

BISM1201 Assignment

BPMN / ISD / Excel Assignment Specification

1st Semester 2020

Assessment Weight: 30% overall

Individual Completion: This assignment will be completed on an individual basis by each student. Students are encouraged to discuss online the assignment tasks with the teaching staff and other student colleagues. However the final submitted assignment must be the work of the submitting student.

Due Dates: The assignment specification comprises three overall parts: Part A [10%] BPMN, Part B [10%] Information Systems Development (ISD), and Part C [10%] Excel. **The completed Part A, Part B, and Part C are to be submitted by Friday 15th May 2020 (Friday of teaching week 10) @ 3pm via Blackboard submission (no hardcopy submission is required or accepted).**

Submission: The submission of part A BPMN and part B ISD will be via one PDF file from each student (i.e. one PDF file containing the completed part A and part B).

The submission of part C (Excel) will be via the assignment template file “*BISM-Assign-2020-Sem-1.xlsx*” available on the course Blackboard site. That is, each student will enter the required Excel formulas into that file and submit that file by the due date.

PLEASE NOTE THAT WE SHALL ADVISE THE EXACT PROCESS OF ASSIGNMENT SUBMISSION (including the naming of assignment files) CLOSER TO THE ACTUAL SUBMISSION DATE.

NOTE WELL: We shall be marking your submitted Excel work (Part C) on a PC running Excel 2016 (Office 2016) and Microsoft Visio 2016. If you are using any other hardware/software platform for developing your assignment solution (e.g., a MAC), we suggest you check your Excel formula solutions for compatibility as you develop them. This is easily done by running your Excel workbook on the PCs set up in the tutorial rooms/labs in the Chamberlain building.

Please Note:

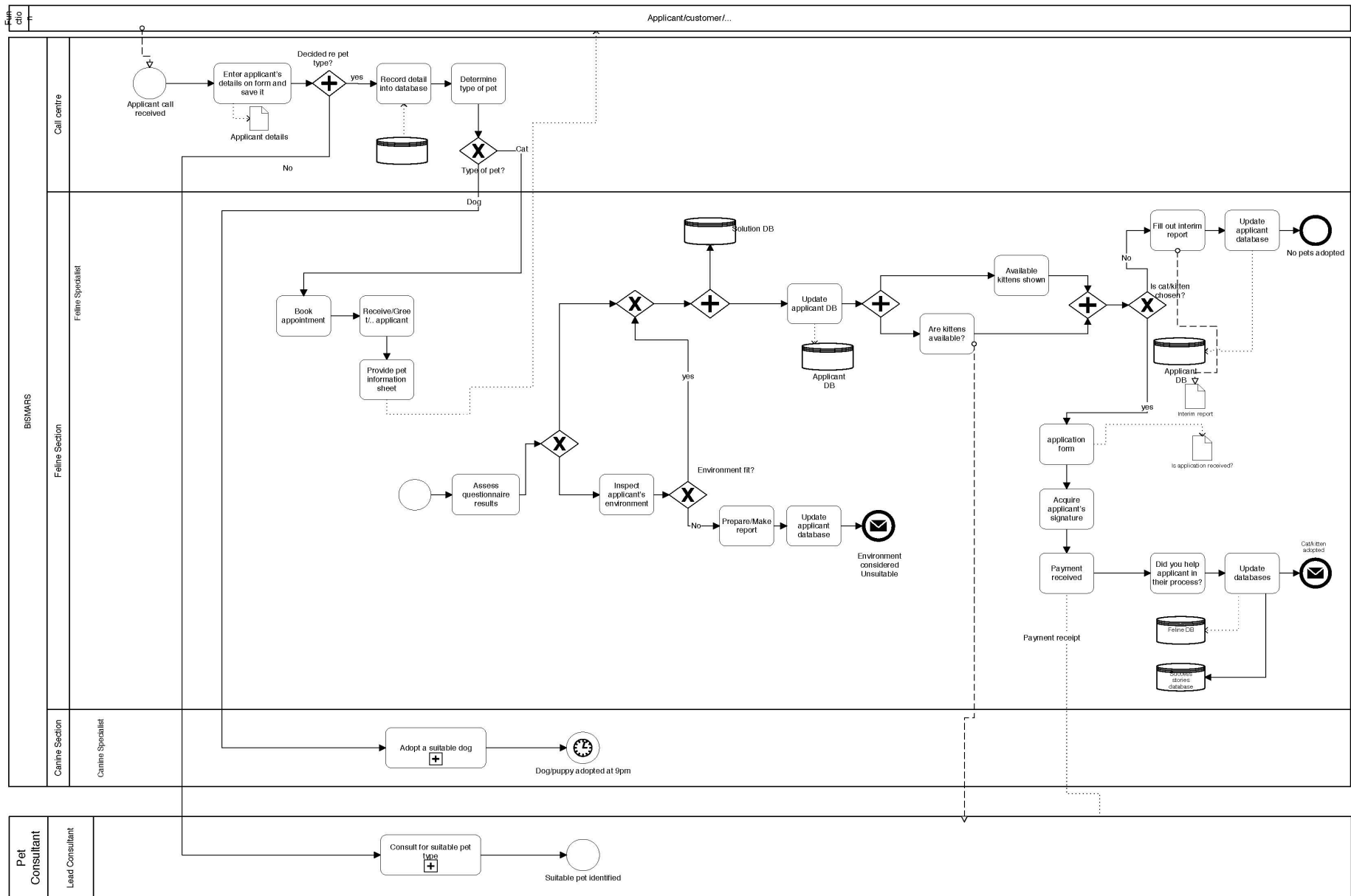
The marking of each completed assignment will rigorously check for copied/plagiarised work. Please see the Course Profile for policy in relation to penalties for plagiarised work. The total assignment is worth 30% of your assessment for BISM1201.

