IT Questions (Intermediate Financial Reporting 2)

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IT QUESTIONS (INTERMEDIATE FINANCIAL REPORTING 2)

Question 1

There have been several prominent privacy breaches in the past few years (for example, Yahoo — 3 billion user accounts, Marriott — 500 million accounts, Equifax — 143 million users). What types of controls can a company implement to help protect its customer data?

What are the implications for companies that fail to protect their data?

Question 2

Preamble: This is a research question. You will need to access sources outside of the student notes to fully answer this question.

Countries and economic unions continue to enact laws that require businesses to protect private data — for example, the European Union's General Data Protection Regulation (GDPR). What are some of the safeguards that Canada has in place to protect an individual's data?

Question 3

KL Robotics leased production machinery to Wade Automotive on October 1, 2019. The terms of the lease are as follows:

Lease term (fixed and non-cancellable)	8 years
Estimated economic life of the machinery	2 years
Fair market value of the machinery at lease commencement	$250,000
Bargain purchase option	None
Transfer of title	None
Guaranteed residual value, end of lease	$25,000
Non-lease costs included in fixed payments (maintenance agreement)	$2,000
Annual fixed payments, due beginning of lease year	$33,500

Wade Automotive accounts for lease and non-lease costs separately. Other information pertaining to the lessee follows:

Expected payout on guaranteed residual	$25,000
Lessee's depreciation method	Declining balance, 50%
Lessee's incremental borrowing rate	6%
Lessee's year end is September 30	
Implicit rate in lease	Not readily determinable

Required:

a) Calculate the amount that Wade Automotive must initially recognize as a right-of-use (ROU) asset under this contract, using a financial calculator.

b) Prepare an asset depreciation schedule using Excel that covers the useful life of the equipment. Confirm the initial measurement of the ROU asset using the Excel PV function.

c) Prepare a lease liability amortization schedule for the life of the lease using Excel.

d) Prepare all journal entries for Wade Automotive related to the lease for the year ended September 30, 2020, including the entry at the inception of the lease, the lease payment, and any adjusting journal entries at year end.

Question 4

On January 1, 2019, the Okanagan Flight Institute, which reports its financial results in accordance with ASPE, entered into a contract to lease a flight simulator, details of which follow:

Lease term	5 years
Economic life of equipment	7 years
Lease payment	$7,800, first due January 1, 2019
Fair value of asset	$40,000
Implicit rate in the lease (not known by lessee)	6%
Incremental borrowing rate	7%
Option to purchase	No
Guaranteed residual value	$5,000
Year end is December 31	
Expected payout under guarantee	$0

Required:

a) Evaluate this term from the perspective of Okanagan Flight Institute using the four primary ASPE criteria. Should it classify the lease as a finance lease or an operating lease?

b) Using Excel, prepare an asset depreciation schedule that covers the useful life of the equipment using straight-line depreciation.

c) Prepare a lease liability amortization schedule for the life of the lease using Excel.

d) Prepare all journal entries for Okanagan Flight Institute related to the lease for its year ended December 31, 2019, including the entry at the inception of the lease, the lease payment, and any adjusting journal entries at year end.

e) Prepare the journal entry to record the lease payment on January 1, 2020.

Question 5

The abbreviated financial statements for Coopers Ltd. and typical ratios for firms in the machine tool industry are as follows:

Coopers Ltd.
Statement of comprehensive income
For the years ended December 31

	2019	2018
('000s)		
Revenue	25,850	21,525
Cost of goods sold	17,600	14,700
Gross profit	8,250	6,825
Selling expenses	2,200	1,995
Administrative expenses	3,300	2,730
	5,500	4,725
Operating income (EBIT)	2,750	2,100
Interest expense	550	315
Income before taxes	2,200	1,785
Income taxes	880	714
Net income and comprehensive income	1,320	1,071

