BSS310 SEMESTER PROJECT PART A TEMPLATE

The following document provides a template for the semester project of BSS310. The document is divided into two main parts which are the **Group Work Section/Part** and the **Individual Work Section/ Part** respectively.

The following acronyms and terms will be used throughout this document:

BSDM – Business system designs and management

PM – Project Management

EDM – Economic Decision Making

PAST REPORTS – When the term "past reports" is used in this document, it refers to professional reports published and made official. For example, that could be a report from the South African Government. The term "past reports" does not mean under any circumstances reports that were submitted for BSS310 in the past. Students are strongly discouraged to copy and paste information from past BSS310 reports and such actions will be regarded as plagiarism.

PART A TEMPLATE (GROUP WORK)

An Overview

The group starts the project by clearly stating the problem statement. As per the guidelines set in the study guide of BSS310, a gap in the business system needs to be identified and **a product or a service** needs to be conceptually designed and developed to address the identified gap. It is the responsibility of the group to decide whether their semester project would be focused on **a product or a service industry**.

Based on past observations in the module, it is strongly recommended that groups do not choose a product/service that is too complex. An example of a too complex product could be the building of a new space shuttle. An example of a too complex service could be the implementation of a new software. It is advisable to choose a product or a service that is realisable to avoid making the project unnecessarily difficult to execute. An example of a realisable product could be a silent kettle boiler. An example of a realisable service could be creating a playlist that adapts to one's Instagram feed.

Nevertheless, in as much as we desire to avoid any form of restrictions in the choice of business systems, if you find yourself in an assumed "complex project space", clearly define your mission; what you wish to pursue now such as segment one of the hyper complex project while stating what the likely segments two, three etc would be in your report. Ensure that "segment one" is a project segment with finality and sellable as a "valuable offering" to clients and not an incomplete work in-progress.

[Insert and complete Part A Cover Page (See ClickUp for Cover page)]

Section 1: Problem identification

Write a clear problem statement

▪ Firstly, it is pertinent that we know the sector you are concerned with as you start with the problem motivation e.g. "**The banking sector in South Africa has seen a drastic decline in the use of chatbot by its clients due to unreliability of the assumed smart platform**". From this, it is clear you are concerned with the banking sector. A problem statement is basically a statement of negations, mishaps, challenges etc in a given knowledge domain. This can range from the service through the product industries however, you are expected to pick a sector. A problem statement should be very specific and clearly defined within the chosen area. Problem statement is all about gap identification and analysis. A precise question such as: what is the gap in this sector, should be asked for a start. Use if available in the literature, past data from reports, articles or research papers to motivate the gap).

To complement the problem identification, the analysis of the problem can be explored i.e. the extent of the problem, the spread of the problem, the complexity level of the problem, who is affected by the problem and to what extent, whether it is local or international or both etc can be further explored, why it is important to address the identified gap in the chosen sector, what will happen in terms of negative effects if this gap is not addressed etc.

Possible infographics and/or statistical data to further buttress the existence of the identified problem can be presented within the writing limits.

Section 2: Objectives and Operational Requirements

In this part of the report, the group must successfully demonstrate clear use of techniques from BSDM and PM. It is expected that the group carry out the following underlisted:

▪ Identify the business system's requirements in terms of:
i. objectives: (State the goals of your business system; between three (3) to five (5) goals can be considered appropriate and viable). Tree diagrams are allowed here as deemed necessary.
ii. system's operational drivers: (Identify those factors that are considered to be necessary for the business to kick start. Briefly motivate on these factors).
▪ Show what capabilities (functions) the systems need to have in place to achieve the stated objectives: (To achieve the stated goals, some enablements or capabilities must be in place. These enablements must be linked or connected to at least one of the stated objectives. However, you can have two or more functions linked to one objective and/or a function linked to two or more objectives. Tree diagrams are allowed here as deemed necessary. Be yourself and be sure of what you are doing).
▪ Identify physical embodiments for the functions: (All functions must have a hardware or software element that encapsulates them. No functional propagation is possible without a hardware or software embodiment. Link the stated functions to specific embodiments).
▪ Validate the business system's needs: (You are expected as a group, to explore, link and discuss the trio concepts: Measure of Effectiveness (MOE), Measure of Performance (MOP), Technical Performance Measure (TPM). Motivate on how the different segments or levels (systemic level, sub systemic level and component level) of the business can be traced and

tracked for non-performance, monitoring for maintenance and improvement etc. Firstly, is the systemic level characterised with the MOE concept, followed by the MOP and TPM concepts as presented below.

