

BSBSMB412 Introduce cloud computing into business operations

This learning guide supports BSBSMB412 Introduce cloud computing into business operations in the Business Services Training Package.

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Application

This unit describes the skills and knowledge required to understand the fundamentals of internet computing and cloud services. It involves undertaking a basic review of business computing needs and identifying options for introducing cloud computing services into a small business or work area in an organisation.

It applies to individuals who use problem-solving skills and take responsibility for adopting and promoting approaches to improve business operations.

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

Elements and Performance Criteria

| Element <i>Elements describe the essential outcomes.</i> | Performance Criteria <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i> | Page reference |
|--|---|-----------------------|
| 1. Review computing needs in the business | 1.1 Review current computing resources and use, and document according to business requirements | 22–26 |
| | 1.2 Identify and discuss future computing needs and potential improvements to business operations with relevant people | 22, 27–31, 39–40 |
| | 1.3 Collate information collected in review, and summarise business computing needs | 29–31 |
| 2. Investigate cloud computing services to meet business needs | 2.1 Research fundamentals of cloud computing, types of services offered, and their costs | 6–20, 35–37 |
| | 2.2 Seek assistance from specialist advisors as required, to determine relevant cloud computing services | 37–40 |
| | 2.3 Undertake basic cost-benefit analysis for introducing cloud computing | 12–20, 35–37 |
| | 2.4 Identify potential opportunities and risks associated with introducing cloud computing | 12–20 |
| | 2.5 Prepare a business case for implementing cloud computing services or other required changes, and seek approval where required | 32–41 |
| 3. Develop a plan to introduce cloud computing | 3.1 Prioritise introduction of cloud computing, including short-term and longer-term goals | 44–46 |
| | 3.2 Prepare a budget catering for short and long-term priorities, following business format and requirements | 47 |
| | 3.3 Independently or through services of a specialist advisor, outline steps and activities required to introduce cloud computing into the business | 48–59 |

| Element <i>Elements describe the essential outcomes.</i> | Performance Criteria <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i> | Page reference |
|--|---|-----------------------|
| 4. Support implementation of the plan | 4.1 Communicate and promote key features of the plan to others | 44–60 |
| | 4.2 Organise training and coaching to maximise cloud computing potential | 48–56, 62 |
| | 4.3 Encourage and support individuals and work groups to become more efficient using cloud computing | 57, 58–61 |

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

| Skill | Performance Criteria | Description | Page reference |
|----------------------------|------------------------------|---|---------------------------|
| Learning | 4.2 | <ul style="list-style-type: none"> Actively reinforces workplace learning by encouraging personnel to expand their computing knowledge | 49, 52–57 |
| Reading | 1.1, 2.1 | <ul style="list-style-type: none"> Organises, evaluates and critiques information from a wide variety of textual material | Throughout learning guide |
| Writing | 1.1, 1.3, 2.5, 3.2, 3.3, 4.1 | <ul style="list-style-type: none"> Develops material for a specific audience using clear language and workplace conventions to convey explicit information, requirements and recommendations | 25, 30–31, 33, 57 |
| Numeracy | 2.1, 2.3, 3.2 | <ul style="list-style-type: none"> Analyses numerical information to plan business budgets and analyse and compare IT data | 35–37, 47 |
| Oral communication | 1.2, 2.5, 4.1 | <ul style="list-style-type: none"> Uses appropriate, detailed and clear language to address key personnel and disseminate information | 38–39, 60 |
| | | <ul style="list-style-type: none"> Uses listening and questioning skills to confirm understanding of requirements | 25, 39–40 |
| Navigate the world of work | 1.1, 1.3, 3.2 | <ul style="list-style-type: none"> Appreciates implications of legal and regulatory responsibilities related to own work | 14–15, 20 |
| | | <ul style="list-style-type: none"> Adheres to organisational policies and procedures and considers own role for its contribution to broader workplace goals | 39, 57 |

