Hong Kong Institute of Certified Public Accountants
香港會計師公會

Hong Kong's CPA Qualification
香港會計師專業資格

Qualification Programme

Module 12
Business Finance

Pilot Examination Paper

Time Allowed	3 hours
Examination Assessment Allocation	
Section A – Case Questions	50 Marks All FOUR questions are compulsory
Section B – Essay / Short Questions	50 Marks All FOUR questions are compulsory

Published in March 2021

Module 12 – Business Finance

This examination is divided into TWO sections.

- Section A (50%). This consists of FOUR compulsory case questions. You should allocate approximately 1 hour and 30 minutes in total for Section A.

- Section B (50%). This consists of FOUR compulsory essay / short questions. You should allocate approximately 1 hour and 30 minutes in total for Section B.

Suggested time allocation (by marks):

Marks	Approximate time in minutes
1	2
2	3
3	5
4	7
5	9
6	11
7	12
8	14
9	16
10	18
11	20
12	22
13	23
14	25
15	27
16	29
17	32
18	33
19	34
20	36

SECTION A – CASE QUESTIONS (Total: 50 marks)

Answer **ALL** of the following questions. Marks will be awarded for logical argumentation/ calculation and appropriate presentation of the answers.

CASE

FS Logistics ("FS"), recently listed on the Hong Kong Stock Exchange, is a provider of logistic and delivery services in Hong Kong and China for 20 years. FS sells service coupons in advance to corporate clients who can then make appointments one day in advance for logistic and delivery services. The logistic and delivery services are mainly supported by a pool of drivers, who are paid by FS on a case-by-case basis.

Recently, FS has been facing challenges from its traditional business model. The corporate business turnover is slowing down in both Hong Kong and China due to strong competition from other local small logistic and delivery services companies. These companies have utilised mobile app-based platforms that not only provide nearly instant logistic and delivery services on demand, but also do not require customers to purchase service coupons. In addition, FS received complaints from customers and drivers about late delivery and low services fees offered by FS, respectively. As a result, some drivers prefer to work for other logistic and delivery service companies that offer higher service fees and discretions to choose delivery orders by themselves through mobile app-based platforms.

A new Finance Director reviewed existing business practices and found that FS has been using financial ratios and data to measure the performance of the business for years without performance measurements in other aspects. The Finance Director criticised the existing performance measurement system and pointed out that flexibility, resources utilisation and innovation are the critical success factors for measuring the logistic and delivery business.

To overcome the business challenges, the Finance Director also advised the Board of Directors to consider formulating and implementing a new e-commerce business strategy to launch a mobile app-based ordering platform to meet customers' needs for logistic and delivery services on demand. FS would like to set up a new subsidiary, namely FS Mobile Limited ("FS Mobile"), to start this mobile app-based business in a small scale to test the market response before fully converted into a mobile app-based business model. By using the mobile app, customers can place delivery order, pay FS Mobile online and directly contact drivers to follow up their orders. Due to long business relationships, FS Mobile would allow a few existing corporate clients to use this mobile app-based logistic and delivery service on credit.

Based on research of other similar mobile app-based logistic and delivery service companies, the estimate revenue in the first year will be around HK$5,000,000 and is expected to grow 20% annually if business environment is good; otherwise only 10% growth is expected. Economists expects 80% of the business environment is good in coming three years. Operating costs excluding depreciation expenses are estimated to be 70% of the sale revenue same as existing business. FS Mobile will acquire an information system from Hong Kong vendor that costs HK$3,000,000 in year 1. The information system is expected to be depreciated fully in three years by straight line depreciation method. It is assumed that the depreciation expense is fully tax deductible. Inventories includes packing accessories and materials while receivables includes a few sizeable corporate customers who like to place the order on credits. Inventories, receivable and payables balances in year 1 are HK$1,000,000, HK$2,000,000 and HK$500,000 respectively. These three items are assumed to increase in line with the growth of sale revenue in year 2 and 3.

Based on the banking relationship of FS, FS Mobile can secure a short term bank loan of HK$400,000 at 10% interest rate per annum for coming three years. Profits tax rate is expected to continue at 16.5% over the coming years. FS Mobile will keep share capital and cash balance at HK$10,000 and HK$100,000 respectively during the above periods.

As an alternative, based on the advice of a mobile app-based business specialist, FS Mobile has a choice to purchase a newly developed mobile app-based business information system from a London vendor that costs GBP300,000, and is required to pay in 30 days. Since the Hong Kong dollar is pegged to the US dollar, management has no preference to handle business transactions in either currency. The bank advisor advises FS Mobile to use GBP / USD futures contract in this purchase. The current spot rate is GBP1 / USD1.135 – 1.136. The pound futures price is GBP1 / USD1.138. In 30 days' time, the spot rate is GBP1 / USD1.139 – 1.140. The futures price after 30 days is GBP1 / USD1.160. The standard size of a three-month pound futures contract is GBP 10,000.

