



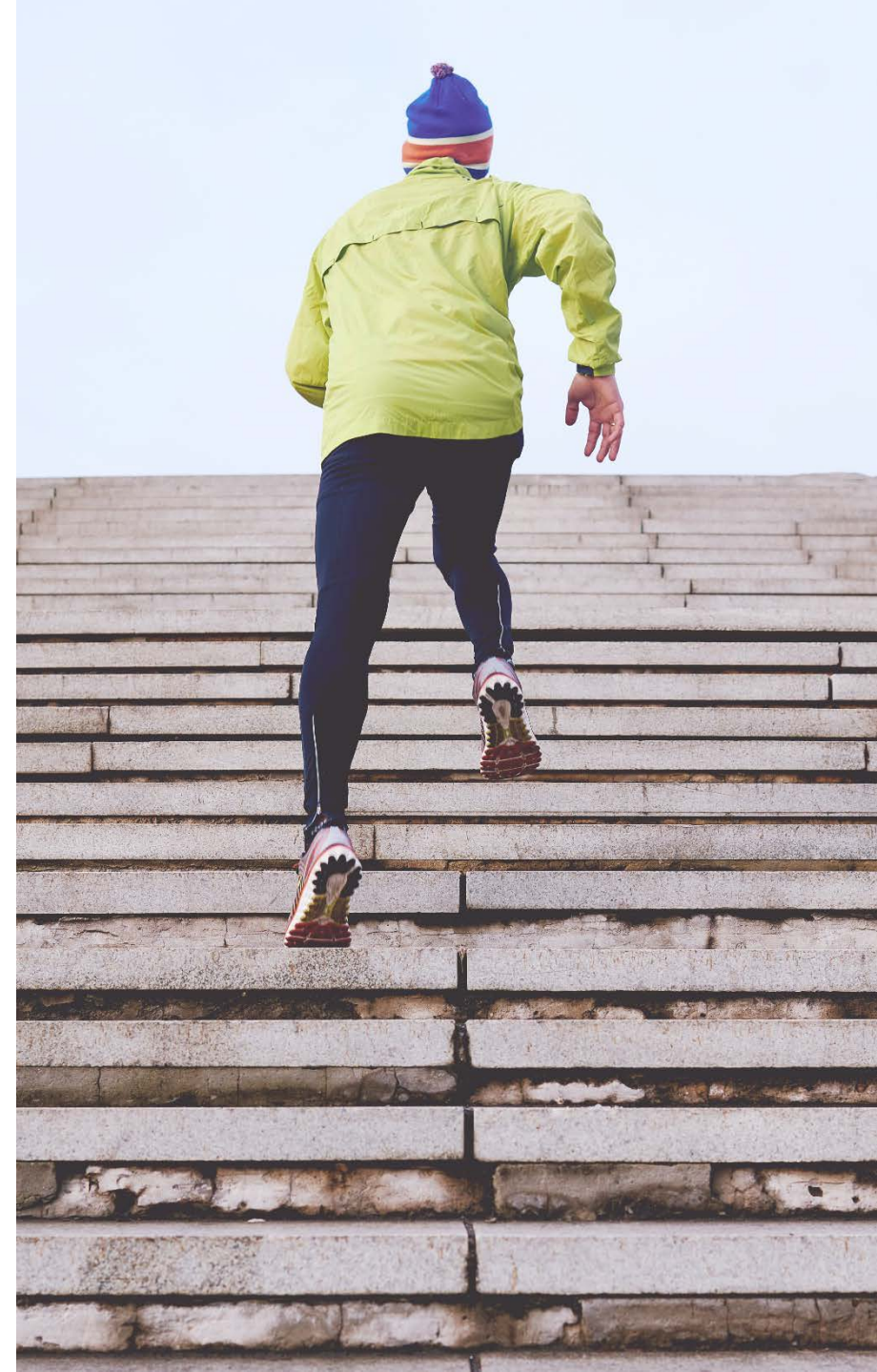
Excel, Xero and Tableau

A combined assignment

Motivation

- Flipped class → Students performed better in the practical exam questions
 - + Program goal → Students will have the required cognitive, technical and research skills for lifelong learning
 - = **We can challenge our post-graduate students more**
 - Recent changes in the accounting education standards:
 - IES 2 Initial Professional Development-Technical Competence (effective from January 2021)
 - AACSB 7 Teaching Effectiveness and Impact - = accredited programs should have **technological skills embedded in their courses**
- Excel, Xero and Tableau assignment: support the development of accounting students' ICT-skills

