



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICASUS703A Research strategies using SAP solutions for sustainable economic and environmental outcomes**

Release: 1

## ICASUS703A Research strategies using SAP solutions for sustainable economic and environmental outcomes

### Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAI1 Information and Communications Technology Training Package version 1.0</i>

### Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to establish a business case to justify the implementation of systems, applications and products (SAP) in operational strategies to achieve more sustainable business operations and environmental sustainability. It involves accessing industry information and applying legislative guidelines.

SAP is also referred to as systems applications and products.

### Application of the Unit

Business analysts, project managers, consultants, planners and designers who have responsibility for conducting or managing business operations apply the skills and knowledge in this unit.

This unit will prepare the participant to plan and conduct cost-benefit analysis and return on investment for the implementation of sustainable schemes at an enterprise level.

### Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

<b>Element</b>	<b>Performance Criteria</b>
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

## Elements and Performance Criteria

<p>1. Scope the enterprise for establishing a business case for integrating SAP into business operations</p>	<p>1.1 Analyse current <i>enterprise operations</i> to determine what processes or practices can be realised using SAP to ensure long-term sustainability within <i>organisational guidelines</i></p> <p>1.2 Research and analyse a range of alternative <i>SAP product and services solutions</i>, including a risk analysis and relative comparisons to prepare a business case for validation with <i>stakeholders</i></p> <p>1.3 Produce preliminary results of the scoping analysis with recommended priority of SAP solutions that would optimise <i>business sustainability</i> and deliver competitive advantage</p>
<p>2. Plan and conduct the business case for using SAP solutions</p>	<p>2.1 Evaluate scoping analysis report to produce an <i>operating costs estimate</i> projected over appropriate time period for a proposed plan, based on <i>SAP solution</i> for business critical operation</p> <p>2.2 Conduct cost-benefit analysis to predict the potential <i>return on investment (RoI)</i> on economic and environmental sustainability and <i>business benefits</i> derived by proposed SAP solution</p> <p>2.3 Produce <i>executive summary</i> of the proposal for validation with stakeholders, including risk analysis if the SAP solution activity is not implemented</p>
<p>3. Devise management strategies for implementing SAP sustainability solution in the business operations</p>	<p>3.1 Produce management plan to implement <i>sustainability strategies</i> using <i>SAP software solution tools</i> to improve profitability and reduce environmental impacts</p> <p>3.2 Establish regular reviews using SAP reports to improve <i>key performance indicators (KPIs)</i> on sustainability performance</p> <p>3.3 Produce energy usage analysis for proposed SAP solution using projected carbon dioxide (CO<sub>2</sub>) emissions with comparable <i>benchmarks</i></p> <p>3.4 Provide detailed <i>feasibility report</i> to support long-term economic and environmental benefits</p>

## Required Skills and Knowledge

*This section describes the skills and knowledge required for this unit.*

### Required skills

- analytical skills to compare and evaluate effective SAP solutions involving introduction or improvement of sustainability
- communication skills to:
  - adjust communication to suit different audiences
  - consult on and validate policy
  - liaise with stakeholders to outline resulting sustainability benefits
  - respond effectively to diversity
  - work as a member of a team
- literacy skills to:
  - prepare reports and executive summary regarding level of achievement of sustainability benchmarks, environmental targets and performance highlights
  - document SAP requirements and procedures
  - evaluate complex and formal documents, such as government policy and legislation
  - interpret operational specifications and related sustainability documentation
  - prepare a business case
- numeracy skills to:
  - analyse and confirm target predictions
  - calculate budget requirements and limitations
  - determine workforce requirements
  - perform calculations related to life cycle assessment (LCA)
- organisational skills to arrange relevant documentation for analysis
- planning skills to set out priorities for evaluation and analysis
- problem-solving skills to:
  - account for unexpected variations to requirements
  - manage different points of view and dissenting stakeholders
- project-management skills to undertake or manage a complex project
- research and writing skills to:
  - prepare written business cases requiring precise expression, language and structures suited to the intended audience
  - research and present information
- research skills to gain and maintain relevant strategies to implement SAP solutions
- technical skills to use SAP software tools.