PART A: BPMN Analysis (10% of 30%)

A business process model is created by a staff member of BISMARS animal shelter and it is believed to have many BPMN errors. You, as an experienced business analyst, are asked to read the process model carefully and ensure that there are no BPMN grammatical errors in the model. For all identified errors, you must create a report and briefly explain the details for each identified error. This document will be used to educate the novice business analysts and future staff so they can improve their process modelling techniques.

You are required to find 20 (twenty) errors (and no more than 20) in the given model. You are also asked to briefly describe why each identified error is an incorrect practice of BPMN modelling, or an incorrect BPMN construct. You must write your results in 20 numbered short paragraphs (maximum 3 lines). You must then save/copy this analysis as a PDF file and submit it along with your other assignment components. Each correctly identified and correctly explained error in your analysis is worth 0.5% of your overall part A mark (to a maximum of 10%). We shall advise closer to the submission date as to how you will name your submission file.

Part A process model follows on next page



Part B follows on next page

PART B: Information Systems Development Questions (10% of 30%)

Please read carefully the following text¹ which describes concisely some of the major factors contributing to the failure of a Queensland Government ISD project. You then need to answer the questions that immediately follow the text. Your answers should be recorded within a PDF file (with your BPMN solution)². Your answers should be concise and address the major points given in this specification.

Queensland's Health Payroll System

The implementation of Queensland Health's Payroll system will almost certainly be remembered as one of the most disastrous IT projects in our country's history. What began as a \$6.19 million contract between the State of Queensland and IBM Australia to replace Queensland Health's aging payroll system eventually produced many thousands of payroll anomalies (underpayments, overpayments, non-payments), and an estimated cost to Queensland taxpayers of \$1.25 billion. The implementation was delivered by a 'Waterfall' project methodology. Please read the overview information below, and then answer the questions that follow the overview description.

The Queensland Treasury had attempted unsuccessfully to implement a standardised SAP-based HR system across the whole of Queensland government operations during 2005/2006. A former program director of CorpTech (the specialised business unit of the Queensland Treasury) had noted that the departments within the state "were still debating and arguing about what they would or would not get and what they would and would not accept". The delays suffered during the wider state rollout of the SAP-based system had already highlighted that the various government departments within the state, including Queensland Health, could not agree upon the internal requirements for a government-wide system.

The problems encountered by this government-wide project impacted very heavily upon Queensland Health. This department was originally scheduled to receive the new SAP-based HR system in 2006 and was still using a decade-old LATTICE payroll system for its HR processing. With the supplier ending support for the LATTICE payroll system in July 2008, a decision was made in late 2007 by Queensland Health and CorpTech to commence the design and implementation of a new Queensland Health payroll system. The Queensland Health payroll project was awarded to IBM in December of 2007, with CorpTech entrusted with overall project management. The contract price negotiated for the design and implementation of the new payroll system was \$6.19 million. The system was to be delivered in July of 2008 - the same month that the support for the existing LATTICE payroll system was scheduled to expire.