Schonfeldt, N., & Birt, J. (2020). ICT skill development using Excel, Xero and Tableau. Journal of Emerging Technologies in Accounting



Challenges



Time



Money

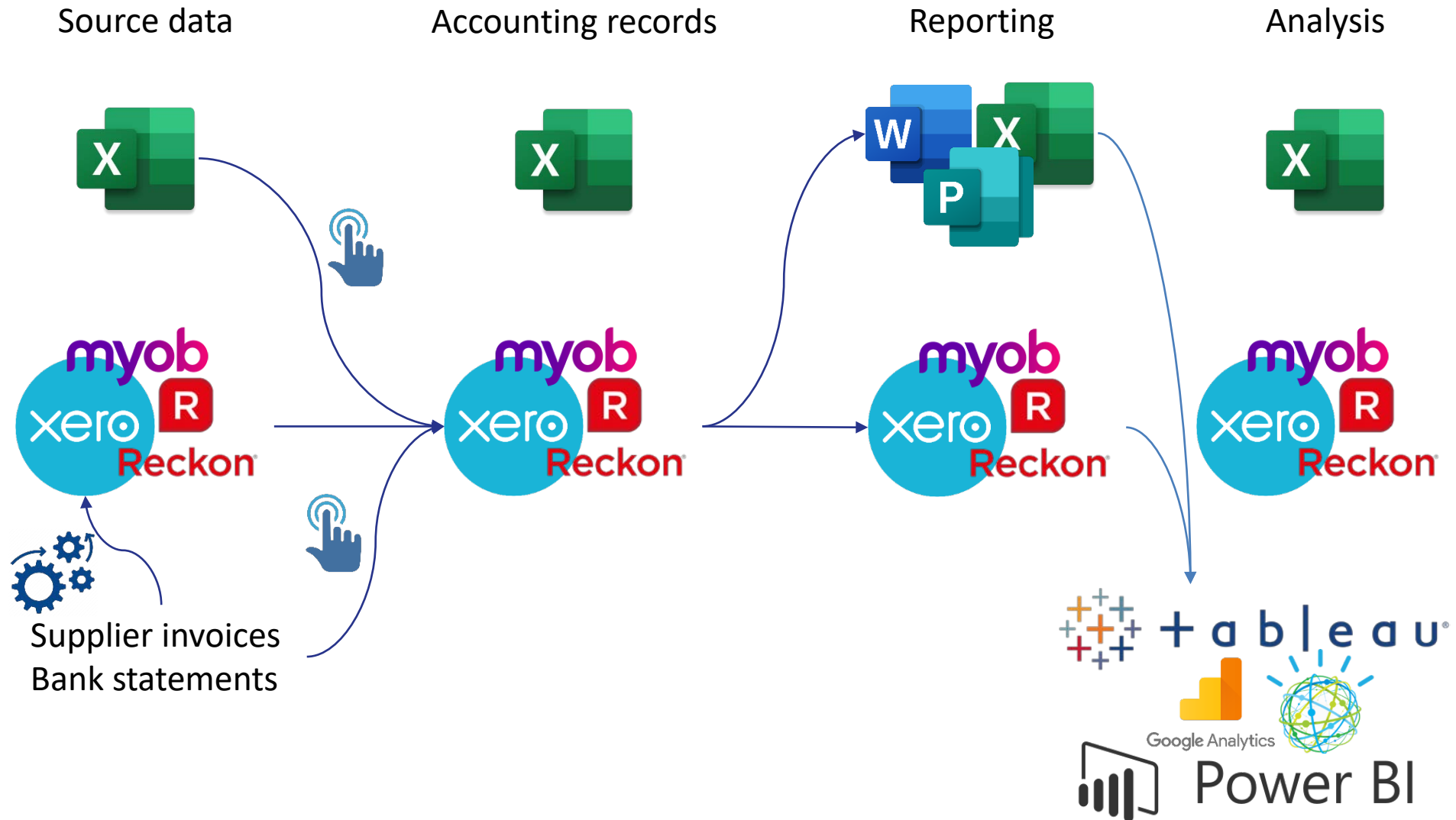


Marking



Anxiety

The interrelationship between platforms



Delivery

Week 3	Week 5	Week 6	Week 7	Week 8	Week 10	Week 11
Random team allocation Informal introduction	Pre-work EXCEL	The Accounting Cycle EXCEL Collaborative learning	Adjusting and Closing Entries EXCEL Collaborative learning	No class	Financial Statement Analysis	No class
			Team Compact SPARKPlus	Individual assignment XERO and EXCEL		Team assignment EXCEL and Tableau SPARKPlus

EXCEL

EXCEL Skills for accounting students

- Basic Excel functions
- Keyboard shortcuts
- More advanced skills, e.g.
 - Vertical/horizontal LOOKUP
 - Pivot tables
 - CONCATENATE functions
 - IF/THEN statements

Ramachandran Rackliffe, U., & Ragland, L. (2016). Excel in the accounting curriculum: perceptions from accounting professors. *Accounting Education*, 25(2), 139-166. doi:10.1080/09639284.2015.1126791

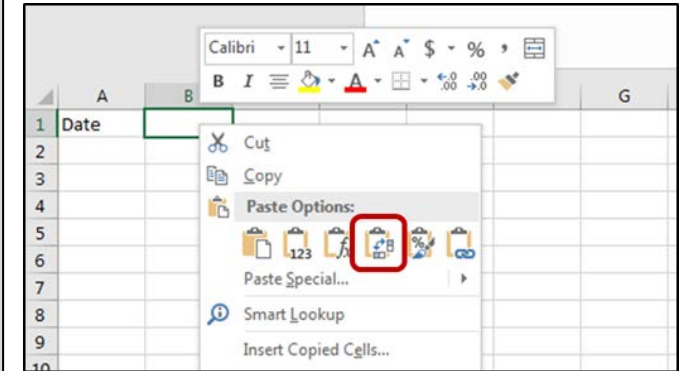
What if my course does not include Excel-training?

- Accountants should develop a character of continual learning
- LinkedIn Learning:
<https://learning.linkedin.com/>
- YouTube:
<https://www.youtube.com/watch?v=ZX13uWEcaUQ>
- Professional Accounting bodies:
<https://www.intheblack.com/topics/excel>

Pre-work: Set up a worksheet

- ☐ Create columns
- ☐ Transpose
- ☐ Wrap text
- ☐ Format cells
- ☐ Concatenate
- ☐ VLOOKUP
- ☐ Total rows
- ☐ Test column
- ☐ Total columns
- ☐ Freeze panes

1. The first column should be the date column.