Coopers Ltd.
Statement of financial position
As at December 31

('000s)	**2019**	**2018**	**2017**
Current assets:			
Cash	600	590	240
A/R	2,900	1,900	1,400
Prepaid expenses	100	100	100
Inventory	5,100	3,400	2,650
Total current assets:	8,700	5,990	4,390
Capital assets	6,215	5,400	5,000
Other assets	800	750	710
	7,015	6,150	5,710
Total assets	15,715	12,140	10,100
Liabilities:			
Accounts payable	3,500	2,400	1,900
Convertible bonds	5,500	3,300	2,000
Equity:			
Common shares — authorized and issued	350	350	350
Retained earnings	6,365	6,090	5,850
Total liabilities and equity	15,715	12,140	10,100

Required:

a) Prepare an Excel spreadsheet that includes Cooper's statement of comprehensive income and statement of financial position for all years.

b) The following are typical industry ratios for the machining industry:

Gross margin	34%
Current ratio	2.50
Quick ratio (acid test)	1.20
A/R days	30
Inventory turnover	5 times
Interest coverage	8 times
Debt-to-equity ratio	70%

Using Excel, use the data that you input in part (a) to calculate the above ratios for Cooper for both the December 31, 2019, and December 31, 2018, fiscal year ends.

c) Discuss the results of your analysis in comparison with the typical industry ratios.

Solutions

Solution to Question 1

Controls that can be implemented to safeguard private information include the following:

- hardware controls (for example, physically restricting access to the machines that would access the data by housing them in an area that can be accessed only by authorized personnel by way of a swipe card, retina scan, or other similar identifying device)
- operations controls (for example, providing access only to employees who are responsible for that area of the business)
- segregation of duties (for example, preventing software developers from accessing production systems)
- systems development controls (for example, aligning the development team and the security team is a best practice that ensures appropriate security measures are built into the system being developed)
- management controls (for example, ensuring that employees do not leave data-sensitive programs open while away from their desks)
- controls against external security threats — taking a multi-faceted approach to protecting data from external threats (for example, by using firewalls and routers, and installing and keeping up-to-date, effective anti-virus programs)
- application controls that include limiting access to systems and their applications to the appropriate personnel by requiring sign-on with a unique user ID and password
- restricting the use of end-user computing by employees
- restricting direct access to data by employees and others

When a company fails to adequately protect private information entrusted to it, it is subject to civil lawsuits or criminal prosecution. As a result, damages may be awarded to the aggrieved parties, fines may be imposed on the company, or in extreme cases, employees and/or directors of the company may be imprisoned. Perhaps more importantly, however, the breach can lead to severe economic consequences for the company due to the negative publicity associated with the event and to customers' reactions, which in many cases involve moving to a competitor.

Solution to Question 2

In Canada, privacy of personal information (including customer information) is governed by two statutes: the *Privacy Act*, which regulates government agencies, and the *Personal Information Protection and Electronic Documents Act* (PIPEDA), which governs the collection and use of personal information by organizations.

PIPEDA applies to all information collected, used, or disclosed by all private sector organizations. Under PIPEDA, individuals have the right to know what information an organization collects about them and how the information will be used and protected. This creates some protection of personal privacy. PIPEDA also requires the information to be complete, up to date, and accurate. The Office of the Privacy Commissioner of Canada is responsible for PIPEDA.

As of November 1, 2018, any organization subject to PIPEDA is required to report any breach of security safeguards to the federal Privacy Commissioner and affected individuals. This includes any loss of, unauthorized access to, or unauthorized disclosure of personal information, if it is reasonable to believe that the breach creates a real risk of significant harm to an individual.

Privacy is not a concern just at the federal level; provinces have privacy protection measures and privacy commissioners as well.

Canada's Anti-Spam Legislation (CASL) applies to all commercial electronic messages (CEMs) that are sent to recipients who are residents of Canada and are sent from Canada, or are sent to computers or devices in Canada. CASL prohibits the sending of CEMs without first obtaining the recipient's consent, which may be either explicit (opt-in) or implicit (existing business relationship).