Besides the development of mobile app-based logistic and delivery business, FS also considers expanding its businesses to emerging overseas countries where logistic and delivery services are not available or well developed. Since the government is encouraging Hong Kong companies to do business in countries along the Belt and Road, FS is considering to provide similar logistic and delivery services to get the first entrance advantage in these countries.

The existing logistic and delivery service business has collected and generated a significant amount of transactional and non-transactional data that management is not familiar with how to use these data to formulate new mobile app-based business strategies. Recently, Management heard about cybersecurity issues that hackers have been stealing data from different reputable companies that are criticised by both regulatory bodies and the public for being negligent to handle and protect customers' data. Particularly, Management is worried about the potential lawsuits that may affect the reputation and share price of FS. Right now, there is no cybersecurity strategy being considered by the Board of Directors.

FS has kept all business data in a centralised data warehouse located in Hong Kong and it is managed by an information system team headed by the Chief Information Officer, Mr Yung who graduated from a reputable university. He is a fellow member of the Hong Kong Institute of Certified Public Accountants and also an experienced and qualified information system professional for 20 years. A few months ago, Mr Yung was aware of the increased hacking activities in the information system which contains all customers, vendors and financial information of FS. Some hackers have successfully broken into the information system for a few times but they did not take away any data nor cause any damages to the information system. Therefore, Mr Yung did not report the security issues to the Board of Directors and risk management committee to avoid any impact to his year end bonus.

During the recent information system audit, Mr Yung was surprised to find that personal information of 100,000 customers have been hacked by hackers a month ago. It is the first time that Mr Yung has to face such a huge loss of company data. After seeking advice from a professional information system security consultant, he reported the case to the Board of Directors immediately. In the Board meeting, all directors were surprised by the incident. Mr Yung and some directors suggested not to disclose this incident to the public because it would affect the share price and reputation of the company while some directors suggested that the company should disclose to the public immediately.

Question 1 (14 marks – approximately 25 minutes)

(a) **Identify and explain any THREE strategic issues including business process, information system, service quality, financial strategy, human resources and project management which should be addressed by the management during the implementation of the new mobile app-based logistic and delivery service business strategy.**

(6 marks)

(b) **Evaluate the existing performance measurement system of logistic and delivery service business.**

(4 marks)

(c) **Based on Building Block Model, recommend and explain ONE quantitative measurement for each of any TWO critical success factors identified by the Finance Director to measure the performance of the logistic and delivery service business.**

(4 marks)

Question 2 (10 marks – approximately 18 minutes)

(a) **Assume FS Mobile acquires an information system from Hong Kong vendor, prepare a pro-forma statement of profit and loss, and a statement of financial position, for FS Mobile for the coming three years, and advise the financial implications to the management when launching the new mobile app-based logistic and delivery service business.**

(6 marks)

(b) **Assume FS Mobile decides to launch the new business, recommend appropriate short term cash management method and long term financing option to the Board of Directors to finance the business.**

(4 marks)

Question 3 (12 marks – approximately 22 minutes)

(a) **Assume FS Mobile acquires a developed mobile app-based business information system from the London vendor, explain and advise the hedging method that FS Mobile can use to hedge the foreign currency risk based on the bank advice. Calculate the final result of the hedge.**

(6 marks)

(b) **Evaluate the foreign exchange risk involved to set up and do business with countries along the Belt and Road.**

(6 marks)

Question 4 (14 marks – approximately 25 minutes)

(a) **Explain the professional ethics and legal issues of Mr Yung regarding the loss of customer data incident.**

(8 marks)

(b) **Identify and analyse the nature of the existing logistic and delivery service information system with respect to handling volume, velocity and variety of information.**

(3 marks)

(c) **Justify the needs to formulate a cybersecurity strategy for the new mobile app-based business.**

(3 marks)

* * * END OF SECTION A * * *

SECTION B – ESSAY / SHORT QUESTIONS (Total: 50 marks)

Answer **ALL** of the following questions. Marks will be awarded for logical argumentation/ calculation and appropriate presentation of the answers.

Question 5 (11 marks – approximately 20 minutes)

AWD Limited ("AWD") is an international fashion company headquartered in Hong Kong with a manufacturing plant and a number of retail stores in the PRC.

The Chairman and CEO of the company, Mr Li, established the company 30 years ago and made all operational decisions. He is considered a very key executive. Due to age and recent health issues, he is considering retiring. As at today, there is no indication of who will be his successor. The most senior and experienced operational staff is the Director of Manufacturing Operations who only has been with the company for five years and does not have a lot of management experience other than manufacturing.

The board consists of three people: Mr Li, his wife, and the Director of Manufacturing. Mr Li also serves as the chairman of the board. They meet regularly to discuss primarily operational issues. All key strategic issues have been decided by Mr Li.

The PRC factory manufactures and sells high end fashion to local market, as well as exports to the USA and UK. At the same time, the retail stores import and sell luxury jewelry from the USA and UK. Annual sales is about USD800 million per annum. Average gross profit margin is 30%. As of today, all purchases and sales are priced in the respective currencies and settled in USD. The company's latest strategy is to enter into the Japan and EU markets. Therefore, more foreign currencies will be involved.