This meant that Queensland Health, CorpTech and IBM had agreed to a seven month timeframe to deliver a payroll system with complex award structures that spanned 13 awards and multiple industrial agreements, and contained in excess of 24,000 different combinations of pay for 80,000 employees. According to the original project documentation, a timeframe of only two weeks was allocated to determine the business requirements and solution scope of the complex payroll project. It should be noted that a similar payroll project took 12 months to scope and three years to rollout at the privately run Mater hospital. The Mater project had finished on time and on budget.

The Queensland Health project soon started to struggle under the weight of changing requirements (or scope creep), with a recorded 47 submitted change requests signed off by CorpTech in a space of just two months after the contracts were signed. As a result of the poorly-defined business requirements, uncertainty quickly developed as to what exactly the project was required to deliver. The project scope remained open-ended throughout the life of the project. The designed system then failed critical user acceptance testing (UAT) but instead of correcting all identified problems, the testing standards were

¹ The text is adapted from "Learning from the Qld Health payroll fiasco" by Krishan Sharma, Business Spectator, June 20, 2013 (available from: <https://www.theaustralian.com.au/business/business-spectator/news-story/learning-from-the-qld-health-payroll-fiasco-/174743f09e91d9550521b04d45d43ac3>)

² This submission detail is an update added 27/3/2020. It originally read: "the ISD worksheet of the BISM-Assign-2020-Sem-1.xlsx file".

lowered and less rigorous guidelines adopted in an effort to get the system delivered to users as soon as possible.

The system finally went live in March of 2010, 20 months after the original start date, and the project bill had already ballooned to \$101 million. The project documentation also reveals that prior to the payroll system going live the project underwent four revised '*go live*' dates and four separate stages of '*change requests*', often done at the last minute. The delayed establishment of a mutually agreed baseline scope impacted every aspect of the project including the implementation and testing phases. The net result was that a flawed system went live. The system left thousands of Queensland Health employees underpaid, overpaid or not paid at all. As at 2013, the system had produced more than 35,000 payroll anomalies and had cost the state in excess of \$400 million in extraordinary operational costs. An international accounting firm estimated in 2013 that the cost of making the system function for the next five years would be another \$836 million.

Questions for students (10%)

Please answer the following questions. You must base your answers on the material covered in our three weeks of ISD coverage. Consequently there is no need to reference your answers. Please note that all the following questions require you to use basic analysis of the text above with reference to our teaching content. Your answers should be concise and not exceed 600 words. There is absolutely no need for verbose responses. This is the communication style of a good analyst – concise, relevant, and accurate. Your completed report should be included as a single document with your answers to part A (BPMN) – then saved as a PDF document for submission.

We shall provide further advice closer to the assignment submission date in terms of how your submission file must be named.

- Q1.** There are three *fundamental* problems that occurred during the development project? Concisely explain each of these problems. Please ensure you discuss only three problems. **(2%)**
- Q2.** We have considered the *flow* of a Waterfall project as *linear* and *sequential*. Explain concisely what this means. Explain how the project description above clearly confirms that the Health Department project flow did not remain linear and sequential. **(2%)**
- Q3.** We have considered the *control* of a Waterfall project. Explain concisely what this means. Explain why the description above suggests that project control in this example clearly broke down at the *system design*, *requirements analysis*, and *component design* stages. That is, explain how the specific project *controls* (or approval '*gates*') did not work at these three stages. **(2%)**
- Q4.** Assume that instead of Waterfall, the project had adopted SCRUM. It is reasonable to suggest that significant concerns from Health Department staff/employees (not the project team) may have been raised much earlier. Explain why this could have been the case. **(2%)**
- Q5.** Assume that as well as SCRUM, the project had used *Extreme Programming* (XP). Concisely explain how/why this choice would have had an impact (if any) on the project. **(2%)**

Part C follows on next page

PART C: Excel Formula Specification (10% of 30%)

BACKGROUND SCENARIO: You are a UQ tutor and you are preparing an Excel workbook (the *Assessment* worksheet of the file BISM1201-Assign-2020-Sem-1.xlsx) for the analysis of course results. You are required to produce Excel formulas according to the specifications below. You must develop all formulas as per these specifications only. You should test your formulas to ensure correctness. You cannot change the provided worksheet in any other ways apart from adding the required formulas (e.g. no new columns/rows/tables). The Excel file for completion with the specifications described below (BISM1201-Assign-2020-Sem-1.xlsx) is available from the course Blackboard site.