Solution to Question 3

a) Present value of lease payments:

BGN;

I/Y = 6;

N = 8;

PMT = $31,500 ($33,500 – $2,000);

FV = $25,000;

CPT PV = $223,030;

Ending Balance on October 1, 2019 (after first payment applied) = $223,030 – $31,500 = $191,530

b) Asset depreciation schedule:

Opening asset value:		$223,030
Useful life:		
	Lesser of:	
	Useful life	12
	Lease term	8
Depreciation rate:	Declining balance	50%

	Depreciation expense		Net asset value
October 1, 2019			$223,030
September 30, 2020	$111,515		$111,515
September 30, 2021	$55,758		$55,758
September 30, 2022	$27,879		$27,879
September 30, 2023	$13,939		$13,939
September 30, 2024	$6,970		$6,970
September 30, 2025	$3,485		$3,485
September 30, 2026	$1,742		$1,742
September 30, 2027	$1,742	**	$0

** Remaining balance fully amortized in final year.

Asset depreciation schedule (formula view):

A	B	C	D	E	F	G	H
13	Useful Life:						
14			Lesser of useful life/lease term				
15			Useful life		12		
16			Lease term		8		
17							
18	Depreciation rate:		Declining Balance		0.5		
19							
20					**Depreciation expense**		**Net asset value**
21	October 1, 2019						=-PV(6%,8,31500,25000,1)
22	September 30, 2020				=H21*$F$18		=H21-F22
23	September 30, 2021				=H22*$F$18		=H22-F23
24	September 30, 2022				=H23*$F$18		=H23-F24
25	September 30, 2023				=H24*$F$18		=H24-F25
26	September 30, 2024				=H25*$F$18		=H25-F26
27	September 30, 2025				=H26*$F$18		=H26-F27
28	September 30, 2026				=H27*$F$18		=H27-F28
29	September 30, 2027				=H28	**	=H28-F29

c) Lease liability amortization schedule:

Interest rate:	6%
Total payment:	33,500
Non-lease costs:	2,000
Net lease payment	31,500
Term (years):	8
Guaranteed residual value:	25,000
Expected payout under guarantee:	25,000
Bargain purchase option:	NA
Type (annuity due):	1

		Payment	Interest	Lease Liability
October 1, 2019				$223,030
October 1, 2019	$	31,500		**$191,530**
September 30, 2020			$11,491.82	$203,022
October 1, 2020	$	31,500		$171,522
September 30, 2021			$10,291.33	$181,813
October 1, 2021	$	31,500		$150,313
September 30, 2022			$9,018.81	$159,332
October 1, 2022	$	31,500		$127,832
September 30, 2023			$7,669.94	$135,502
October 1, 2023	$	31,500		$104,002
September 30, 2024			$6,240.13	$110,242
October 1, 2024	$	31,500		$78,742
September 30, 2025			$4,724.54	$83,467
October 1, 2025	$	31,500		$51,967
September 30, 2026			$3,118.01	$55,085
October 1, 2026	$	31,500		$23,585
September 30, 2027			$1,415.09	$25,000
October 1, 2027	$	25,000		$0

Lease liability amortization schedule (formula view):