Enter "Date" in cell A1.
2. Transpose Account names from Trial Balance to the worksheet as headings.
 - Copy (Ctrl + C) the relevant data range in the Trial Balance (select the account numbers and account names).



3. Return to the worksheet and stand on cell B4. Use VLOOKUP to find the opening balances for the accounts: =VLOOKUP(B2,'Unadjusted TB'!\$B\$4:\$F\$28,5,FALSE).
 - HINT: Entering "F4" when you enter a cell reference, locks that reference.
 - Format B3 to Currency, 0 decimals
 - Copy formula across

		100	101	102	103	104	105	150	160	161		200	250	
Date	Journal	Cash at Bank	Accounts Receivable Control	Store Supplies	Inventory	Prepaid Store Rent (paid 1 March 2019)	Prepaid Insurance (paid 1 Nov. 2018)	Showroom Fittings	Equipment	Accumulated Depreciation - Equipment	Total Assets	Accounts Payable Control	Mortgage Loan (due 31 July 2043)	Total Liabilities
		DR	DR	DR	DR	DR	DR	DR	DR	CR		CR	CR	
1-Jun-20		722,188	279,815	177,438	917,910	869,054	13,325	599,603	203,569	99,934	3,682,968	180,473	713,157	893,630
4-Jun-20	CRJ	93,351	-95,256								-1,905			0
8-Jun-20	SJ		68,292								68,292			0

EXCEL Task - Workshop #1

- ❑ Conceptual approach
- ❑ Worksheet analysis
- ❑ Accounting Cycle
- ❑ Special journals
- ❑ DR/CR Entries

A. Enter data in worksheet

1. Work collaboratively to analyse Transactions 1-4 and capture it in your worksheet.
2. Working in your teams, analyse the remaining transactions and enter it in your worksheet.
3. With reference to the information provided under 'Accounting System Information and Procedures', identify which journal to use to record the transactions. Enter the journal in the "Journal" column.