| Skill | Performance Criteria | Description | Page reference |
|----------------------|-----------------------------------|--|---------------------------|
| Interact with others | 1.2, 2.2, 3.3, 4.3 | <ul style="list-style-type: none"> Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction, influencing direction and taking a leadership role on occasion | 25, 29, 42, 48, 61 |
| | | <ul style="list-style-type: none"> May seek expert guidance of others in specific areas | 38–39, 48, 54 |
| Get the work done | 1.2, 1.3, 2.1, 2.2, 2.4, 2.5, 3.1 | <ul style="list-style-type: none"> Applies formal processes when planning more complex/unfamiliar tasks and producing plans with logically sequenced steps | 58–59 |
| | | <ul style="list-style-type: none"> Applies problem-solving processes when tackling an unfamiliar problem, breaking complex issues into manageable parts and identifying and evaluating several options for action | 44–59 |
| | | <ul style="list-style-type: none"> Uses both formal and informal processes to monitor implementation of solutions and reflect on outcomes for future improvements | 49, 51, 53 |
| | | <ul style="list-style-type: none"> Reflects on ways digital systems and tools are used, or could be used, to achieve work goals, and begins to recognise strategic and operational applications | Throughout learning guide |

Assessment for this Unit

This Unit will be assessed by:

- completing assessment tasks throughout the learning guide
- submitting assessment tasks as instructed by your assessor.

Assessment requirements v2.0

Performance Evidence

| Evidence of the ability to: | Page reference |
|--|----------------|
| <ul style="list-style-type: none">• review and analyse business computing use and needs, including equipment and software requirements | 22–31 |
| <ul style="list-style-type: none">• collect and analyse information about cloud computing including:<ul style="list-style-type: none">• seeking assistance from specialist advisor as required | 29, 37–37 |
| <ul style="list-style-type: none">• performing cost-benefit analysis | 36 |
| <ul style="list-style-type: none">• identifying potential risks | 14–19 |
| <ul style="list-style-type: none">• make the business case to introduce cloud computing | 32–42 |
| <ul style="list-style-type: none">• prepare a plan and support others to implement cloud computing. | 48–58 |

Knowledge Evidence

| To complete the unit requirements safely and effectively, the individual must: | Page reference |
|--|----------------|
| <ul style="list-style-type: none">• explain fundamentals of cloud computing, including key terms and concepts | 6–11 |
| <ul style="list-style-type: none">• outline sources of information about cloud computing for micro or small business, and options specific to the business | 37–37, 40, 42 |
| <ul style="list-style-type: none">• describe how to undertake a cost-benefit analysis and prepare a budget | 40, 47 |
| <ul style="list-style-type: none">• summarise business protocols for using services of specialist advisors. | 39 |

Cloud computing risks

Risks are defined as uncertain events which, if they occur, could impact negatively on a project. There are several potential risks to implementing cloud computing.

Security

For many organisations, fear of compromised data security is the main concern preventing them from implementing a cloud solution. The fear is that once data is physically separated from the organisation, it will be more difficult to protect it. All organisations store information which is commercially sensitive and could harm the organisation if released.

Commercially sensitive information includes:

- marketing plans
- strategic plans
- blueprints or designs
- financial data
- profit margins.

Organisations also store confidential information such as staff remuneration details and customer contact details. The need to protect this information as mandated by the Privacy Act 1988.

Privacy Act 1988

The Privacy Act 1988 (Privacy Act) regulates how personal information is handled. The Privacy Act defines personal information as:

...information or an opinion, whether true or not, and whether recorded in a material form or not, about an identified individual, or an individual who is reasonably identifiable.

