businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Agri-business</td>
<td>• Start-ups</td>
</tr>
<tr>
<td>• Tourism</td>
<td>• New Manufacturing</td>
</tr>
<tr>
<td>• Home and aged care</td>
<td>• Education: in particular international and recognition services</td>
</tr>
<tr>
<td>• Mining and gas</td>
<td>• ICT: digital call centres, creative and digital media, data analytics, mobile telecoms, engineering, applications and software development, and micro-technologies (e.g. sensors, nanotechnology)</td>
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<tr>
<td></td>
<td>• Transport: safety, security, freight management and logistics systems</td>
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<tr>
<td></td>
<td>• Retail: Online service support and products (e.g. online/telepresence service centres)</td>
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</table>
The ‘enforced’, regulated model for VET continues to be embedded

It rewards a focus on occupations and qualifications.

Paradigms are old, low competitiveness and not contributing sufficiently to building emerging industries and workforce

Not a problem in itself but...
System 1 learning is largely incompatible with System 2 thinking and approach.

...learning has to be customised, supported and delivered to high value, high multiplier job roles required by businesses seeking to be globally competitive in new or emerging markets.

It is about meeting demand...

Skills demand, even for the same person or job, will evolve rapidly ...

VET provision has to be geared to customised, small scale customer-driven services and products.
If the VET System is a hammer...

Then the message is
Don’t look for a nail gun…….This is not episodic change.

The second industrial revolution is disruptive continuous change.
You cannot engage with emerging industries and the future workforce just using the same learning and technology paradigms that guide VET today.
THANK YOU!

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