To finance the operations, AWD also borrows in USD short term and converts to RMB and/ or British Pounds when needed. The loan is priced at variable interest rate and is renewed annually. Currently, the treasury and financing functions are managed by a senior accountant, Mr Leung, who has been with the company for over 10 years. However, Mr Leung does not have any relevant experience handling complicated treasury functions and only converts the cash receipts into USD. Also, AWD has maintained relationship with only one bank since its incorporation 10 years ago. According to the latest market consensus, interest rates are expected to increase.

Ms Chan just joined AWD as CFO and realises that the company is subject to major risks. She asks you, the new Financial Controller, to review such risks and prepare recommendations to alleviate them.

Required:

(a) Identify and explain the potential risks faced by AWD.

(3 marks)

(b) Recommend ways to manage the risks identified in Question 5(a).

(5 marks)

(c) Given the business environment of the company, describe the ways that AWD can better manage its treasury functions if and when RMB becomes freely convertible.

(3 marks)

<u>Question 6</u> **(14 marks – approximately 25 minutes)**

A family fund owns 100% of a private company HYX. The fund is planning to divest HYX and is concerned about its valuation. You are the fund manager and a qualified accountant. Mr Ho, the owner of the fund, asks you for advice as to HYX's valuation. HYX's latest NAV is HK$830 million, including HK$200 million of goodwill; they just paid a dividend of HK$30 million and its dividends are expected to grow at 8% for the next five years, and then 5% per annum onwards. Cost of equity is 10%, and currently the company has no long-term debt. Average audited post tax profit for the past two years is HK$50 million. Number of ordinary shares is 20,000.

You have done some research and notice that a Hong Kong listed company, which is very similar to HYX, has a Price/ Earnings ("P/E") ratio of 21. It is usual practice to discount valuation of private company due to liquidity, i.e. the liquidity discount, at 30%. By using the P/E ratio method, the value of HYX's 100% shareholding would be HK$735 million.

<u>Required:</u>

Prepare a memo to Mr Ho to:

(a) Evaluate HYX's 100% shareholding with TWO methods other than using P/E ratio.

(b) Describe the merits and shortcomings of each of the TWO other valuation methods in Question 6(a).

(c) Recommend how the final price should be agreed by Mr Ho and justify your recommendation.

Note: A maximum of 2 marks for communication skill and 2 marks for problem solving skill will be awarded.

(14 marks)

Question 7 **(15 marks – approximately 27 minutes)**

You are the CFO of Chinco Limited ("Chinco"). Before the investment proposal is considered, financing is from trade payables and equity.

Chinco is currently planning to invest in a substantial capital project that requires about HK$500 million of financing. The pro-forma statement of financial position and statement of profit or loss, assuming 100% long term debt financing, are listed below. The tax rate is 16.5%. The interest rate is 5%. The market price is HK$0.6 per share and the number of ordinary shares outstanding is 328,300,000. The share price is at a 52-week low.

Industry's non-current assets / total assets ratio is 50%, current ratio is 2, and debt to equity ("D/E") ratio is 40%.

Listed below are the pro-forma financial statements.

Chinco Limited Pro-Forma Statement of Financial Position

	HK$'000
Non-current assets	825,000
Total non-current assets	*825,000*
Current assets	
Inventories	99,000
Trade receivables	66,000
Cash and bank balances	8,250
Total current assets	*173,250*
Total Assets	*998,250*
Current liabilities	
Trade payables	120,450
Total current liabilities	*120,450*
Non-current liabilities	
Long term debt	500,000
Total non-current liabilities	*500,000*
Equity	
Share capital	328,300
Retained earnings	49,500
Total equity	*377,800*
Total liabilities and equity	*998,250*

Chinco Limited Pro-Forma Statement of Profit or Loss

	HK$'000
Sales	949,200
Cost of sales	745,800
Gross profit	*203,400*
Expenses	135,600
Earnings before interest and taxes ("*EBIT*")	*67,800*

Required:

(a) Advise whether Chinco should finance the capital investment by debt only using the Altman's Z-score to evaluate the risk of financial distress leading to corporate failure.

(4 marks)

(b) Based on the Z-score calculations above, recommend improvements in the financial performance to allow the company to use debt to finance its capital spending going forward.

(6 marks)

(c) Explain TWO major factors leading to business failure from insolvency and the major types of liquidation of a business.

(5 marks)

<u>Question 8</u> (10 marks – approximately 18 minutes)

Company WWX Limited ("WWX") is an all equity company, i.e. it has no debt. It can borrow at 9%. WWX's weighted average cost of capital ("WACC") is 12%, and the tax rate is 16.5%. Industry D/E ratio is at 30%. The CFO is trying to lower the WACC by issuing 25% debt and use the money to finance a capital investment. Internal rate of return ("IRR") of the project is 12.5%. The project is of the same risk level as the company. The CFO also discussed with the bank, who indicated that if a loan is approved, it will not carry any special covenant given the sound financial situation of WWX. Further, latest financial reports indicate WWX's profit and cash flow are strong, with earnings per share ("EPS") on the rise. Further, interest rates are expected to increase globally.