Common examples are an individual's name, signature, address, telephone number, date of birth, medical records, pay details, bank account numbers and commentary or opinion about a person. ⁵ There are 13 privacy principles contained in the legislation:

| | |
|-------------|---|
| Principle 1 | Personal information must be managed in an open and transparent manner. This includes being able to supply an up-to-date privacy policy. |
| Principle 2 | When providing information, an individual has the right not to identify themselves or to use a pseudonym. Exceptions apply for governmental agencies collecting information. |
| Principle 3 | Sensitive information should only be collected when necessary to allow an organisation to perform its function. It must not be collected without consent unless required by governmental agencies. It must be collected through lawful means. |
| Principle 4 | If an organisation receives unsolicited information they can use that information if the organisation was able to lawfully collect the same information. |
| Principle 5 | An individual must be informed that an organisation has collected information about them, if it was supplied by a third party. |
| Principle 6 | Personal information that was obtained for one purpose cannot be used for any other purpose unless consent is gained. |
| Principle 7 | An organisation must not disclose personal information for direct marketing. |
| Principle 8 | Information can only be transferred to another country if done lawfully. |

Business operations

Business operations are the processes which occur during the day-to-day running of an organisation which generate income and increase the value of that organisation. The type of business operations will depend on how the organisation makes money. For example:

- a manufacturing organisation makes money by producing products and then selling them
- a merchandising organisation makes money by buying and then selling products
- a service organisation makes money by providing services.

Improving business operations

Improvements to business operations can add value to an organisation by reducing costs, speeding up throughput, increasing sales, etc.

Potential improvements include:

- cultivating relationships with customers by communicating with them regularly
- improving staff motivation by keeping them informed about what is happening within the organisation
- going green and save money by implementing a paperless office
- allowing staff to work from outside the organisation's premises
- enhancing data sharing across the organisation
- improving the quality of products or services.

Improving business operations through IT

Business operations can be enhanced by implementing new or improved computer systems.

- Customer interactions can be enhanced using social media.
- Data sharing can be improved by using an intranet (internal internet) or shared databases.
- Flexible work arrangements can be facilitated with the use of remote access or portable devices combined with a wireless internet connection.
- Paperless offices can be created by emphasising the use of emails, intranets and other electronic documents.

Identifying current computing resources

Before determining how cloud computing could help an organisation it is important to understand the current use of IT in that organisation. This can help identify how cloud services could potentially replace or complement current systems. An important step is to identify what computing resources the organisation currently owns and uses. This is done by compiling a computer equipment inventory.

Planning for future computing needs

Once an inventory of computing resources has been recorded, an organisation should plan for future computing needs. Some resources owned by an organisation such as buildings, vehicles and machinery may perform their required functions for many years. The useful lifespan of computer resources tend to be a lot shorter. Hardware and software needs to be replaced regularly to ensure the organisation can keep functioning efficiently, reduce security risks and maintain its competitive advantage.

Identifying future resources needs

- Computer hardware sometimes malfunctions and needs to be replaced.
- Storage devices such as computer hard drives or servers fill up with files over time. When a hard drive starts to get full, retrieval times for files can slow. Eventually files will no longer be able to be stored on the drive.
- Computer software is constantly changing. Developers release upgraded versions of software regularly, enhancing the product. Security software is constantly evolving to address new threats. Organisations need to purchase new software to:
 - access new features
 - maintain compatibility with customers or suppliers who share files
 - solve security problems.
- When older software is replaced, it can trigger a requirement to upgrade hardware. Newer software may need a faster CPU or more RAM than is available in the current computer.
- Replacing software can also trigger a requirement to upgrade the operating system because it is incompatible with the current version.
- Software companies eventually stop providing support for older software by no longer providing fixes for security issues. Organisations still running unsupported software risk security problems.

Organisational strategic planning

The strategic plans of the organisation will influence the future computing needs. Strategic planning involves analysing an organisation and answering the following questions:

- Where are we now?
- Where do we want to be in the future?
- How are we going to get to that future point?

Answering these questions will help identify steps that need to be taken and resources that need to be acquired. Strategic planning is undertaken by the organisation's senior management; however, input may be sought from a range of stakeholders such as staff members, customers, suppliers and professional bodies.

