



Australian Government

ICTSUS812 Lead applied research in ICT sustainability

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to plan, conduct and report on applied research to influence strategic practices on information and communications technology (ICT) sustainability and outcomes within an organisation. The unit also covers constructing an applied research strategy, using a range of applied research techniques, and analysing and presenting findings.

It applies to individuals who are in a leadership capacity and are competent innovators and communicators, with a very high level of technical management skills and knowledge of ICT networks and systems. In this role, individuals must be able to undertake detailed research, analysis and evaluation. Outcomes and solutions must be presented with clarity.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications – sustainability

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish direction for applied research in ICT sustainability	1.1 Establish and discuss goals of applied research in ICT sustainability with required personnel and stakeholders, according to organisational procedures and requirements 1.2 Confirm applied research purpose and recognised industry research methods to be used 1.3 Facilitate development of policies and procedures to conduct applied research 1.4 Guide development of mechanisms to systematically collect and

ELEMENT	PERFORMANCE CRITERIA
	maintain data 1.5 Review policies and procedures affecting reliability, validity and privacy of data 1.6 Review required research ethics and codes of conduct
2. Monitor applied research techniques and resources	2.1 Review and evaluate applied research methods and theories, and data collection techniques 2.2 Guide selection of required methods to gather and analyse data on sustainability 2.3 Authorise access to required sources of information 2.4 Select sustainable management principles that will impact on project 2.5 Ensure relevance of research and integrity of collected data and used analysis tools
3. Communicate research findings	3.1 Ensure accuracy research data according to legal and organisational requirements and procedures 3.2 Evaluate relevance of collated and analysed data against original applied research strategy 3.3 Evaluate impact of research findings 3.4 Recommend ICT sustainability implementation strategies 3.5 Ensure documentation and presentation of findings is consistent with needs of research users 3.6 Assess need for further research 3.7 Document research findings and approach to further research

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	• Uses mathematical formulae to determine CO₂ emissions and carbon footprint • Performs complex statistical analysis
Oral communication	• Articulates using specific language suitable for clients and stakeholder audiences • Uses listening and questioning techniques to confirm knowledge
Reading	• Identifies, analyses and evaluates complex information and formal documentation, including legislative frameworks and technical solutions

SKILL	DESCRIPTION
Writing	• Produces complex, detailed and well-structured reports, procedures and related technical documentation using specific language and specialised terminology to convey knowledge of outcomes
Teamwork	• Takes responsibility for defining key aspects of own workload, balancing own needs and priorities with those of the work group
Planning and organising	• Systematically gathers and analyses all required information and evaluates options to make high-impact and informed decisions
Problem solving	• Develops flexible plans for complex, high impact activities with strategic implications that involve a diverse range of stakeholders with potentially competing demands • Recognises the strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and reduce risks
Self-management	• Recognises and responds to both explicit and implicit organisational procedures and protocols • Monitors adherence to legal and regulatory rights and responsibilities for self and possibly for others
Technology	• Uses a broad range of strategies to store, access and organise virtual information, recognising that design choices will influence what information is retrieved and how it may be interpreted and used

Unit Mapping Information

Supersedes and is equivalent to ICTSUS806 Lead applied research in ICT sustainability.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTSUS812 Lead applied research in ICT sustainability

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- lead applied research in information and communications technology (ICT) sustainability for at least two projects.

In the course of the above, the candidate must:

- direct the formulation of a research proposal and plan that includes:
 - specific research questions on sustainability
 - valid population and sample size
 - description of the geographical, cultural, social and institutional context within which the research will be carried out
 - descriptions of data collection methods
 - analysis of research design limitations
- manage the design of applied research projects
- design research reports with analysis of data, and valid and reliable findings
- evaluate relevance of the research results
- conduct research using recognised research techniques.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- required legislation, codes, company work practices, regulations and standards, work health and safety (WHS) requirements for scoped work
- environmental and sustainability legislation, regulations and codes of practice in the ICT industry
- audit methodology on ICT energy, waste, product life cycles and CO₂ emissions

- principles, practices and available tools and techniques of sustainability management required to the ICT networking industry
- communication processes and methods
- industry-accepted data collection methods
- requirements of research documentation and reports, according to organisational policy
- required legislation, codes, company work practices, regulations and standards, WHS requirements for scoped work
- leadership strategies required in a research environment.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- a research activity that relates to an actual workplace or simulated context and topic
- a range of tools and techniques required for the given situations and research topic.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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