A	B	C	D		E	F	G
36	Interest rate:				0.06		
37	Total payment:				33500		
38	Non-lease costs:				2000		
39	Net lease payment				=F37-F38		
40	Term (years):				8		
41	Guaranteed residual value:				25000		
42	Expected payout under guarantee:				25000		
43	Bargain purchase option:				NA		
44	Type (annuity due):				1		
45							
46							
47			**Payment**		**Interest**		**Lease liability**
48	October 1, 2019						=-PV(F36,F40,F39,F41,F44)
49	October 1, 2019		=$F$39				**=H48-D49+F49**
50	September 30, 2020				=H49*$F$36		=H49-D50+F50
51	October 1, 2020		=$F$39				=H50-D51+F51
52	September 30, 2021				=H51*$F$36		=H51-D52+F52
53	October 1, 2021		=$F$39				=H52-D53+F53
54	September 30, 2022				=H53*$F$36		=H53-D54+F54
55	October 1, 2022		=$F$39				=H54-D55+F55
56	September 30, 2023				=H55*$F$36		=H55-D56+F56
57	October 1, 2023		=$F$39				=H56-D57+F57
58	September 30, 2024				=H57*$F$36		=H57-D58+F58
59	October 1, 2024		=$F$39				=H58-D59+F59
60	September 30, 2025				=H59*$F$36		=H59-D60+F60
61	October 1, 2025		=$F$39				=H60-D61+F61

62	September 30, 2026				=H61*$F$36		=H61-D62+F62
63	October 1, 2026		=$F$39				=H62-D63+F63
64	September 30, 2027				=H63*$F$36		=H63-D64+F64
65	October 1, 2027		=F42				=H64-D65+F65

d) The following journal entries would be prepared by Wade Automotive related to the lease for its year ended September 30, 2020:

October 1, 2019

Upon signing the lease agreement:

DR ROU equipment	223,030	
CR Lease liability		223,030

Upon making the first lease payment:

DR Lease liability	31,500	
DR Prepaid maintenance expense	2,000[1]	
CR Cash		33,500

[1] The company would set a policy for this type of transaction that would involve either setting up a prepaid account for the original entry with an adjusting entry if required at year end or expensing immediately and adjusting at year end if required.

September 30, 2020

DR Interest expense ($191,530 × 6%)	11,492	
CR Lease liability		11,492
DR Depreciation expense — ROU equipment ($223,030 × 50%)	111,515	
CR Accumulated depreciation — ROU equipment		111,515
DR Maintenance expense	2,000	
CR Prepaid maintenance expense		2,000

Solution to Question 4

a) ASPE criteria:

- Transfer of ownership — **No**
- Bargain purchase option — **No**
- Economic life — 5 years / 7 years = 71% — **Maybe**
- Present value of minimum lease payments (PVMLP) -

BGN;
PMT = $7,800;
N = 5;
I/Y = 7% (use IBR as the implicit rate is not known);
FV = $5,000*;
CPT PV = $37,785.

$37,785 / $40,000 = 94.4% — **Yes**

Conclusion: Since one of the four primary criteria is met, Okanagan Flight Institute should classify the lease as a finance lease.

* Under ASPE, the full amount of the residual guarantee is included when initially measuring the asset under lease, irrespective of the amount expected to be paid out under the guarantee. This differs from IFRS where the amount expected to be paid out under residual value guarantees is used to initially measure the ROU asset.

b) **Asset depreciation schedule**

Useful life:		
	Lesser of useful life/lease term	
	Useful life	7
	Lease term	5
Depreciation rate:	Straight-line	5

	Depreciation expense	**Net asset value**
January 1, 2019		$37,785
December 31, 2019	$7,557	$30,228
December 31, 2020	$7,557	$22,671
December 31, 2021	$7,557	$15,114
December 31, 2022	$7,557	$7,557
December 31, 2023	$7,557	$0

Asset depreciation schedule (formula view)

B	C	D	E	F	G	H
18	Useful life:					
19		Lesser of useful life/lease term				
20		Useful life		7		
21		Lease term		5		
22						
23	Depreciation rate:	Straight-line		5		
24						
25				**Depreciation Expense**		**Net Asset Value**
26	January 1, 2019					=D13
27	December 31, 2019			=$H$26/$F$23		=H26-F27
28	December 31, 2020			=$H$26/$F$23		=H27-F28
29	December 31, 2021			=$H$26/$F$23		=H28-F29
30	December 31, 2022			=$H$26/$F$23		=H29-F30
31	December 31, 2023			=$H$26/$F$23		=H30-F31

c) **Lease liability amortization schedule**

Interest rate:	7%
Payment:	7,800
Term (years):	5
Guaranteed residual value:	5,000
Bargain purchase option:	NA
Type (annuity due):	1