B. Enter transactions in journals

1. Work together with your lecturer to record Transactions 1-4 in the appropriate journal using the ledger accounts as listed in the trial balance. Provide narrations where relevant.
2. Working in your teams, record the remaining transactions in the appropriate journal. Provide narrations where relevant.
3. Work together with your lecturer to post Transactions 1-4 to the respective ledger accounts.
4. Now post the remaining transactions to the ledger accounts.

JOURNALS

SALES JOURNAL			
Date	Invoice No.	Account	Amount
1-Jun	910	101-2 - Bach Guitars	\$ 68,292
10-Jun	911	101-1 - Amadeus Cellos	\$ 68,796
16-Jun	912	101-3 - Chopin Pianos	\$ 124,362

GENERAL LEDGER ACCOUNTS

Freight-Out					
					600
Date	Explanation	Post.Ref.	Debit	Credit	Balance
31-May	Balance				\$ 2,898
1-Jun	Delivery	CPJ	\$ 7,560		\$ 10,458
16-Jun	Delivery	CPJ	\$ 9,450		\$ 19,908

SUBSIDIARY LEDGER ACCOUNTS

ACCOUNTS RECEIVABLE SUBSIDIARY LEDGER					
Amadeus Cellos					
					101-1
Date	Explanation	Post.Ref.	Debit	Credit	Balance
31-May	Balance				\$ 95,256
1-Jun	Payment received	CRJ		\$ 95,256	\$ -
10-Jun	Sales	SJ	\$ 68,796		\$ 68,796
Bach Guitars					
					101-2
Date	Explanation	Post.Ref.	Debit	Credit	Balance
31-May	Balance				\$ 48,132
1-Jun	Sales	SJ	\$ 68,292		\$ 116,424

EXCEL Task - Workshop #2

A. IN-CLASS

1. Prepare the adjusting entries in the General Journal Sheet.
2. Enter the adjustments in the relevant worksheet columns and prepare an adjusted Trial Balance.
3. Calculate the Cost of Goods Sold for the year.
4. Record closing entries in the worksheet and prepare the post-closing Trial Balance.

B. CONTINUE AT HOME

1. Record the closing entries in a general journal.
2. Prepare the Income Statement.
3. Prepare a Statement of Financial Position.
4. Prepare a Statement of Changes in Equity.

Account	Unadjusted TB		Adjustments		Adjusted TB		Closing entries		Post-Closing TB		FS Elements
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	
Cash at Bank	747,486				747,486				747,486		ASSET
Accounts Receivable Control	98,406			42,285	56,121				56,121		ASSET
Store Supplies	156,555			71,190	85,365				85,365		ASSET
Inventory	781,200				781,200		1,416,492	781,200	1,416,492		ASSET
Prepaid Store Rent (Paid 1 Mar. 2020)	739,620			246,540	493,080				493,080		ASSET
Prepaid Insurance (Paid 1 Nov. 2019)	11,340			7,560	3,780				3,780		ASSET
Showroom Fittings	510,300				510,300				510,300		ASSET
Accumulated Depreciation – Showroom Fittings				56,700		56,700				56,700	- ASSET
Equipment	173,250				173,250				173,250		ASSET
Accumulated Depreciation - Equipment		85,050		17,010		102,060				102,060	- ASSET
Accounts Payable Control		114,660				114,660				114,660	LIABILITY
Interest Payable				38,945		38,945				38,945	LIABILITY
Utilities Payable				6,426		6,426				6,426	LIABILITY
Wages Payable				4,455		4,455				4,455	LIABILITY
Salaries Payable				36,729		36,729				36,729	LIABILITY
Tax Payable				86,400		86,400				86,400	LIABILITY
Dividend Payable				177,100		177,100				177,100	LIABILITY
Mortgage Loan (due 31 Jul 2043)		606,942				606,942				606,942	LIABILITY
Share Capital		1,260,000				1,260,000				1,260,000	EQUITY
Retained Profits (1 July 2019)		963,522				963,522	177,100	209,035		995,457	EQUITY