### Required knowledge

- best practice approaches relevant to SAP sustainability
- extensive range of SAP software solutions and tools
- energy consumption and energy audit methodology
- waste and recycling policies and management

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- procurement and supply chain management
  - business operation and procedures
  - environmental and sustainability legislation, regulations and codes of practice applicable to industry and organisation
  - carbon emission global and national legislation and targets
  - environmental impacts of products, processes, systems and services
  - equal employment opportunity, equity and diversity principles and OHS implications of policy being developed
  - principles, practices and available tools and techniques of economic and environmental sustainability management
  - quality assurance systems relevant to own organisation
  - relevant industry competency
  - relevant organisational policies, procedures and protocols
  - relevant systems and procedures to aid in the achievement of workplace sustainability.

## Evidence Guide

*The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.*

<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• conduct a scoping exercise and produce analytical report</li> <li>• conduct cost-benefit analysis using SAP solutions to justify RoI on economic and environmental sustainability</li> <li>• produce executive summary for stakeholder validation</li> <li>• produce management plan to implement strategies using SAP software solutions</li> <li>• produce energy usage analysis and feasibility report for long-term sustainability.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> <li>• appropriate learning and assessment support when required</li> <li>• modified equipment for people with special needs</li> <li>• sites on which preparation of a business case for introducing or improving sustainability in an enterprise may be carried out</li> <li>• relevant legislation, standards, guidelines, reports and equipment specifications and drawings</li> <li>• range of workplace documentation and personnel, information and resources, such as compliance obligations, organisational plans, work responsibilities.</li> </ul>
<b>Method of assessment</b>	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> <li>• review of research and analysis conducted by candidate</li> <li>• review of implementation strategy, management plans prepared by candidate</li> <li>• analysis of methods used to involve stakeholders in validation, implementation and review</li> <li>• review of methodologies and procedures used by candidate to evaluate SAP solutions and recommendations made for long-term sustainability</li> <li>• review of work area relating to policy and procedures being developed to assess measurement of resources used, hazards and compliance.</li> </ul>
<b>Guidance information for assessment</b>	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p>

	<p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>
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## Range Statement

*The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.*

<p><b><i>Enterprise operations</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• building management</li> <li>• energy usage and utilities</li> <li>• finance and accounting</li> <li>• human resources</li> <li>• information technology (IT) services and support</li> <li>• manufacturing and production</li> <li>• procurement and logistics</li> <li>• recycle and waste management</li> <li>• research and development</li> <li>• sales and marketing</li> <li>• warehousing.</li> </ul>
<p><b><i>Organisational guidelines</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• automation of processes</li> <li>• budget allocations</li> <li>• capital expenditure (capex)</li> <li>• improved cash flow</li> <li>• inefficiencies</li> <li>• integrity</li> <li>• operational expenditure (opex)</li> <li>• projected growth</li> <li>• reliability</li> <li>• reporting activities</li> <li>• risk management</li> <li>• security.</li> </ul>
<p><b><i>SAP product and services solutions</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• business intelligence (BI) solutions:                         <ul style="list-style-type: none"> <li>• administration</li> <li>• business reports</li> <li>• desktop intelligence</li> <li>• web intelligence</li> </ul> </li> <li>• customer relationship management (CRM):                         <ul style="list-style-type: none"> <li>• customisation</li> <li>• sales</li> </ul> </li> <li>• enterprise resource planning (ERP):                         <ul style="list-style-type: none"> <li>• financial:</li> </ul> </li> </ul>