		Payment	**Interest**	**Lease liability**
January 1, 2019				$37,785
January 1, 2019	$	7,800		**$29,985**
December 31, 2019			$2,098.96	$32,084
January 1, 2020	$	7,800		$24,284
December 31, 2020			$1,699.89	$25,984
January 1, 2021	$	7,800		$18,184
December 31, 2021			$1,272.88	$19,457
January 1, 2022	$	7,800		$11,657
December 31, 2022			$815.98	$12,473
January 1, 2023	$	7,800		$4,673
December 31, 2023			$327.10	$5,000
January 1, 2024	$	5,000		$0

Lease liability amortization schedule (formula view):

A	B	C	D	E	F	G
38	Interest rate:			0.07		
39	Payment:			7800		
40	Term (years):			5		
41	Guaranteed residual value:			5000		
42	Bargain purchase option:			NA		
43	Type (annuity due):			1		
44						
45						
46		**Payment**		**Interest**		**Lease liability**
47	43466					=-PV(E38,E40,E39,E41,E43)
48	43466	=$E$39				**=G47-C48+E48**
49	43830			=G48*$E$38		=G48-C49+E49
50	43831	=$E$39				=G49-C50+E50
51	44196			=G50*$E$38		=G50-C51+E51
52	44197	=$E$39				=G51-C52+E52
53	44561			=G52*$E$38		=G52-C53+E53
54	44562	=$E$39				=G53-C54+E54
55	44926			=G54*$E$38		=G54-C55+E55
56	44927	=$E$39				=G55-C56+E56
57	45291			=G56*$E$38		=G56-C57+E57
58	45292	5000				=G57-C58+E58

d) and e)

January 1, 2019		
DR Asset under lease	37,785	
CR Lease liability		29,985
CR Cash		7,800
December 31, 2019		
DR Interest expense ($29,985 × 7%)	2,099	
CR Lease liability		2,099
DR Depreciation expense — leased asset ($37,785 /5)	7,557	
CR Accumulated depreciation — leased asset		7,557
January 1, 2020		
DR Lease liability	7,800	
CR Cash		7,800

Solution to Question 5

a)

	A	B	C
1	**Coopers Ltd.**		
2	**Statement of comprehensive income**		
3	For the years ended December 31		
4			
5		**2019**	**2018**
6	**('000s)**		
7	Revenue	25,850	21,525
8	Cost of goods sold	17,600	14,700
9	Gross profit	8,250	6,825
10			
11	Selling expenses	2,200	1,995
12	Administrative expenses	3,300	2,730
13		5,500	4,725
14			
15	Operating income (EBIT)	2,750	2,100
16	Interest expense	550	315
17			
18	Income before taxes	2,200	1,785
19	Income taxes	880	714
20	Net income and comprehensive income	1,320	1,071

	A	B	C	D
22	**Coopers Ltd.**			
23	**Statement of Financial Position**			
24	As at December 31			
25				
26	**('000s)**	**2019**	**2018**	**2017**
27	Current assets:			
28	Cash	600	590	240
29	A/R	2,900	1,900	1,400
30	Prepaid expenses	100	100	100
31	Inventory	5,100	3,400	2,650
32	Total current assets:	8,700	5,990	4,390
33				
34				
35	Capital assets	6,215	5,400	5,000
36	Other assets	800	750	710
37		7,015	6,150	5,710
38				
39	Total assets	15,715	12,140	10,100
40				
41	Liabilities:			
42	Accounts payable	3,500	2,400	1,900
43	Convertible bonds	5,500	3,300	2,000
44				
45	Equity:			
46	Common shares — authorized and issued	350	350	350
47	Retained earnings	6,365	6,090	5,850
48				
49	Total liabilities and equity	15,715	12,140	10,100

