



ICTSAD502

Model data processes

Assessment 1 of 5

Short Answer Questions

Assessor Guide



Assessment Instructions

Task Overview

This assessment task contains six (6) short answer questions. Read each question carefully before typing your response in the space provided.

Important: Before commencing your work, you must update your *Student name* and *Student number* in the footer from **page 2** onwards.

Assessment Information

Submission

You are entitled to three (3) attempts to complete this assessment satisfactorily. Incomplete assessments will not be marked and will count as one of your three attempts.

All questions must be responded to correctly to be assessed as satisfactory for this assessment.

Answers must be typed into the space provided and submitted electronically via the Learning Platform. Hand-written assessments will not be accepted unless previously arranged with your assessor.

Reasonable adjustment

Students may request a reasonable adjustment for assessment tasks.

Reasonable adjustment usually involves varying:

- the processes for conducting the assessment (e.g. allowing additional time)
- the evidence gathering techniques (e.g. oral rather than written questioning, use of a scribe, modifications to equipment)

However, the evidence collected must allow the student to demonstrate all requirements of the unit.

Refer to the Student Handbook or contact your Trainer for further information.



Please consider the environment before printing this assessment.

Question 1

Describe the following methods related to designing process models.

(Approximate word count: 45 - 60 words for each method)

Note: To support your answer, refer to reliable sources of information such as industry-specific or vendor websites and cite your references in the 'Reference(s)' section. The reference list does not count towards the total number of words required for the answer.

Assessor instructions: Students must describe methods (i.e. processes) related to designing process models. Students are likely to use different wording than the sample answer provided. However, the acceptable responses must:

- be within the specified word limit
- reflect the characteristics described in the exemplar answer
- list appropriate sources of references.

A sample answer is provided below.

Table 1 - Answer table for Question 1.

Methods:	Answer:
Process identification and scoping	<p>During the process identification and scoping phase:</p> <ul style="list-style-type: none">• business requirements are gathered from stakeholders• the boundaries of the processes that need to be modelled are defined along with the inputs, outputs and major tasks/steps involved in the process• the current state of the process is documented and all activities, decisions and interactions are highlighted.
Process decomposition	<p>This involves breaking down or dividing complex processes into smaller sub-processes that are more manageable. This will help clarify process details and enable a more focused analysis of the processes.</p> <p>Using hierarchical modelling techniques helps represent processes using different levels of detail. For example, level-0 data flow diagrams, Level-1 data flow diagrams, etc.</p>
Business Rules Analysis	<p>This is a method used to track business rules to data process modelling requirements. This involves ensuring that business rules are:</p> <ul style="list-style-type: none">• captured from relevant information sources• expressed clearly• validated with stakeholders• refined to best align with business goals for modelling data processes• organised to be effectively reused and managed.

Reference(s):

- IIBA., 2015, *BABOK v3 – A Guide to the Business Analysis body of knowledge*, International Institute of Business Analysis, viewed 14 Aug 2023, < <https://www.iiba.org/career-resources/a-business-analysis-professionals-foundation-for-success/babok/>>.

Question 2

Outline the logical design concepts related to each of the following elements used for designing process models.

[Approximate word count: 40 - 65 words for each element]

Note: To support your answer, refer to reliable sources of information such as industry-specific or vendor websites and cite your references in the 'Reference(s)' section. The reference list does not count towards the total number of words required for the answer.

Assessor instructions: Students must demonstrate their understanding of logical design concepts related to designing process models.

Students are likely to use different wording than the sample answer provided. However, the acceptable responses must:

- be within the specified word limit
- reflect the characteristics described in the exemplar answer
- list appropriate sources of references.

A sample answer is provided below.

Table 2 - Answer table for Question 2

Process model design elements:	Answer:
Activity:	Refers to an individual step or piece of work that forms part of the business process. It can represent a single task or be further decomposed into a sub-process. A sub-process can then have its own activities, flow and other process elements.
Event:	This indicates a zero-time occurrence that initiates (starts), interrupts or terminates (stops) an activity/task with a process or the process itself. For example, this can be a message received, an occurrence of a specific condition or the passage of time as defined in the business rules.
Directional Flow:	This refers to the direction that indicates the logical sequence of the process (i.e. workflow). Typically, when drawing process model diagrams, it is done so in a consistent fashion, perhaps in the direction that the text would be read (i.e. from left to right).
Decision Point:	This refers to a point where the process (i.e. the flow of work) splits into two or more paths (flows). These split paths may be mutually exclusive alternatives or parallels. This can also be used to find rules where separate flows join together.
Role:	This is a type of a person or group (entity) involved in the process. The definition of these roles typically match those in an organisation's model. Roles can be identified for internal or external stakeholders. For example; Customer, Supplier, Sales Department
Pool:	A pool is a self-regulating (free-standing) business entity. This may typically be an organisation or a system. A pool may include a number of swimlanes each of which referents a role. Generally, a process includes one pool for the customer and a second pool for the organisation under study. However, it is possible for a process to include any number of pools.