The majority of the Board members of WWX are very conservative and may not agree to the proposed leveraging. Also, WWX can easily finance the investment using new equity or retained earnings. So the CFO foresees difficulty in obtaining Board approval to borrow.

<u>Required:</u>

(a) Evaluate whether WWX should accept the project.

(3 marks)

(b) According to the Modigliani – Miller ("MM") theory, determine whether the new capital structure of WWX is optimal. Justify your answer.

(2 marks)

(c) Applying the FRICT framework, explain the consideration between choosing debt and new equity as source of financing for the new project.

(5 marks)

* * * END OF EXAMINATION PAPER * * *

Module 12
Business Finance

Answers

The suggested answers are longer than what candidates are expected to give in the examination. The purpose of the suggested answers is meant to help candidates in their revision and learning. The suggested answers may not contain all the correct points and candidates should note that credit will be awarded for valid answers which may not fully covered in the suggested answers.

SECTION A – CASE QUESTIONS (Total: 50 marks)

Answer 1(a)

The new mobile app-based logistic and delivery service business can generate future business growth and profitability to FS that has high strategic importance. The new app-based logistic and delivery business involves complex and dynamic processes that provide competitive advantages. It should be developed further through redesigning of mobile app-based business processes and developing strategic partnerships to add values to customers and to add profitability to FS.

Information system is the key strategic component in the new mobile app-based logistic and delivery service business; it should be designed and implemented carefully to enhance customer service. Set up costs, running costs, information system resources planning in particular to information system security concerns must be addressed and planned ahead. For security sake, it is advisable to appoint external professional accreditation bodies to accredit and certify the mobile app-based business processes and the security of the mobile app to enhance customer confidence to use the app.

Service quality must be addressed in the implementation of business strategy in particular to delivery service industry. Service quality includes availability, reliability, responsiveness, competence, communication, credibility and security that are crucial to enhance customers' satisfaction, to increase revenue and to reduce remedial costs. FS should obtain international quality certification, such as ISO9000, to certify their business processes and quality standards to ensure proper quality control and assurance are in placed to monitor service quality in the business.

FS needs to consider a financial strategy when they implement the new mobile app-based logistic and delivery service business. In particular, FS must focus on creating shareholders' wealth and to meet the financial expectation of the stakeholders. Moreover, FS has to determine the funding strategy of the business strategy. For new mobile app-based logistic business that is high growth with comparatively high business risk, FS may consider to use lower financial risk and gearing structure, such as existing fund and debt financing to match with new business funding needs.

Human resources is another essential factor to consider for the implementation of successful new mobile app-based logistic and delivery service strategy, which includes identifying and recruiting specific talents for the new mobile app-based logistic and delivery service business, developing existing personnel and motivating staff to achieve higher productivity using new information technology towards the company's business objectives. FS needs to recruit qualified mobile apps development staff and information technology professional to further develop the mobile app-based platform and information system to implement the new business strategy. Moreover, existing staff should be re-trained to learn app-based development and use business analytics to support the new business.

Good project management is essential in the implementation of new logistic and delivery service business strategy to make sure all projects are planned in terms of time, budget and costs according to the performance specifications. Moreover, project risk management should be implemented to identify, analyse and control project risks to avoid slippage of project timetable, cost overrun, poor service quality, business disruption and customers' dissatisfaction.

Answer 1(b)

FS's existing performance system that mainly focuses on using financial results to measure the performance of the logistic and delivery service business is subject to short termism.

Short termism is a bias towards short-term rather than long term performance and sacrifices longer term objectives.

It is clear that drivers are discontent about low service fees paid by FS and decide to leave FS.

Moreover, some customers complained the service quality of drivers which might be caused by their discontent over pay.

FS only focuses on financial results rather than investing to improve service quality and drivers' performance will likely lead to deterioration in sales growth and reduced competitiveness in the market.

Answer 1(c)

The Building Block Model attempts to provide performance measurements to service industry that includes dimensions block to measure each performance dimension of critical success factors for service business.

There are three aspects to measure flexibility: speed of delivery, response to customer specifications and coping with demand. Speed of delivery measures punctuality to provide services that is essential in new mobile app-based logistics service business and the measurement may be whether the logistics service would deliver the goods on time or whether the drivers arrive to pick up the goods on time or whether customer services handle the enquiries of customer timely.

Resource utilisation is mainly measured based on productivity ratios. It can be the number of drivers available to the number of customers ratio or the number of successful deliveries completed per hour.

In terms of innovation, measurements include the recoverability of research and development expenditure spending from new services and the proportion of new service revenue to total service revenue and the number of new delivery services offered to customers.

Answer 2(a)

Financial forecast is used to assess and evaluate the likely consequence of a new mobile app-based business strategy, and whether FS Mobile can achieve its financial objectives in the coming three years.