b) **Cooper's ratios:**

	2019	**2018**
Gross margin (gross profit / sales)	32%	32%
Current ratio (current assets / current liabilities)	2.49	2.50
Quick ratio [(current assets – inventory) / current liabilities]	1.03	1.08
A/R days (average A/R / credit sales × 365)	33.89	27.98
Inventory turnover (cost of goods sold / average inventory)	4.14	4.86
Interest coverage [operating income (EBIT) / interest]	5.00	6.67
Debt-to-equity ratio (debt / equity)	134%	89%

Cooper's ratios (formula view):

Gross margin (gross profit / sales)	=B9/B7	=C9/C7
Current ratio (current assets / current liabilities)	=B32/B42	=C32/C42
Quick ratio [(current assets – inventory) / current liabilities]	=(B32-B31)/B42	=(C32-C31)/C42
A/R days (average A/R / credit sales × 365)	=(B29+C29)/2/B7*365	=(C29+D29)/2/C7*365
Inventory turnover (cost of goods sold / average inventory)	=B8/((B31+C31)/2)	=C8/((C31+D31)/2)
Interest coverage [operating income (EBIT) / interest]	=B15/B16	=C15/C16
Debt-to-equity ratio (debt / equity)	=(B42+B43)/(B46+B47)	=(C42+C43)/(C46+C47)

c)

		Industry average	Cooper Ltd. 2019	Cooper Ltd. 2018
Gross margin	gross profit / sales	34%	32%	32%

This ratio indicates that the company is operating a little below industry average, but gross profit percentages are stable year to year, which is good. The company may want to look at pricing to see if it is in line with industry.

Current ratio	current assets / current liabilities	2.5	2.49	2.50

Cooper has maintained a current ratio that is consistent with the industry average.

Quick ratio (acid test)	(current assets – inventory) / current liabilities	1.2	1.03	1.08

This ratio for Cooper is less stable than the current ratio because it removes the large increase in inventory from working capital balances. This shows the investment in inventory is substantial compared to other working capital items. This ratio indicates that the company is operating slightly below the industry average.

A/R days	average A/R / credit sales	× 365	30	34	28

This ratio shows that accounts receivable are not being collected as quickly as the industry average. The rate of collection has deteriorated noticeably in the current year, which may indicate the existence of uncollectable balances, a lack of diligence by management related to the collections process, or a lapse in the rigour of the approval process for deciding which customers are allowed to purchase on credit.

Inventory turnover	cost of goods sold / average inventory	5	4.14	4.86

As seen with the A/R turnover, the company is not moving inventory as quickly as the industry average. The increase in inventory in the current year accounts for some of the decrease in inventory turnover. The company may need to check for obsolete inventory or reduce stockpiling to improve this ratio. It is not unusual for a company experiencing large growth in sales to have a buildup of inventory in order to make the additional sales, so there are many potential reasons for the reduction in this ratio. Management must carry out further investigation to identify the cause and determine the appropriate action needed.

Interest coverage (times interest earned)	operating income (EBIT) / interest	8	5.0	6.7

The company is able to cover its interest commitments many times over, but the ratio is not up to the industry standard. Cooper has decreased its ability to cover debt from the previous year. This ratio will need to be watched in the future to determine whether this is a one-time decrease or performance is deteriorating.

Debt to equity	debt / equity	70%	134%	89%

This ratio shows that the company is well above the industry average (higher debt-to-equity ratio). In 2019, Cooper increased its debt financing compared to equity financing and has thereby become more highly leveraged compared to the industry average. The ratios will need to be monitored to determine whether this is a trend or an anomaly.

These are just a selection of available ratios that can be calculated from the financial statements given. You do not need to calculate all possible ratios to perform an analysis of a company, but you should look at ratios in each of the four categories discussed in the student notes.