

PP

Chartered
Accountant
SINGAPORE

Singapore CA Qualification Examination

INTEGRATIVE BUSINESS SOLUTIONS

Examination Day Documents

4 December 2023

INSTRUCTIONS TO CANDIDATES:

1. The time allowed for this examination paper is **4 hours and 30 minutes**. Please note, there is no separate prescribed reading time for this examination.
2. This is an open book examination. During the examination, you are allowed to use your laptop and any calculators that comply with the ACRA's regulations. Please note that watches, mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.

3. During the examination, videos of you and your computer screen will be recorded for the purpose of ensuring examination integrity and you have consented to these recordings.
4. This examination paper and all video recordings are the property of the ACRA.
5. This is a hypothetical case written exclusively for this examination. Names, characters, places and incidents used are imaginary or fictional. Any resemblance to actual events or locales or persons, living or dead, is entirely coincidental. This case is not to be cited without permission from the ACRA.

IMPORTANT NOTICE:

If you are not feeling well, please do not press “Start Assessment”. If you have started and leave during the exam, you would be deemed to have attempted the paper.

Case study report instructions

These Examination Day Documents (EDD) complete the case study scenario and set out the requirements of the report that you are required to write (**Exhibit 16**). You must combine your pre-reading and analysis of the Advance Information (AI), your other pre-examination research, and the new information in the EDD to plan the content and structure of your report, and then to write the report.

You are not allowed to print the Examination Day Documents.

Report format

Your report should follow the following format:

Requirements (see Exhibit 16)	eExam Qn. Number	Marks
Requirement 1 – Executive summary	2	10
Requirement 2 – Analysis of performance, strategic risks and opportunities and benefits of digital marketing	3, 4, 5	34
Requirement 3 – Evaluation of a new integrated sales app, procurement and supply chain management system and transfer pricing	6, 7, 8, 9	36
Requirement 4 – Evaluation of rapid charge EV charging stations and Financial Reporting and assurance considerations	10, 11	20

You should clearly state any assumptions that you make and include any supporting data. Please put your appendices (if any) at the end of each question part.

Please note that **only your report commentary (including the assumptions made), appendices and workings entered in Cirrus on the day of the examination will be marked.**

Advance Information (AI) – List of Exhibits

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Advance Information (AI)		
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2	Electric vehicle manufacturing in Singapore	AI-9
3	Luna Automotive Group: Group structure, EV range and strategic goal	AI-12
4	Luna Automotive Group: Overview of EV manufacture, sales operations and management team	AI-16
5	Management accounts extract for the six-months ended 30 June 2023 and for the six-months ended 31 December 2022	AI-24
6	Email from Luna Chief Operating Officer regarding ongoing issues with Avalon manufacturing	AI-27
7	E-mail from Luna Chief Technology Officer outlining the need for an integrated sales order, supply chain and manufacturing system	AI-28
8	Round table Luna board meeting minutes on strategic opportunities for EV manufacture at Avalon	AI-29
9	Email from Luna Sales and Marketing Director, Liyana Ying, promoting the use of digital marketing techniques at Avalon	AI-32
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Examination Day Documents (EDD) – List of Exhibits

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12	Extract from the Avalon management accounts for the six-months ended 31 December 2023	EDD-6
13	E-mail from Luna Chief Operating Officer to the board of directors setting out the cost and benefit assumptions of a new integrated sales app, procurement and supply chain management system.	EDD-9
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Note: Unless otherwise stated, all dollar amounts (\$) are in Singapore dollars.

EXHIBIT 12

Extract from the Avalon management accounts for the six-months ended 31 December 2023

The following is an extract from the Luna six-monthly management reporting pack which is presented to the Board of Luna Automotive Group (Luna) for its subsidiary, Avalon Electric Vehicles Limited (Avalon).

	Six-months to 31 December 2023 \$'000
Revenue (See Note 1)	2,255,096
Cost of Sales (See Note 1)	(2,352,064)
Gross Profit	(96,968)
Marketing	(141,853)
Overheads and administrative expenses	(144,838)
Research and development	(153,727)
Loss for the six-months period	(537,386)
EV sold in the period	14,683

Note 1: Segmental Information

	Six-months to 31 December 2023 (Forecast)			
	City Mini \$'000	Coupe Deluxe \$'000	Family SUEV \$'000	Total \$'000
Revenue	888,497	1,103,713	262,886	2,255,096
Cost of Sales	(845,234)	(1,209,883)	(296,947)	(2,352,064)
Gross Profit	43,263	(106,170)	(34,061)	(96,968)
EV sold (units)	7,499	6,114	1,070	14,683

The financial and sales data above is actual to 30 November 2023 and forecast for December 2023. Although December trading is yet to be confirmed, the six monthly information presented below is considered to be a reasonable prediction by David Lee, Luna Chief Financial Officer, of actual performance for the period.