Reference(s):

- IIBA., 2015, BABOK v3 – A Guide to the Business Analysis body of knowledge, International Institute of Business Analysis, viewed 14 Aug 2023, < <https://www.iiba.org/career-resources/a-business-analysis-professionals-foundation-for-success/babok/>>.

Question 3

Describe two (2) different process modelling techniques commonly used in the industry and explain how each technique uses logical design concepts for designing process models.

(Approximate word count: 75 - 100 words for each technique)

Note: To support your answer, refer to reliable sources of information such as industry-specific or vendor websites and cite your references in the 'Reference(s)' section. The reference list does not count towards the total number of words required for the answer.

Assessor instructions: Students must describe two (2) different techniques for designing process models using logical design concepts.

Students are likely to use different wording than the sample answer provided. However, the acceptable responses must:

- be within the specified word limit
- reflect the characteristics described in the exemplar answer
- list appropriate sources of references.

A sample answer is provided below.

Table 3 - Answer table for Question 3

Process modelling techniques:	Description:
Business Process Model and Notation (BPMN)	<p>BPMN is considered an industry-standard language for business process modelling. It is designed to cover many types of modelling and also provides a format that is accessible by both business users and technical developers. It helps to visualise business processes using precise graphical notations. BPMN's notations include four categories. They are, flow objects, connecting objects, swimlanes and artifacts.</p> <p>A key feature of BPMN is its ability to distinguish the activities of different participants in a process with pools and swimlanes.</p>
Data Flow Diagrams (DFD)	<p>These diagrams show the transformation of data between external [entities] and processes. They display each process involved within the information systems (or processes) as an individual circle. There are multiple processes in these diagrams (i.e. more than one circle). The key elements of a data flow diagram include external entity, process, flow line and data store.</p> <p>A DFD contains multiple processes, each manipulating the data in its own way. Data flow diagrams can consist of multiple layers of abstraction.</p>

Process modelling techniques:	Description:
	Level-0 DFD (i.e. context diagram), Level 1 DFD, Level 2 DFD and so on to show process decomposition details.
<p>Assessor notes: Other process modelling techniques that students may choose to describe include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Unified Modelling Language (UML) • Flow charts and Value Stream Mapping (VSM) • Context diagrams • Integrated DEFinition (IDEF) notation • Input, Guide, Output, Enabler (IGOE) diagrams • Suppliers Input Process Output Customers (SIPOC) 	
<p>Reference[s]:</p> <ul style="list-style-type: none"> • IIBA., 2015, <i>BABOK v3 – A Guide to the Business Analysis body of knowledge</i>, International Institute of Business Analysis, viewed 14 Aug 2023, < https://www.iiba.org/career-resources/a-business-analysis-professionals-foundation-for-success/babok/>. • IBM Cloud Education., 2022, <i>The basics of Business Process Modeling and Notation (BPMN)</i>, IBM Blog, viewed 22 August 2023, <https://www.ibm.com/blog/bpmn/>. • Kalodikis, C., 2017, <i>Data Flow Diagram Overview</i>, 2017, streaming video, viewed 17 August 2023, < https://www.youtube.com/watch?v=YbD3oy181s8>. 	

Question 4

Access the latest version of the ‘Business Process Modelling Notation (BPMN)’ specification and discuss the naming rules and conventions that apply to ‘Activities’ (i.e. processes) and ‘Events’.

[Approximate word count: 165 – 180 words]

Note: To support your answer, refer to reliable sources of information such as industry-specific or vendor websites and cite your references in the ‘Reference[s]’ section. The reference list does not count towards the total number of words required for the answer.

Assessor instructions: Students must discuss modelling rules and conventions [of BPMN] with reference to naming processes and events.

Students are likely to use different wording than the sample answer provided. However, the acceptable responses must:

- be within the specified word limit
- reflect the characteristics described in the exemplar answer
- list appropriate sources of references.

Refer to <https://www.bpmnquickguide.com/view-bpmn-quick-guide/> or the BPMN 2.0 specification for more information. This resource is provided to the student as part of the learning related to this unit.

A sample answer is provided below.

According to BPMN naming convention best practices, all ‘activities’ and ‘events’ must be named.

'Activities' must be named using a 'Verb-Noun phrase', using the present tense of an active verb of meaning to the business and a qualified noun of meaning to the business.

'Events' that are of type Message, Signal, Escalation and Error must be named with a past participle using an active verb. Paired events (i.e. Message, Link, Signal, Escalation and Error) can be named using a matching name. Furthermore, 'Timer Events' should be named using their schedule, 'Conditional Events' must be named using their trigger condition and 'End Events' must be named using the name of the end state.

Care should be taken not to name multiple activities with the same name except for 'Call Activities'.

Prefixes and suffixes should be included where required to differentiate between source system data and target system data, from the start to end of activities/processes.

A 'Glossary of terms' should be maintained where the full form of the abbreviations used as part of the naming convention is outlined.