Where are we now?

The first step in strategic planning is analysing the current state of the organisation. This includes analysis of the internal workings of the organisation. It also needs to consider external factors, i.e. the environment within which the organisation functions.

One tool for analysing the current state of the organisation is **SWOT analysis**. SWOT stands for strengths, weaknesses, opportunities and threats.

Writing a business case

A business case is a document which describes and justifies a proposed project. All projects need to be signed off by decision-makers, such as a board or managing director. A business case provides those decision-makers with all the information they need to determine whether the project will deliver a beneficial result. A proposal to implement a cloud service may require the creation of a business case.

The format, layout and complexity of the business case will be determined by the size of the project and the organisation's documentation requirements. A basic business case contains:

- description of the opportunity the project will exploit or problem the project is seeking to solve
- description of the proposed strategy including any options identified such as different providers or different levels of service
- list of potential benefits for the organisation if the project is implemented
- recommended service/product providers
- list of financial costs for the project
- risks to the organisation if the project is implemented including operational impacts
- risks to the organisation if the project is not implemented, e.g. being behind competitors
- recommendations for the project. Where more than one option is discussed, the preferred option should be justified.

Identify specific cloud providers

The organisation needs to identify providers who can provide the SaaS, PaaS or IaaS required. The easiest way to do this is to perform a web search which should provide the most up-to-date information. Consider the following when performing a web search:

- Be specific – the search 'cloud business software' is more targeted than 'cloud services'.
- Big companies will generally be listed at the top of the search engine's results list. Be thorough and read through several pages of results; you may identify some smaller companies which will suit your needs better.
- Limit your search results or add the search term 'Australia' if you only want information on Australian owned companies or organisations which have an Australian presence.

Cloud provider websites should provide you with:

- overview of the services provided
- detailed specifications for products/services
- performance measurements (metrics) that will be made available
- screenshots and videos showing how to access and use cloud services
- testimonials from customers
- training and support information
- ways to contact the cloud provider for more information.

Developing a plan to introduce cloud computing

The business case has been produced and the decision has been made to go ahead with implementing a cloud solution. The next stage is to produce a cloud implementation plan. This plan will detail what will be implemented, the costs associated with that implementation and the time frame for implementation.

Prioritising implementation

Depending on the size the business, it is unlikely that an organisation will move all its IT data and processing to the cloud in one hit. Moving to the cloud is usually carried out incrementally. This has several benefits:

- implementation costs will be spread over several months or years rather than all money being required upfront
- the organisation may find the benefits of cloud systems are insufficient and decide not to proceed with further cloud implementations
- lessons may be learnt from initial deployments which will make transitions smoother in later cloud implementations
- in a large organisation, one department can have their software and/or data transferred to the cloud, while others carry on business as usual.

It makes sense to align the rollout of cloud technologies to the organisation's goals. Short-term goals can be addressed with initial cloud implementation whereas long-term goals can be addressed later.

Scenario

NatureBabe manufacture natural baby products such as shampoos and cleansers. It sells these products to retailers including baby shops and boutique supermarkets. Business is going well and NatureBabe's management has identified one immediately important objective – to increase production and sales.

To this end NatureBabe is currently hiring more manufacturing and sales staff. This will require purchasing new computers and software licences along with tablets for sales staff. It will also require an upgrade of the current servers.

This in turn may require hiring a dedicated IT manager. It has been decided that some of this cost can be offset by using SaaS and also storing some of the company data in the cloud, reducing the need for high-specification hardware and IT staff.

The initial plan is to implement G Suite. G Suite is a collection of cloud-based business tools supplied by Google. NatureBabe are planning to use:

- Gmail for email
- Hangout for messaging
- Calendar for scheduling
- Drive for file storage
- Docs for word processing
- Sheets for spreadsheet tasks
- Slides for presentations
- Admin for management of G Suite accounts and settings.