Pro-forma Statement of Profit or Loss	HK$	HK$	HK$	
Year	1	2	3	
Revenue	5,000,000	5,900,000	6,970,000	(W1)
Operating costs before depreciation	(3,500,000)	(4,130,000)	(4,879,000)	
Earning before interest, taxes, depreciation and amortisation ("EBITDA")	1,500,000	1,770,000	2,091,000	
Tax allowable depreciation	(1,000,000)	(1,000,000)	(1,000,000)	
Operating profit	500,000	770,000	1,091,000	
Interest	(40,000)	(40,000)	(40,000)	
Profit on ordinary activities before tax	460,000	730,000	1,051,000	
Profits tax (16.5%)	(75,900)	(120,450)	(173,415)	
Profit after tax	384,100	609,550	877,585	

W1: Revenue			
Growth rate 20%	5,000,000	6,000,000	7,200,000
Growth rate 10%	5,000,000	5,500,000	6,050,000
Probability 80%		4,800,000	5,760,000
Probability 20%		1,100,000	1,210,000
Total expected revenue	5,000,000	5,900,000	6,970,000

Pro-forma Statement of Financial Position	HK$	HK$	HK$	
Year	1	2	3	
Non-current assets				
Information system, net book value	2,000,000	1,000,000	-	
Current assets				
Inventories	1,000,000	1,180,000	1,394,052	(W2)
Receivables	2,000,000	2,360,000	2,788,104	(W2)
Cash	100,000	100,000	100,000	
Total assets	5,100,000	4,640,000	4,282,156	
Current liabilities				
Bank loan	400,000	400,000	400,000	
Payables	500,000	590,000	697,026	(W2)
Shareholders' funds				
Share capital	10,000	10,000	10,000	
Retained earnings	384,100	993,650	1,871,235	
Total liabilities and shareholders' funds	1,294,100	1,993,650	2,978,261	
Required financing	3,805,900	2,646,350	1,303,895	

W2:

Sales growth		18.00%	18.14%
Inventories	1,000,000	1,180,000	1,394,052
Receivables	2,000,000	2,360,000	2,788,104
Payables	500,000	590,000	697,026

The new mobile app-based business strategy is forecast to be profitable in each of the coming three years, but it requires significant additional financing to support the development of the business.

Answer 2(b)

FS Mobile has to consider the management of the cash conversion cycle of the new business activities because the inventory and receivables are expecting to continue to increase in three years that requires formulation of new cash management strategy to reduce investment in working capital. FS Mobile should consider ways to reducing inventory balance, collecting accounts receivable promptly and stretching payments to suppliers to lower the working capital requirement in the business.

FS Mobile needs to consider long term financing instead of using short term bank loan that is comparatively expensive to support the significant capital expenditure to develop new mobile app-based business operation. The interest of these additional long term financing should be considered in coming financial forecast once the financing strategy has been formulated. FS Moible can either consider obtaining long term bank loan or issuing additional shares to cater for the continuous growth of new mobile app-based logistic and delivery service business.

Answer 3(a)

Since FS Mobile is going to purchase an information system from London that is payable in 30 days, it has to hedge against the Pound strengthening against the US dollars when they make the payment because if the Pound appreciates in value against US dollars in the next 30 days, FS Mobile has to pay more US dollars to settle the invoice in Pounds that will lead to a foreign exchange loss.

FS Mobile is an importer and it may lose on the Pound appreciation against US dollars. FS Mobile has to buy GBP futures at GBP1 / USD1.1380 so it can make a profit in futures position to offset the loss on adverse exchange rate movement.

FS Mobile needs to buy 30 contracts (i.e. GBP300,000 / GBP10,000).

The tick value per contract is USD1 (i.e. USD0.0001 x GBP10,000).

Hedge outcome in futures market:
Opening: buy at futures price GBP1 / USD 1.1380
Closing: sell at futures price GBP1 / USD 1.16
Ticks movement: 220 ticks

Futures profit: 220 x USD1 x 30 contracts = USD6,600.

Final result:
Payment in 30 days' time spot rate USD342,000
(GBP300,000 x GBP1 / USD1.14)
Futures market profit USD(6,600)
Net settlement is USD335,400

Answer 3(b)

Foreign exchange risk is the risk that the exchange rates used to convert foreign currency revenues, expenses, cash flows, assets or liabilities to the home currency move adversely, resulting in a decrease in profitability and shareholders wealth. There are three types of foreign exchange risks that should be considered when setting up a business with countries under the new Belt and Road.

The economic risk of doing business with countries along the Belt and Road is very high because their foreign exchange rates may fluctuate significantly when they just start to open their markets to international business activities. Moreover, different countries have different foreign exchanges rules and regulations that increase the economic risk. FS does not have experience to handle this kind of economic risk.

The transaction risk of doing business with these countries is very high because different foreign currencies are not convertible to international currencies freely. FS may not be able to exchange or remit their income and capital back to Hong Kong easily. Moreover, there are limited hedging methods available to hedge transaction risk in these countries and are often very expensive.

The translation risk is very high to convert earnings, long term foreign monetary assets and liabilities into Hong Kong dollars for statutory reporting purposes. The disposal of foreign currency assets and liabilities may also be highly regulated. Again, there are limited hedging methods available to hedge translation risk in these countries. FS will face higher translation risk exposure in these countries.