The *Assessment* worksheet specifications (i.e. the formulas you must develop) are as follows:

1. The “*Total % Gained*” column (column J) shows the total percentage of the overall assessment gained by each student. This total percentage is calculated as per the following two policy rules:
 - There are four quizzes (columns E, F, G, H), each worth a maximum of 10% and conducted across the semester. For each student, the best three results across the four quizzes are included in the calculation of the final grade. That is, if a student achieves scores in these four quizzes of 4%, 6%, 9%, and 3% - the total quiz percentage will be 19%.
 - The final exam (column I) is worth a maximum of 70%. However there is a *hurdle* associated with this final exam. The hurdle percentage is 35%, meaning that the student *must* achieve a minimum of 35% in the final exam in order to pass the course. The hurdle policy is described as follows:
 - If a student achieves 35% or more in the final exam, the student’s overall percentage in the course will be the top three quiz results PLUS the final exam result.
 - If a student achieves less than 35% in the final exam, that student will receive the lesser of the following calculations:
 - A final overall mark of 50%;
 - OR
 - The sum of their three best quiz scores PLUS their final exam score.

As an example of this hurdle policy, consider the following three scenarios:

- a) A student achieves a total of 27% in the quizzes, and then achieves 40% in the final exam. The student has met the hurdle, therefore the total course percentage is 67%.
- b) A student achieves a total of 27% in the quizzes, and then achieves 34% in the final exam. The student has not met the hurdle, therefore the total course percentage is 50%.
- c) A student achieves a total of 15% in the quizzes, and then achieves 34% in the final exam. The student has not met the hurdle, therefore the total course percentage is 49%.

You will develop a formula for “*Total % Gained*” (i.e. for cells J3:J6) using the functions SUM, LARGE, IF (nested), and also the appropriate relational operations. You may also include the MIN function in this formula (the use of MIN is optional)³. **(3%)**

2. Student grades (“*Final Grade Awarded*” column K) are allocated as per the *Grade Table* (B11:C17). There is one exception to be noted. If a student achieves 47%, 48%, or 49%, and that student is in her/his 3rd year of the degree program, that student will be awarded a grade of DEF rather than a grade of 3. This DEF grade will later be used to identify those students who will be offered another chance at the final exam.

³ This sentence (about MIN) was added as an update on 27/3/2020. Peter Clutterbuck

You will develop a formula for “Final Grade Awarded” (i.e. for cells K3:K6) using the functions IF, AND, VLOOKUP, and also the appropriate relational operations. **(3%)**

3. The final requirement is the “Email Address” column L. The email address must be retrieved for only those student results of "DEF". For all other cases, a blank should be shown in this column. The email addresses are shown in the "*Student Details Table*". Please note however that there is a mismatch between the student number format in the "*Student Results Table*" (which contains a basic student number for each student) and the "*Student Details Table*" (which contains the basic email prefixed with the first character of the first name, and postfixed with the first character of the last name. You will need to allow appropriately for this mismatch.

You will develop a formula for “Email Address” (i.e. for cells L3:L6) using the functions IF, LEFT, VLOOKUP, and the concatenation operator & (not the functions CONCATENATE or CONCAT). As an example⁴, Hillary Grant’s email would be shown as: H.Grant@uq.edu.au **(4%)**

Please complete the required formulas and thoroughly test your work. You must build the formulas as per the specifications and use only the nominated functions and operators. Marks will be deducted if you use functions other than those specified above. You must enter your formulas into the provided Excel file (*BISM1201-Assign-2020-Sem-1*) – we shall advise closer to the submission date as to how you will name this file for submission.

Peter Clutterbuck – BISM1201 Course Coordinator – 1st Semester 2020

⁴ The email example added as an additional sentence in the assignment update of 27/3/2020.