Accounting Software

Objectives

- Introduce students to accounting software
- Not to make students experts
- Encourage self-discovery
- Give students the confidence to explore


"Top 10" in Aus

- Xero
- MYOB
- Intuit QuickBooks
- ReckonOne
- Sage Business Cloud Accounting
- Wave
- Saasu
- Rounded
- Freshbooks
- ZohoBooks

<https://valueadders.com.au/2020/04/what-is-the-best-accounting-software-for-australian-small-businesses/>

XERO assignment

Free Xero learning resources

- Online learning resources that clearly explain different Xero functionalities: <https://central.xero.com/s/learning>.
 - Xero YouTube playlist: "Set up Xero for your business" <https://www.youtube.com/playlist?list=PLPFqqCF-yvtpXg9YgGdKmUn9TuichEg2R>
 - Create a new invoice (Sales Journal): <https://central.xero.com/s/article/Invoice-a-customer?userregion=true#Createanewinvoice>
 - Record purchases (Purchases Journal) using "Bills to pay" – remember to set due date.
 - Record receipts: <https://central.xero.com/s/article/Record-payment-of-a-sales-invoice#Newinvoicing>
 - Record payments: <https://central.xero.com/s/article/Record-payment-of-a-bill#Web>
 - Record manual journals: <https://central.xero.com/s/article/Add-import-and-post-manual-journals-AU#Howitworks>
 - Run a trial balance and check accuracy: Accounting > Reports > Trial balances.
 - Export trial balance to Excel: <https://central.xero.com/s/article/Export-or-print-a-report>
- 

Assignment

- Individual assignment: Xero & Excel
- Xero: 30-day free trial
- Given: Instructions how to set up company, import opening balances and set up inventory, accounts receivable and accounts payable
Produce TB at 31 May
- Required: Enter business transactions for June
Produce unadjusted TB at 30 June
- Export unadjusted TB to Excel