- **Measure of Effectiveness (MOE):** This validation procedure focuses on the system as a whole. Motivate on how you can tell that the problem or growth is coming from a particular, generic functional attribute or attributes of the business as a whole e.g. late staff arrival, outage of power, delivery of poor services etc. These functional observations cannot be initially traced or linked to any of the subsystems i.e. any of the portfolios or departments without carrying out a thorough check hence, making it a system level observation and thinking. At the systemic level, you don't carry out any checks, you only observe based on the set out functional and physical attributes.

- **Measure of Performance (MOP):** This validation procedure focuses on the sub-systemic level i.e. the different portfolios or departments after observing the following at the systemic level i.e. late staff arrival, outage of power, delivery of poor services etc. However, you need to motivate on how you can tell that the problem picked up or the growth recorded is coming from the production, marketing or logistics department or all three etc. This must be done with specific measurable functional and physical attributes.

- **Technical Performance Measure (TPM):** This validation procedure focuses on the component level, which is the sub-sub-systemic level. In here, it is certain which portfolio is the focus. However, you need to be sure of the specific staff, machine, policy etc in this portfolio that is resulting in the positivity or negativity.

Hence, in summary, validation seek to state that your business has in place all of these tracking capabilities so when things go wrong or far-right, it doesn't appear as a mystery. Ensure coherency across the entire section. It is strongly recommended that the group motivate each point in a strong manner that indicates a reasonable depth of knowledge. As a rule of thumb, back every idea/content you present as a group with knowledge acquired from the module.

Section 3: Market Analysis

In this section, the group is expected to successfully perform a market analysis by applying the techniques from EDM as presented in the lectures. The following content is expected in this part of the report:

- **Define the target market:** (A clear and detailed target market should be listed and justified or motivated on). For instance, how did you reach the conclusion that this cluster of consumers are your target market? Any previous segmentation carried out etc? Was there any previous market campaign carried out etc.
- **Complete a marketing map to identify gap:** (A marketing map for positioning analysis should be presented and explore; this would likely uncover the degree of competitiveness in that space and how the potential or actual clients currently sees the organisation. It's a way to uncover strategic gaps in the sales of a particular service or goods. You want to visualise how your business currently sits with at least four competitors in the business domain).

▪ Use of Porters' five forces as framework to discuss competitive forces: (Each of the 5 forces considered by Porter must be clearly explained in depth bearing in mind how these are linked to the current business).

▪ Stating a unique value proposition: (The unique value proposition is a clear statement that speaks to the specifics or uniqueness you wish to bring onboard your business; this should be capable of transitioning your business from the red to the blue ocean or sustaining your business right in the blue ocean).

In addition to the four points mentioned in the market analysis section, the group can utilise credible reference sources as proof towards supporting their in-depth market analysis. Please, note that past references are information obtained from past reports, findings or research from trustable sources.

Section 4: Value Chain Design

▪ Describe a high-level design for each of the primary and support activities in your value chain (1 paragraph each): (You are expected to identify up to three (3) or more primary activities (covering the direct and indirect activities), up to three (3) or more support activities (covering the direct and indirect activities) of your business. Note that the direct and indirect activities, are the corresponding sub-activities within the primary and support activities clusters.

The "**value proposition**" presented in section 3 under market analysis, should be strongly linked to the breakdown in this section i.e. the sub-activities presented herein. The competitive advantage of the value proposition should be provable and coherent with this section, presenting the value chain design).

After section 4, you are expected to branch out to Part B rubric of the Semester Project for the individual task.

The following sections 5 & 6 of Part A, will now focus on two sections viz: "overall project plan" and "overall project cash flow analysis". Initial inputs to these sections are based on the works from Part B of the rubric.