	<ul style="list-style-type: none"><li>• asset accounting</li><li>• financial accounting</li><li>• management accounting</li><li>• product costs planning</li><li>• profitability analysis</li><li>• travel accounting</li><li>• human capital management (HCM):<ul style="list-style-type: none"><li>• organisational management</li><li>• payroll configurations</li><li>• talent management</li><li>• time recording</li></ul></li><li>• procurement and logistics:<ul style="list-style-type: none"><li>• inventory management</li><li>• materials management</li><li>• physical inventory</li><li>• transportation</li><li>• warehouse management</li></ul></li><li>• product development and manufacturing:<ul style="list-style-type: none"><li>• manufacturing integration and intelligence</li><li>• production planning and scheduling</li><li>• supply network planning</li></ul></li><li>• sales and service:<ul style="list-style-type: none"><li>• billing</li><li>• delivery processes</li><li>• pricing</li><li>• sales order management</li></ul></li><li>• governance, risk and compliance (GRC) access control solutions:<ul style="list-style-type: none"><li>• compliant user provisioning and enterprise role access control management</li><li>• implementation and configuration</li></ul></li><li>• information management (IM) solutions:<ul style="list-style-type: none"><li>• data integrator</li></ul></li><li>• enterprise performance management (EPM) solutions:<ul style="list-style-type: none"><li>• planning and consolidation</li><li>• profitability and cost management</li><li>• strategy management</li></ul></li><li>• platforms:<ul style="list-style-type: none"><li>• BI</li><li>• change request management</li></ul></li></ul>
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	<ul style="list-style-type: none"> <li>• data acquisition</li> <li>• data warehousing</li> <li>• database administration</li> <li>• modelling and implementation</li> <li>• system administration</li> <li>• user management and authorisation</li> <li>• product life cycle management (PLM):                         <ul style="list-style-type: none"> <li>• asset management</li> <li>• life cycle data management</li> <li>• project portfolio management</li> <li>• quality management</li> <li>• supply chain management</li> </ul> </li> <li>• service-oriented architecture (SOA)</li> <li>• supplier relationship management (SRM):                         <ul style="list-style-type: none"> <li>• invoice and payment management</li> <li>• product and services selection</li> <li>• purchase order (PO) management.</li> </ul> </li> </ul>
<p><b>Stakeholders</b> may include:</p>	<ul style="list-style-type: none"> <li>• business partners</li> <li>• community</li> <li>• customers</li> <li>• government organisations</li> <li>• industry associations</li> <li>• investors</li> <li>• shareholders</li> <li>• staff</li> <li>• technical experts.</li> </ul>
<p><b>Business sustainability</b> may include:</p>	<ul style="list-style-type: none"> <li>• better customer satisfaction</li> <li>• better survivability in hard economic times</li> <li>• competitive advantage</li> <li>• improved positive cash flow</li> <li>• improved quality of products and services</li> <li>• long-term profitability</li> <li>• meeting environmental sustainability targets</li> <li>• meeting operational targets</li> <li>• reduced compliance costs</li> <li>• reduced inefficiencies.</li> </ul>
<p><b>Operating costs estimate</b> may include:</p>	<ul style="list-style-type: none"> <li>• annual operating costs</li> <li>• capital expenditure costs</li> <li>• compliance costs</li> <li>• downtime costs</li> </ul>