Financial and operating performance statements for the six-months to 31 December 2023

David Lee, Chief Finance Officer:

Whilst our management accounts for the six-months ended 31 December 2023 are actual to the end of November and forecasted for December, we are highly confident these are materially accurate based on current orders and expected EV deliveries.

Sales of the City Mini have again continued to increase and we are happy with how the Family SUEV has quickly established itself in the SUEV market, with strong sales in the six-months to 31 December 2023. If only we could make them more quickly! Demand for the City Mini is forecast to remain high and we have 2.5 months of pre-orders for the Family SUEV. Sales of the Coupe Deluxe have fallen slightly again and our marketing team is currently looking at the reasons for this.

Our revenue has continued to increase during this half year compared to the previous half year, due to the success and increased sales of our new Family SUEV model. We now have 2.5 months of advanced sales as we cannot make them fast enough. The Board is focused on how we can improve production rates and efficiencies as the more we can manufacture, the more we can sell which will help us return a profit. The Jurong Assembly Plant has capacity for up to 40,000 units a year at current production rates, and could be higher if we can increase the rate of production and increase the available floor space for new assembly machinery.

We have managed to get our overhead costs under control and reduced marketing expenditures. Research and development costs continue to remain at the same level and this will continue, as it is important that we continue to invest in future success and match the EV innovations made by our competitors.

Overall, we are seeing the benefits of all our hard work as margins are slowly improving but we have some way to go yet.

A new EV model is planned for launch in early 2025 which will utilise the successful City Mini design and the manufacturing efficiencies Avalon has developed over time. This model will be larger, with greater performance and range from a higher grade battery, so will complement our existing range well. This is currently at the design

stage, and we are excited about a target launch in early 2025. This new model will help us to reach maximum manufacturing capacity so we will need to look at ways we can expand production capacity further at the Jurong Assembly Plant or at some LMC sites.

Finally, to further improve Avalon's profitability, we are considering a change to the transfer pricing system between LMC and Avalon to reduce the price of components supplied by LMC from its production subsidiary registered in Indonesia. The current corporation tax rate in Indonesia is 22%. I will be seeking tax advice on the merits of this proposition.

Michael Kumar, Chief Operating Officer:

The six-months to December 2023 have been a successful period for the EV production teams, as we have encountered fewer delays and problems with supplier components. However, we are still being held back due to inefficiencies which result from a lack of integration between our sales ordering, procurement and automated manufacturing systems.

Increasing the rate of EV production continues to be a challenge for us, due to many factors including a shortage of available and skilled automated manufacturing system operators. Meeting customer expectations for delivery is essential to hit our sales targets. We have recently received communication from a couple of managers at our approved EV dealerships that some customers have opted not to proceed with a new EV order due to the estimated lead time between order and customer delivery displayed on the Luna sales order system. These customers have opted to purchase our competitor EV which is a disappointment. We must increase our rate of EV production to address this.

END OF EXHIBIT 12

E-mail from Luna Chief Operating Officer to the board of directors setting out the cost and benefit assumptions of a new integrated sales app, procurement and supply chain management system

From: Michael Kumar, Luna Chief Operating Officer
To: Luna Board of Directors
Date: 14 November 2023
Subject: New integrated sales app, procurement and supply chain management system

Dear Board of Directors,

Proposed integrated sales app, procurement and supply chain management system

I am writing to propose that we investigate in detail the implementation of a new integrated sales app, procurement and supply chain management system which will integrate with Avalon's existing state-of-the-art automatic manufacturing system at its Jurong Assembly Plant.

A new IT system will enable us to improve our production efficiency, reduce costs, and enhance our product quality. I have attached the planning document being used by the finance team for the preparation of a detailed cost-benefit analysis. This may be more detailed than you need at this stage, but I welcome any thoughts or comments you might have on the details.

This supply chain integration work is a vital part of Avalon's strategy to improve its supply chain resiliency. This is especially critical given the supply chain issues that have marked the past several years in the wake of the pandemic and Ukraine war – for example, the delays suffered due to battery supply issues.

A new IT system will take several months to scope out and implement so I recommend that we should proceed with new IT system scope and implementation planning in early 2024 and aim for a go-live date of 1 July 2024.

I look forward to discussing this proposal with you at the next board meeting and presenting the detailed cost-benefit analysis at that point.