Answer 4(a)

Mr Yung is a certified public accountant and he is subject to the fundamental principles of the Code of Ethics of the Hong Kong Institute of Certified Public Accountants.

A professional accountant should have integrity that means a certified public accountant should be straight forward and honest in all professional and business relationship that implies fair dealing and truthfulness. For self-interest, Mr Yung does not report the successful intrusion of hackers into the information system which is an omission and misleading behavior that will compromise his integrity in this incident.

Objectivity is another principle that a certified public accountant should act without bias, conflict of interest or the undue influence of others to override professional or business judgement. They should avoid relationships that will impair objectivity. Mr Yung is not objective because he acts in his personal interest rather than stakeholders' interest and decides not to disclose the incident to the Board of Directors and the public.

Confidentiality requires a professional accountant to respect confidentiality of information acquired as a result of professional and business relationships and should not disclose any information to third parties without proper and specific authority. Mr Yung discloses the incident and seeks advice from his friend who is an external party and may take advantage of this news for his personal gain that is not appropriate professionally.

A professional accountant should behave professionally to comply with relevant laws and regulations and should avoid involving in any action that discredits the profession. Mr Yung does not breach any laws and regulations when he decides not to report a few successful hacker intrusion cases to the Board of Directors because these cases do not cause any losses and damages to the company and to stakeholders.

The legal issues arise when he proposes not to disclose the data lost incident to the stakeholders that may infringe Listing Rules and Companies Ordinance that requires a director to fulfill fiduciary duties to act faithfully and professionally for the best interest of the stakeholders of the company. He may also breach the Personal Data (Privacy) Ordinance that may be subject to criminal offence.

Answer 4(b)

The existing logistic and delivery service business collects and generates a significant amount of data that may be considered a big data information system and business.

The characteristics of a big data business are collecting different varieties of transactional and non-transactional data from internal and external sources.

Moreover, the data will be generated continuously and need to be processed immediately to provide information to business decision making.

FS can consider using data analytics tools including data mining that analyse data to find patterns, relationship, association and correlations of data, predictive analytics that use data to predict future business events, text analytics that search for key words to identify customers' preference and statistical analytics that find trends, statistical correlations and changes in customers' tastes or preference.

Answer 4(c)

The Finance Director can consider the following justifications to build a business case to present to the Board of Directors to formulate a new cybersecurity strategy to handle the big data business:

Corporate governance

For good corporate governance practice, directors must understand the effects that a cybersecurity breach could have and set up strong corporate governance and clear policies to handle cybersecurity issues. Directors have to ensure processes that attract cybercrime are reviewed and properly controlled. Encryption and anti-virus should be in placed to protect data and the information system.

Regulatory and legal compliance

Even though there is no cybercrime or cybersecurity law in Hong Kong, FS has to comply with Telecommunication Ordinance, Crimes Ordinance and Theft Ordinance on computer-related criminal offences including unauthorised access to computers, misuse of computer program or data, obtaining access to computers with the intent to commit an offence or with dishonest intent and unlawfully altering, making false entries in banks' books of accounts by electronic means, adding or erasing the function or records of computers.

Competitive advantage

Directors have to develop a strong and effective internal control system to prevent cybercrimes and attacks to strengthen market leadership and service differentiation. The data collected and generated by new mobile app-based logistic and delivery service business will provide significant competitive advantages to the company that should also be well protected and secured by information security systems.

Financial exposure

Cyber related crimes and risk events have been causing financial losses due to damages to reputation, disruption of businesses, lawsuits and fines to many companies globally. FS has to formulate cybersecurity strategy to prevent data losses and information system damages to the company and various stakeholders.

* * * END OF SECTION A * * *

<u>SECTION B – ESSAY / SHORT QUESTIONS</u> **(Total: 50 marks)**

<u>Answer 5(a)</u>

The company is subject to the following types of risks:

<u>Succession</u>

Mr Li is a very key executive who have been making all major strategic decisions. It seems there is no obvious successor for the business and given the growing scale and the plan to expand into more markets, if Mr Li steps down involuntarily one day, the company will suffer from major business continuation risk.

<u>Corporate governance risk</u>

Mr Li holds the joint title of Chairman of the Board and CEO. This arrangement is against good corporate governance as too much power is concentrated at one person. In addition to the succession risk mentioned above, too much concentration of power in one person has proven not be in line with today sound corporate governance practice. This will have major negative impact to the long term growth of the company.

<u>Currency risk</u>

It is because all sales and purchases are priced in the respective currencies and settled in USD. As of today, the currencies involved are USD, British Pounds and RMB, all of which fluctuate according to market sentiment. Given the strategic plan is to expand into Japan and EU markets, if the current pricing and settle practices do not change, the extent of currency risks will increase. It can be argued that such risks between currencies may offset each other, but the uncertainty can go one-sided and therefore pose extremely high risks.

<u>Interest rate risk</u>

Borrowing in short term USD loans at variable rate and is renewed annually. As such, given interest rate is expected to increase, this will expose the company to higher interest costs in the future. Further, the risk of non-renewal of short-term loans when matured cannot be ignored.