Section 5: Overall project plan (based on PART B)

In this section of the report, the following four bullet points are expected from the group:

▪ Presentation of a high-level network diagram that shows the critical path (a minimum of 15 tasks & maximum of 20 tasks). (A minimum of 15 activities rather from all the portfolios implies 5 activities per portfolio etc. To pick five (5) activities from the network diagram of your portfolio in Part B, you may decide to collapse 2, 3, 4 or more activities (from the main network diagram of your Part B) into one activity and assign a new generic name that covers all the activities that were collapsed. The new activities, should be linkable to the main network diagram via the use of a descriptive legend as a pointer. Hence, with this approach, you can create and extract five or more new activities **across the different phases of the main network diagram in your respective Part Bs**).

You are meant to export the newly created activities of course, to Part A here!!! This should be done for all the three (3) portfolios; or two (2) portfolios in the case of a group of two (2).

Form a new network diagram here (in this section) based on the exported activities from the different portfolios.

▪ Systems thinking & business structure integratedness: (You will be introduced to a free software Vensim for systems thinking. You want to see all the activities in the new network diagram as an integrated entity. You want to understand and understudy how these activities influence each other and if the effect of this influence is infact positive or negative. This can aid in a rethink of the whole connectivity if the "impact of one activity on the other is negative and detrimental to the business. Also, indirect impact of activities can also be studied. All of this, will be based on the consolidation of the Part B activities).

▪ Present a consolidated risk matrix with a brief description of a mitigation strategy for each. (The group should establish a detailed risk matrix including mitigation strategies and discuss how this will play out in the business. The chosen risk mitigation strategies must be coherent with the identified risks including their respective positions on the matrix).

▪ Business intelligence: (You are expected to present a simple machine learning model to look ahead in terms of predictability of the business horizon. Trying to see if the introduction of new variables can be a game changer for the near future etc).

Section 6: Overall Project Cash Flow Analysis plan (based on PART B)

In this section of the report, the techniques that will be required from the group will come from the knowledge of EDM. The following is expected from the group:

▪ Present consolidated cash flow for first three years of operation: (The expectation here is to operate the business on paper, for a duration of three years by using a spreadsheet or balance sheet approach where cost and revenue meets for the evaluation of accumulated profit). This can give an idea of the amount of capital required to kick start the business.

▪ Define and quantify worst case, best case and most likely cash flow projections: (You are expected to play around with varied interest rates (low & high) about the current interest rate. Also, play around with higher cost of goods and services at the peak level versus lower cost of goods and services). This will aid with the generation of new consolidated cash flow tables and new profit margins.

▪ Determine the MARR for this project with substantiation: (The cost of capital is to be determined by the team. Capital sourcing for businesses can be split across the two possibilities i.e. debt or equity sources. Work towards a cheaper cost of capital.

▪ Conduct a Net Present Value (NPV) analysis and make recommendations regarding the financial feasibility of the project: (Carry out a time value of money analysis by conducting a Net Present Value (NPV) analysis and make recommendations regarding the financial feasibility of the business over the given time horizon).

There should be a strong and clear correlation between the overall plan and the content from part B of the semester project. The correct interpretations must be made based on data/numbers/figures generated in that section of the project. Groups are encouraged to avoid any visible errors. The MARR calculated for this project should be accompanied with good reasoning around the market and business as a whole, by the group.

Conclusion (Optional): (Business is worth investing, it is worth the effort and it is viable. A very short conclusive remark. No failure or correctness with the conclusion. It is your opinion. However, the prior technical contents and analysis will decide the score).

NB: The following underlisted are excluded from the 20pages max. count.

References

Appendices

1. Group Meetings

Furthermore, in Part A, the following presentation guidelines as contained in the rubric which speaks to the writing "professionalism" should be adhered to as templated herein:

Professionalism: **Part A: max. page limit: 15 pages (excl. Title page, project work declaration, executive summary, table of contents, list of figures, list of tables, labelled tables at the top of the table, labelled figures underneath, references for in-text citations, list of acronyms, reference list, meeting minutes' appendix). minimum font size 11pt, minimum margins 1cm; (1.0 or 1,5) line spacing, font types can be Arial, Times New Roman or Calibri.**