	<ul style="list-style-type: none"> <li>• energy costs</li> <li>• human resources (HR) costs</li> <li>• recurring costs</li> <li>• summary of costs by category</li> <li>• training costs</li> <li>• transport and logistics costs.</li> </ul>
<p><b>SAP solution</b> may include:</p>	<ul style="list-style-type: none"> <li>• economic solution:                     <ul style="list-style-type: none"> <li>• accessibility and security of IT services for critical business operations</li> <li>• assured information gathering, reporting and auditing against KPIs</li> <li>• benchmarking against peers to improve performance</li> <li>• emergency management to prevent occurrence of disastrous situations resulting in poor company image</li> <li>• environment, health and safety risk assessment and reduction</li> <li>• financial risks and performance for higher profitability</li> <li>• OHS for legal obligations and profitability</li> <li>• labour compliance and human rights to promote a safe and productive work environment</li> <li>• manufacturing process safely using hazardous chemicals</li> <li>• material and product safety for safe transport, storage and use of hazardous materials</li> <li>• product compliance to minimise disruption to production</li> <li>• strategic workforce management to deploy talent with required skills and levels at right location and time</li> <li>• workforce diversity for expansion of global market share through innovation</li> </ul> </li> <li>• environmental solution:                     <ul style="list-style-type: none"> <li>• carbon management to reduce carbon footprint and grow profitability</li> <li>• commuting: implication of travel choices and use of more sustainable options, including alternative transportation and teleconferencing</li> <li>• energy and utility management for more efficient use of energy and reduced impact on environment, without disrupting production levels</li> <li>• environmental compliance at local, regional and global levels</li> <li>• green IT: use of virtualisation, cloud networks and certification of hardware, based on power benchmarks from technology partners</li> <li>• green logistics using hybrid transportation to reduce energy</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>usage and gas emissions</li> <li>• natural resource management to optimise use of natural, human and physical resources</li> <li>• personal footprint: transportation, housing, food, goods and services, energy consumption and waste recycling</li> <li>• recycling compliance for administration and reporting of data on recycled content ratios, packaging improvements and carbon footprint</li> <li>• smart grid participation and use of renewable and clean energy technology</li> <li>• strategy management to measure and manage sustainability performance</li> <li>• supply chain sourcing and procurement to ensure verifiable sustainable claims on lower carbon emissions</li> <li>• support product LCA to reduce carbon, water, energy and other resources footprints with impacts on labour practices and human rights</li> <li>• sustainable designs by increasing revenue streams using improved products and lower resource consumption.</li> </ul>
<p><b><i>Return on investment</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• carbon trading offsets</li> <li>• cost savings on improved efficiencies</li> <li>• costs of inefficiencies and wastage</li> <li>• equipment replacement costs</li> <li>• monitoring, reporting and auditing of processes</li> <li>• more versatile and skilled workforce</li> <li>• project life</li> <li>• rate of depreciation</li> <li>• returns on use of renewable energies</li> <li>• simple RoI calculation</li> <li>• sustainable operating and capital expenditures.</li> </ul>
<p><b><i>Business benefits</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• better:             <ul style="list-style-type: none"> <li>• competitive advantage</li> <li>• employee satisfaction</li> <li>• energy usage and resource management</li> <li>• global compliance</li> <li>• operational expenditure</li> <li>• profitability</li> <li>• recycling plan</li> <li>• use of workspace</li> <li>• waste management plan</li> </ul> </li> <li>• improved:             <ul style="list-style-type: none"> <li>• cash flow</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• organisation performance and efficiency</li> <li>• public perception of company</li> <li>• more reliable service to customers</li> <li>• more robust enterprise in hard economic times</li> <li>• possible carbon tax trade-offs</li> <li>• reduced carbon emission operations.</li> </ul>
<p><b><i>Executive summary</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• background and introduction to the proposal</li> <li>• past and current environment</li> <li>• plan for the company long-term direction and sustainability</li> <li>• rationale for establishing the business case at this time</li> <li>• risk analysis for not implementing proposal</li> <li>• summary of cost-benefit analysis and business plan</li> <li>• summary of feasibility study</li> <li>• summary of implementation plan and time line.</li> </ul>
<p><b><i>Sustainability strategies</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• auditing waste management procedures</li> <li>• establishing a comprehensive inventory of carbon emissions and other environmental impacts</li> <li>• establishing an effective recycling management policy</li> <li>• improving the energy efficiency of enterprise equipment:                         <ul style="list-style-type: none"> <li>• reducing the need for air conditioning</li> <li>• shutting down equipment during low demand</li> </ul> </li> <li>• procurement strategies:                         <ul style="list-style-type: none"> <li>• assessing suppliers' environmental policies and procedures</li> <li>• lowering energy consumption or environmental impact of replacement products or services</li> <li>• managing environmental impacts of electrical and electronic equipment</li> <li>• using energy consumption and environmental impact as criteria in the process of awarding contracts</li> </ul> </li> <li>• supply chain:                         <ul style="list-style-type: none"> <li>• driving ethical values through the supply chain</li> <li>• engaging supplier involvement in emissions reporting and continual improvement</li> <li>• engaging suppliers who provide information on energy consumption and product life cycles</li> <li>• influencing suppliers to provide energy efficient products and services.</li> </ul> </li> </ul>
<p><b><i>SAP software solution tools</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• carbon emission management</li> <li>• energy and utility consumption audit and management</li> <li>• LCA</li> <li>• PLM</li> </ul>

	<ul style="list-style-type: none"> <li>• supply chain management</li> <li>• waste management.</li> </ul>
<b>Key performance indicators</b> may include:	<ul style="list-style-type: none"> <li>• kg CO2 emissions from company car fleet</li> <li>• kg CO2 emitted per floor area occupied in permanent buildings</li> <li>• percentage of timber used in construction from well-managed, sustainable sources</li> <li>• percentage volume of material from sustainable sources</li> <li>• reduction of quantity (in 1000's kg) of ozone depleting gases used in air-conditioning equipment.</li> </ul>
<b>Benchmarks</b> may include:	<ul style="list-style-type: none"> <li>• AccountAbility AA1000 Assurance Standard (2008)</li> <li>• BSI BenchMark</li> <li>• Carbon Disclosure Project (CDP)</li> <li>• Dow Jones Sustainability Index (DJSI)</li> <li>• Global Reporting Initiative (GRI) G3 guidelines (telecommunications sector supplement).</li> </ul>
<b>Feasibility report</b> may include:	<ul style="list-style-type: none"> <li>• calculated estimated CO2 emissions for the proposed SAP solution</li> <li>• calculated potential energy savings and payback periods for recommended actions</li> <li>• innovative approaches</li> <li>• recommendations in order of priority on range of activities with sustainable outcomes.</li> </ul>

## Unit Sector(s)

Sustainability