Attachment:**Cost benefit analysis: system details and modelling assumptions**

Avalon is considering a new integrated sales app, procurement and supply chain management system (“new IT system”) supplied by Supplier Systems Global Inc (“SSG”) due to its reputation as a leading provider of integrated supply chain management solutions. Avalon’s supplier selection and supplier due diligence procedures have commenced.

The new IT system is expected to cost \$120 million for implementation in 2024 and a subsequent annual budget of \$30 million per annum for ongoing SSG software licensing costs. The year one implementation costs include the provision of IT support and training by SSG to Avalon.

As a largely cloud-based solution, investment in new hardware is expected to be minimal, and would be paid for by SSG as part of their initial implementation cost. We should assume the new IT system will last for three years before a significant upgrade in functionality is required.

The benefits of the new IT system include:

- A reduction in existing costs of sales of 1%;
- A 30% increase in EV production units and sales; and

These financial benefits are based on the financial performance for the six-months to 31 December 2023. Also, an expected improvement in production quality control and EV performance quality is anticipated.

Also, the new IT system will include the following features:

- An adaptable, cloud and blockchain based sales, supply chain and inventory management system which will be integrated with Avalon’s automated manufacturing systems and Avalon’s suppliers.
- A sales app for smart devices which will allow customers to purchase an EV directly, which will avoid car dealership costs (typically 10% - 15% of the price paid by customers). The sales app can also be used by car dealerships to make

a customised order instead of using Avalon's current web based new vehicle ordering system. In this instance the car dealership sales commission will remain on average 15% of the price paid by customers. We anticipate that 7% of customers will order using the app directly, saving commissions payable to car dealerships.

- Using the app, customers will be able to watch their car being custom manufactured and take the EV for a test drive at the production site in Jurong once production of the EV is complete.
- The sales app will automatically link to Avalon's autonomous manufacturing systems at its Jurong Assembly Plant to generate a component requirement schedule. This will be fed backwards into the procurement system which:
 - interfaces with inventory management to secure existing inventory
 - sends an order for the balance to suppliers
- An extranet link is provided to suppliers so they can see forecast demand and production schedules, to assist with their planning.

END OF EXHIBIT 13

Briefing memorandum from Luna Chief Strategy Officer: Proposed joint venture to develop rapid charge electric vehicle technology (20 November 2023)

As I mentioned at the last board meeting, there is an opportunity for us to enter a 50:50 joint venture with Lightning Strike Electric Vehicles (LSEV), which is a direct competitor of Avalon, to tender for the roll out of a public rapid charging EV network in Singapore. LSEV has a reputation for its expertise in the field of rapid charge EV technology. The project would be funded by the Singapore government.

Information regarding rapid charging EV network in Singapore

There are already several private networks of charging points in Singapore, such as that provided at some gas stations, and by Halo. These are generally 300 kw chargers. This project is to deploy 3000 next generation fast charging hubs delivering 350kw balanced fast charging with a modular design making it easy to upgrade in the future. In addition, the chargers would need to be backward compatible with 99% + of existing EV. Accordingly, it is seen as a long-term investment by the government.

By collaborating on the modular design and standards, both joint venture partners would have early access to the charging standards to build into our models early. We would develop the charging hub and vehicle technology jointly with LSEV. We would also need regulatory involvement to ensure the deployment is safe, functional, and meets government's needs. Our input would be research and development (vehicle and charger side) and hub assembly – component manufacture would be outsourced overseas. LSEV input would be research and development (jointly with us on both the vehicle and the charger side), site preparation and installation. LSEV has a good track record with charging point deployment, and already has a good working relationship with the Land Transport Authority in Singapore. The intellectual property developed could potentially be used to help win future international contracts through the joint venture.

The investment required by Avalon would be approximately \$300 million. This assumes there is sufficient vacant space the Jurong Assembly Plant to facilitate operations. Finance is available from the government for this at the Singapore Overnight Rate

Average (SORA) less 1%. This would equate to 2.95% per annum currently – extremely favourable. Our revenue will be set by the government to generate a return of 30% on cost and investment (including research and development). Costs will be audited by the government through open-book accounting. With this being a government contract there are tight employment and environmental conditions, but we are pretty ‘green’ anyway so I do not anticipate any issues on this front. We have not yet sighted the government Request For Proposal or proposed terms and conditions.

I think the potential to put the Avalon range of EV models at the forefront of charging speeds and technology is hugely compelling. I propose we investigate further with a view to setting up the joint venture arrangement with LSEV.

