

NANYANG TECHNOLOGICAL UNIVERSITY

SEMESTER 2 EXAMINATION 2017-2018

BC3402: Financial Service Processes and Analytics

April/ May 2018

Time Allowed: 2 hours

INSTRUCTIONS

- 1 This paper contains **THREE (3)** questions and comprises **FOUR (4)** pages.
 - 2 Answer all **THREE (3)** questions
 - 3 This is an **open-book** examination.
 - 4 The number of marks allocated is shown at the end of each question.
 - 5 Begin your answer to each question on a separate page of the answer book.
 - 6 Answers will be graded for content and appropriate presentation.
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Question 1

Read the following article and answer the questions below.

Trading link for Singapore, Malaysia stock exchanges by year end – The Straits Times, 7 Feb, 2018

Singapore and Malaysian share investors can look forward to trading in each other's stock exchange by the year end. This seamless access to a total of 1,600 public-listed firms worth more than US\$1.2 trillion (S\$1.6 trillion) is made possible by a stock market trading link to be set up between Bursa Malaysia (BM) and the Singapore Exchange (SGX). The initiative will be expanded later to include other stock markets in the region, a move that can only create greater vibrancy to Asean stock markets, experts said.

The new trading link will extend beyond trading to cover post-trade arrangements like the clearing and settlement of stocks traded. Regulators MAS and Securities Commission Malaysia will set up cross-border supervisory and enforcement arrangements, and work with the two exchanges to operationalise the link. MAS assistant managing director (capital markets) Lee Boon Ngiap said: "The trading link will help lower trading costs for investors and encourage greater cross-border investments... This will improve the liquidity of both our stock markets."

Required

- a) Contrast the above mentioned initiative against the ASEAN Trading Link which ended in a failure in Oct 2017. What do you think are the lessons learnt from that failure in setting up a cross-border trading link?
(15 marks)
- b) What are some suggestions you will provide to ensure this new initiative be a success and what are some possible strategies to grow this trading link?
(15 marks)

(TOTAL: 30 marks)

Question 2

In Feb 2018, Australian Exchange (ASX) announced that it plans to spend \$50 million on technology this year, including the blockchain-inspired replacement for its decades-old Clearing House Electronic Subregister System (CHES). CHES essentially automates the clearing and settlement of trades after they have been executed in ASX and it generally takes about two days after the trade has been executed for it to be completely cleared and settled.

-Source: ZDNet

- a) What do you think are the advantages of using blockchain for clearing of financial trades?
(10 marks)

- b) What do you think are some potential obstacles impeding the adoption of blockchain for clearing by the various counterparties (e.g. brokers, fund managers, asset managers etc.) in ASX?
(10 marks)

- c) What are implementation suggestions you will provide to ASX to facilitate adoption and success of this clearing technology?
(15 marks)

(TOTAL: 35 marks)

Question 3

Schwarz works in a sell-side brokerage firm and on 22 Jan 2018, he was instructed by his buy-side client to buy 300,000 units of VKS Corp starting from 22 Jan. Schwarz *proposed* trading strategy is shown below:

Start Time	End Time	Units to buy (22 Jan)	Units to buy (23 Jan)
9 am	10 am	25,000	25,000
10 am	11 am	20,000	20,000
11 am	12 pm	10,000	10,000
12 pm	1 pm	10,000	10,000
1 pm	2 pm	10,000	10,000
2 pm	3 pm	10,000	10,000
3 pm	4 pm	25,000	25,000
4 pm	5 pm	60,000	20,000

The 30-day average hourly trading volume for VKS Corp shares are as shown below:

Historical Trade Volume (Hourly)

AM	Volume (in thousands)	PM	Volume (in thousands)
9am to 10am	100	12pm to 1pm	40
10am to 11am	80	1pm to 2pm	40
11am to 12pm	40	2pm to 3pm	50
		3pm to 4pm	100
		4pm to 5pm	250

a) What trading algorithm did Jim intend to use in the execution of the trade?

(5 marks)

b) Schwarz's client is not happy with his proposal as he believes that VKS is highly undervalued right now and the price is likely to rise sharply in the short-run. Why do you think Schwarz's client is unhappy with his proposal?

(10 marks)

c) Suggest two changes to his execution strategy and for each suggestion, justify why it will work better than the existing proposed algorithm in light of the trade details provided in this question. Discuss the strengths of your proposed strategies.

(20 marks)

(TOTAL: 35 marks)

- END OF PAPER -

BC3402 FINANCIAL SERVICE PROCESSES & ANALYTICS

Please read the following instructions carefully:

- 1. Please do not turn over the question paper until you are told to do so. Disciplinary action may be taken against you if you do so.**
2. You are not allowed to leave the examination hall unless accompanied by an invigilator. You may raise your hand if you need to communicate with the invigilator.
3. Please write your Matriculation Number on the front of the answer book.
4. Please indicate clearly in the answer book (at the appropriate place) if you are continuing the answer to a question elsewhere in the book.