<u>Bank concentration risk</u>

Since only one bank is used since incorporation, the company is exposed to bank concentration risk. In particular, bank credit risk as well as its product pricing risk may impact future financing activities.

Answer 5(b)

Succession risk

In the short term, the company should plan on recruiting a management team with appropriate skills and experience in the current and future planned operations. In the long run, the company should develop a succession policy and groom outstanding young managers from within to eventually take over the top management role in due course.

Corporate governance risk

The role of Chairman and CEO can be separate in order to bring in a balance of power and therefore more objective decision can be made at the board level.

Enhance the board by inviting outstanding business persons to join as non-executive members in order to bring in fresh views.

Currency risk

The company can try to align all purchases and sales in the same currency as far as possible and then consider using hedging instruments such as forwards contracts and futures contracts to hedge a proportion of the net foreign exchange exposure.

It is unlikely that the current staff can handle such transactions with confidence. Therefore, it is recommended to provide training to Mr Leung and at the same time, hire a staff with the relevant knowhow and experience to execute the transactions.

Interest rate risk

To reduce such risks, it is recommended that the company to consider borrowings for long term at a fixed interest rate. This will reduce rate uncertainty as well as risk of non-renewal of loan.

Interest rate futures or swaps can also be considered, but this will incur additional transaction costs.

Bank concentration risk

The company should develop banking relationships with several reputable banks with good credit ratings that have established businesses in both currency and lending transactions. The benefit is to reduce credit risk as well as the opportunity to obtain better product pricings with competition.

Answer 5(c)

When the RMB becomes freely convertible, this will open further opportunity for the company to manage its currencies risks. The difference between the onshore and offshore RMB market pricing will be eliminated. It is because onshore rates are controlled by the Central Bank, whereas offshore rates are decided almost entirely by FX markets. The elimination of such differences can make the currency rate more reflective of the demand and supply.

Also, by then, the RMB can be converted to other currencies for payment settlement for purchases from other countries. This is particularly important when more foreign markets are developed according to the strategic plan.

Further, more RMB priced hedging products will likely be developed to help company manage its currencies risks. Costing will also be lower.

At the same time, borrowing may not be limited to USD as the company can borrow RMB and convert to relevant currencies for payments.

Answer 6

To: Mr Ho

From: Fund Manager

Date: XX/XX/XXX

Remark: Divestment of HYX

(a) Other than using P/E ratio, net asset value ("NAV") and discounted cash flow on dividends can be used to evaluate HYX's 100% shareholding.

NAV method

	HK$ million
NAV	830
Less: Goodwill	200
NAV excluding goodwill	630
Value of 100% shareholding	630

Discounted cash flow on dividends

Last dividend (HK$ million)	30				
Growth rate per annum – first five years	8%				
No of ordinary shares	20,000				
Year	1	2	3	4	5
Dividend (HK$ million)	32.40	34.99	37.79	40.81	44.08
No. of shares	20,000	20,000	20,000	20,000	20,000
Dividend per share (HK$)	1,620	1,750	1,890	2,041	2,204
Value of share at year 5* (HK$)					46,280
Total cash flow per share (HK$)	1,620	1,750	1,890	2,041	48,484
Discount factor	0.9091	0.8264	0.7513	0.6830	0.6209
Present value (HK$)	1,473	1,446	1,420	1,394	30,104
Share price (HK$) (sum of PV of dividends)	35,837				
Value of 100% equity (HK$)	716,740,000				

*Value of share at year 5	
Growth rate starting year 6	5%
Cost of equity capital	10%
Dividend at year 6 (2,204 x (1 + 0.05))	2,314
Value per share at year 5 (2,314 / (0.10 – 0.05))	46,280

(b) The merits and shortcomings of the two methods are as follows:

NAV method

(i) This method is based on the audited financial statements so data is objective and easily available.

(ii) The major issue is that the valuation may not reflect the current market value since it is not based on future cash flows.

Discounted cash flow on dividends

(i) It is a sound theoretical basis as the value is based on present value of future cash flows.

(ii) Substantial estimation and assumptions are required, such as cost of equity, discount rate, dividend growth rates and that dividend has a constant growth in the future.

(c) Recommendation of final price

The three valuation methods resulted in different valuations for the company, ranging from HK$630 million (NAV method) to HK$735 million (P/E method), with discounted cash flow on dividends giving an intermediary value of HK$716.7 million.

As valuation techniques relied on different assumptions and technical principles, it can be used to provide an indicative value of the company. The three methods provide a range of possible values for buyer and seller which can form a basis for further negotiation during which these assumptions will be assessed and challenged. Valuation techniques offer a basis for the determination of final offer and accepted price.

The above methods provide a good estimate of the standalone value of the company. The final price will also depend on the synergies derived from the deal. For example, HYX can provide cost savings, revenue enhancement, market penetration opportunity and/ or strategic positioning to the buyer. The final price should be based on stand-alone value plus possible synergy derived from the transaction, with the synergy-based value not being considered in this analysis. Therefore, the final price should reflect both financial and non-financial factors.