Reference(s):

- Gagne, D., Ringuette, S., 2023, *BPMN Quick Guide*, Trisotech, viewed 31 August 2023, <<https://www.bpmnquickguide.com/view-bpmn-quick-guide/>>.
- Object Management Group, Inc. (OMG), 2011, *Business Process Model and Notation (BPMN)*, viewed 31 August 2023, <<https://www.omg.org/spec/BPMN/2.0/PDF>>

Question 5

Business Process Analysis (BPA) is a type of data analysis particularly used in determining business process flow. Explain three (3) features of BPA that allow for significant improvements in small-to-medium enterprises.

(Approximate word count: 100 - 125 words)

Note: To support your answer, refer to reliable sources of information such as industry-specific or vendor websites and cite your references in the 'Reference(s)' section. The reference list does not count towards the total number of words required for the answer.

Assessor instructions: Students must explain the data analysis features for determining process flows. Students are likely to use different wording than the sample answer provided. However, the acceptable responses must:

- be within the specified word limit
- reflect the characteristics described in the exemplar answer
- list appropriate sources of references.

Refer to <https://www.ibm.com/cloud/blog/business-process-analysis> for more information. This resource is provided to the student as part of the learning related to this unit.

A sample answer is provided below.

1. **Increase efficiency in existing processes** – BPA increases time-to-value and lowers time on operational cycles for business workflows. The data gathered on existing processes when analysed may reveal patterns about the process flows.
2. **Reveals capacity issues** – As resources can be limited, BPA is helpful to identify where the capacity limit lies, how it affects the process and how to improve it. Therefore, BPA helps organisations identify changes that need to be made that specifically align with the growth of the business.
3. **Identify cost savings** – BPA reveals any redundancies in tasks and business operations. Identifying these redundancies will help organisations change their process flows to make them more streamlined and efficient.

Assessor notes: Other answers that students may expand upon include:

- Create better governance practices
- Solve bottlenecks
- Optimise deployment and release processes
- Improve integration and adoption processes
- Clarify policies and rules

Reference(s):

- IBM Cloud Education, 2021, *What is Business Process Analysis*, IBM Blog, viewed 17 August 2023, <<https://www.ibm.com/cloud/blog/business-process-analysis>>.

Question 6

Investigate industry-standard processing mapping applications (software, tools or platforms) that use new digital technologies to manage and manipulate data when developing process models. Based on your investigation, your answer must:

- outline the functionality of process mappers and how it differs from basic diagramming tools [Approximate word count: 45-65 words]
- list three (3) examples of process mapping software/applications
- outline at least five (5) key features of process mappers. [Approximate word count: 55-75 words]

Note: To support your answer, refer to reliable sources of information such as industry-specific or vendor websites and cite your references in the 'Reference(s)' section. The reference list does not count towards the total number of words required for the answer.

Assessor instructions: Students must demonstrate their knowledge and understanding of process mappers, their features and functions.

Students are likely to use different wording than the sample answer provided. However, the acceptable responses must:

- be within the specified word limit
- reflect the characteristics described in the exemplar answer
- list appropriate sources of references.

A sample answer is provided below.

- Basic diagramming tools, although allows to document processes from sticky notes into a digital platform, they lack many capabilities required for process improvement. Dedicated process mapping software, on the other hand, includes specialised capabilities that allow business users to improve processes, implement version control, and collaborate with teams to standardise and develop effective process modelling solutions across the organisation.
- Examples of process mappers include software tools such as:
 - Lucidchart
 - Microsoft Visio
 - IBM Blueworks LiveOther process mapping software may include:
 - Miro

- SmartDraw

c. Some of the key features of process mappers include:

- Easy access to the software using cloud-based platforms from any device or operating system.
- Automatic layout of BPMN 2.0 compliance process diagrams
- Ability to link diagramming with live data from internal and external sources.
- Ability to scale the document as the company grows.
- Provides the ability to chat, share and edit processes with co-workers and business leaders in real-time.

Assessor notes: Other features may include:

- Intelligent diagramming
- Premium shape libraries
- Shape-specific comments
- Collaborative cursors
- Advanced data and automation
- Enforceable sharing restrictions
- Allows for real-time co-authoring.
- Ability to see data in context instantly.
- Ability to integrate diagrams with other most-used apps
- Ability to save diagrams locally in PNG or JPEG format with customisation options for resolution, background colour, transparency and size.
- A central process model repository
- Version control functions

Reference(s):

- Lucid Software Inc., 2023, *See, improve, and scale business processes*, lucidchart.com, viewed 31 July 2023, <<https://www.lucidchart.com/pages/solutions/improve-process>>.
- IBM, *When do you need more than a simple diagramming tool*, viewed 31 July 2023, <<https://www.ibm.com/downloads/cas/KQKVMPEPA>>.
- Microsoft, 2023, *Visio*, Microsoft.com, viewed 01 August 2023, <<https://www.microsoft.com/en-us/microsoft-365/visio/flowchart-software>>.

Assessment submission checklist

Students must have completed all questions within this assessment before submitting. This includes:

1	6 short answer questions completed in the spaces provided.	<input type="checkbox"/>
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Assessment feedback

Assessors are to indicate the assessment outcome as Satisfactory (S) or Not Yet Satisfactory (NYS).

Assessor comments:

S

NYS


Congratulations, you have reached the end of Assessment 1 !

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