Incorporating XERO and EXCEL

Closing worksheet and financial statements

Worksheet columns, GJ, FS's

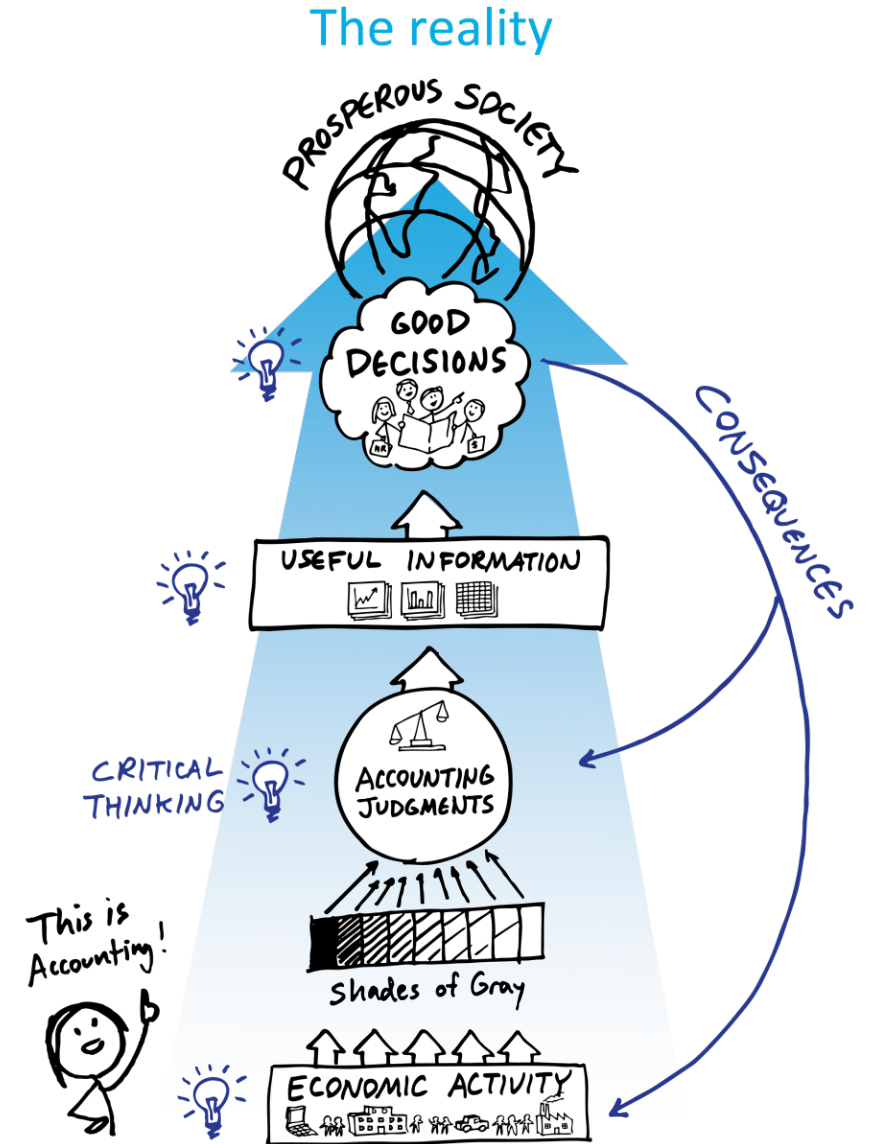
	Account	Unadjusted TB 30/6		Adjustments		Adjusted TB		Closing entries		Post-Closing TB	
		Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
453	Office Expenses	11,619				11,619			11,619		
461	Website design	3,080				3,080			3,080		
469	Rent Expense	18,000				18,000			18,000		
473	Repairs and Maintenance	3,453				3,453			3,453		
413	Donations	100				100			100		
489	Telephone & Internet	17,533				17,533			17,533		
600	Cash at Bank	159,265				159,265				159,265	
610	Accounts Receivable	13,905				13,905				13,905	
611	Less Allowance for Doubtful Debt				376		376				376
613	Other Receivables			5,020		5,020				5,020	
615	Term deposit	30,000				30,000				30,000	
620	Prepaid Insurance	1,620			405	1,215				1,215	
625	Prepaid Cleaning	840			280	560				560	
630	Inventory	47,887				47,887				47,887	
635	Store Supplies			3,365		3,365				3,365	
710	Office Equipment	34,750				34,750				34,750	

Accounting

Accounting has been broadly defined as:

The **process** of **identifying**, **measuring** and **communicating** **economic information** to permit the informed **judgments** and **decision making** of the **users** of that information.

(American Accounting Association, 1966)





Communicating results

**“A picture is worth a thousand words.
An interface is worth a thousand pictures”**

- Ben Shneiderman -

- Lots of data cannot be analysed in a spreadsheet!
- Tableau and Excel compliment each other
- Data visualisation extends the skill set required for accountants¹

¹O'Brien, A., & Stone, D. (2020). Yes, you can import, analyze, and create dashboards and storyboards in Tableau. *Journal of Emerging Technologies in Accounting*. doi:10.2308/jeta-19-06-07-29

- Data visualisation – graphical depiction of data in a dashboard or report
- Visual analytics – dynamic, iterative process where you quickly build different views to explore infinite paths of “What's” and “Why's”

Tableau assignment

Free license and learning resources

- Free 1-year academic license
- Intuitive, no programming skills required
- Learning resources:
 - <https://www.tableau.com/products/desktop#video>
 - <https://www.tableau.com/learn/training/elearning>