Answer 7(a)

Z-Score ratios:

X_1	Working capital / total assets	0.053	(173,250 – 120,450) / 998,250
X_2	Retained earnings / total assets	0.050	(49,500 / 998,250)
X_3	Earnings before interest and tax / total assets	0.068	(67,800 / 998,250)
X_4	Market value of equity / book value of total debt	0.317	(0.6 x 328,300 / (500,000 + 120,450)
X_5	Sales / total assets	0.951	(949,200 / 998,250)

Z-score $= 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5$

$= 1.5$

Since the Z-score of 1.5 is less than 1.81, the threshold for financial distress, the company should not use debt financing at this stage.

Answer 7(b)

The company should improve on the following in order to increase the Z-score to above 1.81 to avoid financial distress when using debt:

(i) Reduce total assets by reducing existing non-current assets as this number impacts the Z-score in four out of the five components, i.e. X_1, X_2, X_3 and X_5. The non-current assets / total assets ratio is 82.6% (825 / 998.25) is way above the industry average of 50%, indicating the company is overweighted in non-current assets.

(ii) Improve the EBIT as profitability affects two of the five components by increasing sales, which will benefit X_3 and X_5.

(iii) Minimise the use of debt to finance the investment. This will help boost X_4.

(iv) Reduce current liabilities and increase current assets in order to boost working capital, hence X_1. This in conjunction with (i) above i.e. reducing existing non-current assets will enhance X_1, X_2, X_3 and X_5. Further, the current ratio is 1.44 (173.25 / 120.45) which is under the industry average of 2, indicating the company might have liquidity risk.

(v) Enhance the share price in order to boost the market value. When sales and EBIT improve, and is proven to be sustainable, this should result in a higher share price. The company can also develop a business strategy to promote an increase in P/E ratio at the same time.

Answer 7(c)

Overtrading – the business can result in liquidity problems from overtrading which means having too little working capital to support the actual volume of business. This is primarily due to poor business and financial planning, i.e. company is not able to accurately predict a sudden surge of business transactions, hence does not provide enough financial resources to support the working capital needs.

Excessive leverage – the company entering into borrowing beyond its repayment capability. When profit drops, there is not enough cash flow to support the high interest and principal repayment, leading to eventual liquidation of the firm.

Types of liquidation:

- Voluntary: directors or owners initiate the liquidation process to close down the firm, selling the assets and returning the money to the shareholders after all liabilities are settled.

- Involuntary: initiated by creditors due to company suffering from cash flow problems and is unable to honor the interest and principal repayment obligations. As a result, creditors in order to protect firm's assets, filed application to liquidate the firm, sell its assets to repay debts. The shareholders usually receive very little, if anything at all, after all liabilities are settled.

Both voluntary and involuntary insolvency proceedings require specific legal procedures to be followed and application to courts will be involved.

Answer 8(a)

IRR of project	12.50%	
Tax Rate, Tc	16.50%	
Unlevered cost of equity		
= WACC no debt, Ru	12.00%	
Cost of debt, Rd	9.00%	
debt %	25.00%	
Equity %	75.00%	
D/E	33.33%	(25 / 75)
cost of equity with 25% debt	12.84%	[12 + (12 – 9)(25 / 75)(1 – 0.165)]
WACC with debt	11.51%	[12.835 x 75 / 100 + 9 x 25 / 100 x (1 – 0.165)]

Since the WACC with debt is 11.51%, lower than the IRR of 12.50%, the company should accept this project.

Answer 8(b)

As the industry is formed by companies doing the same or similar business arriving at such a ratio, the industry D/E can be considered the optimal capital structure. Otherwise, companies may move to a different structure where WACC is lowest, and hence meet the definition of an optimal capital structure.

The company's D/E ratio with debt is 33.33%, which is close to the industry of 30%, so we can argue that the company is at optimal capital structure.

Answer 8(c)

FRICT stands for Flexibility, Risk, Income, Control, and Timing.

The company apparently follows a very conservative practice in choosing financing sources, i.e. use retained earnings and equity. In order to convince the Board, the CFO can apply the FRICT framework as follow:

Flexibility

The company currently has a lot of flexibility, being able to use retained earnings and equity. The company can also raise debt since its D/E ratio is now zero. Also, cash flow is strong so default risk is low.

Risk

Risk level of capital structure is very low at this stage since company has no debt, so it is possible to incur 25% debt. Using debt does not seem to pose a high risk to EPS as profitability and cash flow are strong as mentioned in the case. In fact, due to leveraging, EPS should improve compared to financing via new equity. The increase in financial risk should not cause any substantial pressure on the share price due to the company's current zero leverage.

Income

As mentioned in the case, income is also very strong and using debt is supposed to increase EPS as well.

Control

The bank has indicated that no unusual covenant will be imposed due to good credit standing.

Timing

The 25% debt will bring the company to industry's D/E average of 30%, which is more in line with MM's optimal capital structure. But the company should assess the interest rate risk as interest rate is expected to rise.

* * * END OF EXAMINATION PAPER * * *