Agreed-upon procedures under a joint venture arrangement

Also, under the joint venture arrangement, I expect Avalon and LSEV will be equally sharing investment costs, operating costs and revenue associated with the EV rapid charge technology. As Avalon has not worked with LSEV before, the Board has suggested that a professional firm should report its actual findings that associated JV revenue, investment costs and operating costs will be completely and accurately reported by LSEV under a JV agreement.

David Lee, Chief Financial Officer, believes that SSRS 4400 (Revised), "Engagements to Perform Agreed-Upon Procedures Regarding Financial Information," is relevant in this situation, as the standard is suitable when users of the financial information require factual findings on specific elements reported by LSEV under the JV. The Board is seeking advice on what agreed procedures would be relevant in this situation and the level of additional assurance a report would provide.

Alex Tan

END OF EXHIBIT 14

Appointment of a professional advisor to the Board of Luna Automotive Group

The Board of Luna Automotive Group has engaged the services of Swan Professional Accountants to advise on strategic, operational and financial aspects of its Avalon EV operations.

The aim of this appointment is to provide the Board of Luna Automotive Group with a comprehensive and independent preliminary report to facilitate well-informed decision-making.

You are Jasmine Eng, a recently qualified Singapore Chartered accountant at Swan Professional Accountants. You are responsible for providing the Board of Luna Automotive Group with a report which will focus on:

- Avalon's recent financial performance.
- A potential new integrated sales order, supply chain, and inventory management IT system for Avalon.
- Implications of a change of transfer pricing arrangement between Avalon and LMC.
- A rapid charge EV charging stations opportunity with an EV competitor.

END OF EXHIBIT 15

Avalon: Requirements

Your formal report should focus on Avalon Electric Vehicles Limited only, and comprises the following four elements:

**e-Exam
Question
Number**

Requirement 1: Executive summary

2

- (a) Write an executive summary to accompany your report. Your executive summary should allow Jane Tan, CEO, to obtain a general understanding of what your report contains, including the key numbers. You should also include clearly stated assumptions, conclusions, and recommendations.

Note to candidates: While your executive summary should not contain any material or points that you have not discussed in the main body of the report, you are required to highlight any potential interactions between the individual standalone requirements below.

(Total: 10 marks)

**e-Exam
Question
Number**

Requirement 2: Analyse of performance, strategic risks and opportunities and benefits of digital marketing

3

- (a) Analyse the financial performance of Avalon Electric Vehicles Limited for the six months ended 31 December 2023 compared with the six months ended 30 June 2023.

Note: Candidates are required to use available and relevant financial, segmental and sales volume data.

(14 marks)

4

- (b) Evaluate the strategic risks and opportunities to Avalon Electric Vehicles Limited of operating in the EV sector.

(14 marks)

5

- (c) Explain the benefits to Avalon Electric Vehicles Limited of applying digital marketing and advise how specific digital marketing techniques could increase brand awareness and customer demand.

(6 marks)

(Total: 34 marks)

**e-Exam
Question
Number**

**Requirement 3: Evaluation of a new integrated sales app,
procurement and supply chain management system and transfer
pricing**

6

- (a) Identify and explain **FIVE** current issues and/or inefficiencies in Avalon Electric Vehicles Limited's supply chain, EV manufacturing and sales processes.

(10 marks)

7

- (b) Quantify the overall expected cost versus benefits expected to be derived during the first THREE years of implementation. Then explain each of the expected costs and benefits to Avalon Electric Vehicles Limited of implementing a new integrated sales app, procurement and supply chain management system.

Note: Candidates are required to ignore the time value of money.

(12 marks)

8

- (c) Perform a risk analysis for the implementation of a new integrated sales order, supply chain, and inventory management IT system and consider how each risk can be managed by Avalon's IT system implementation manager.

(10 marks)

9

- (d) Advise on the change in transfer pricing arrangements between Luna Motor Company Limited and Avalon Electric Vehicles Limited proposed by Luna's Chief Financial Officer.

(4 marks)

(Total: 36 marks)

**e-Exam
Question
Number**

**Requirement 4: Evaluation of rapid charge EV charging stations
and Financial Reporting and assurance considerations**

10

- (a) Evaluate the financial and non-financial considerations relating to the proposed strategy to implement rapid charge EV charging stations in Singapore using a suitable, acceptable and feasible framework and make a recommendation to the Luna Automobile Group Board.

(14 marks)

11

- (b) Explain suitable procedures for an SSRS 4400 (Revised) agreed-upon procedures engagement to report on the completeness and accuracy of revenue and costs reported under a proposed joint venture arrangement with LSEV and recommend to the Board how it should proceed.

(6 marks)

(Total: 20 marks)

END OF EXHIBIT 16

END OF PAPER