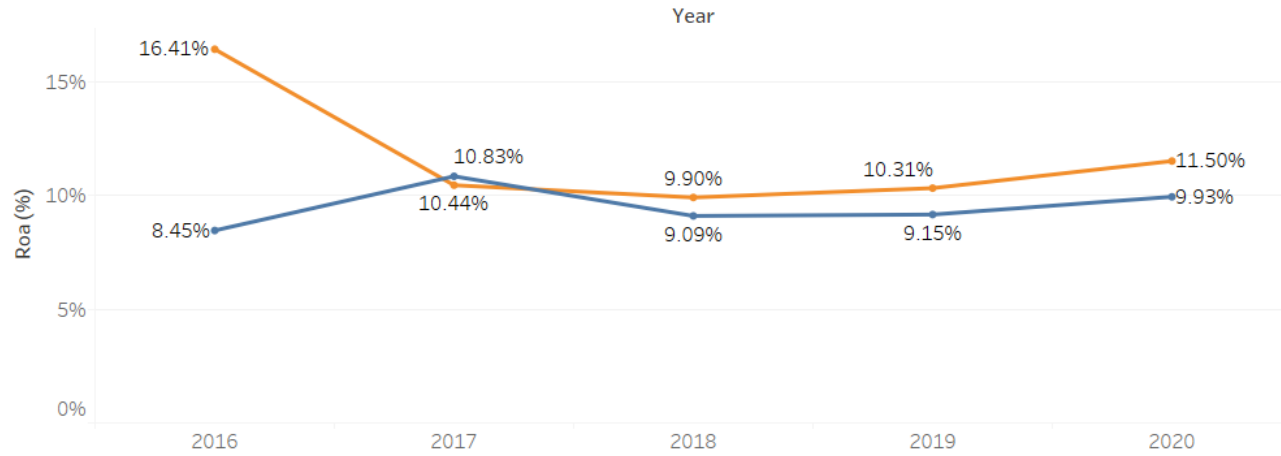
Assignment

- Team assignment: Tableau & Excel
- Financial Statement Analysis
- Team Compact
- Calculate financial ratios for five years, for two listed companies (EXCEL)
- Import the data into TABLEAU, create visuals for each ratio and build dashboards on:
 - Profitability
 - Efficiency
 - Short-Term Liquidity
 - Long-Term Solvency
- Write a report to management, analysing the results in terms of profitability, efficiency, liquidity and solvency
- Individual reflection

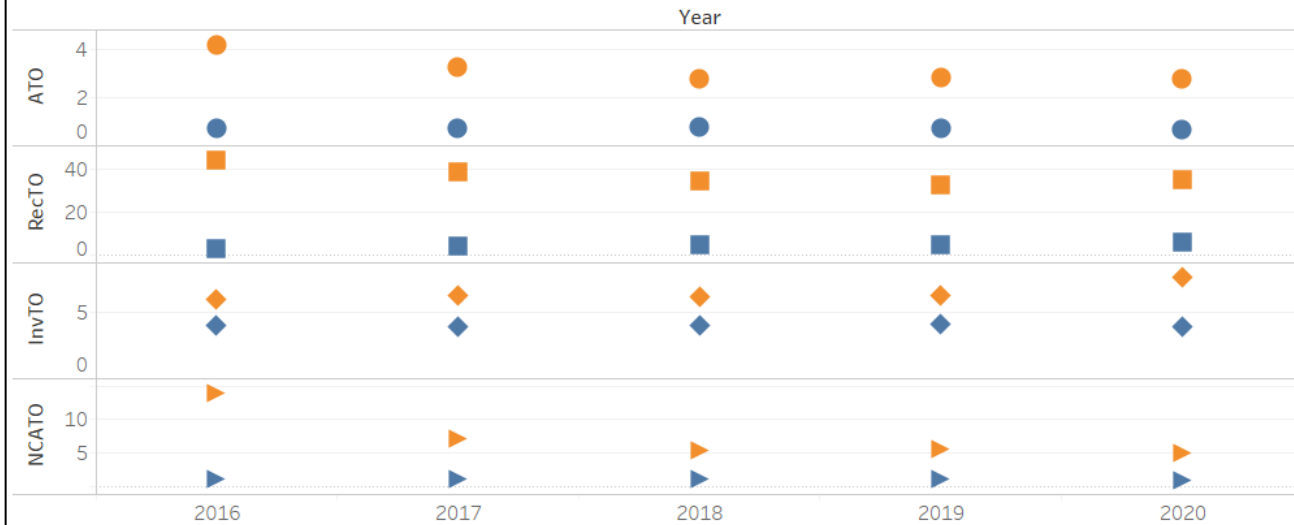
Profitability

Company ■ HVN ■ JBH

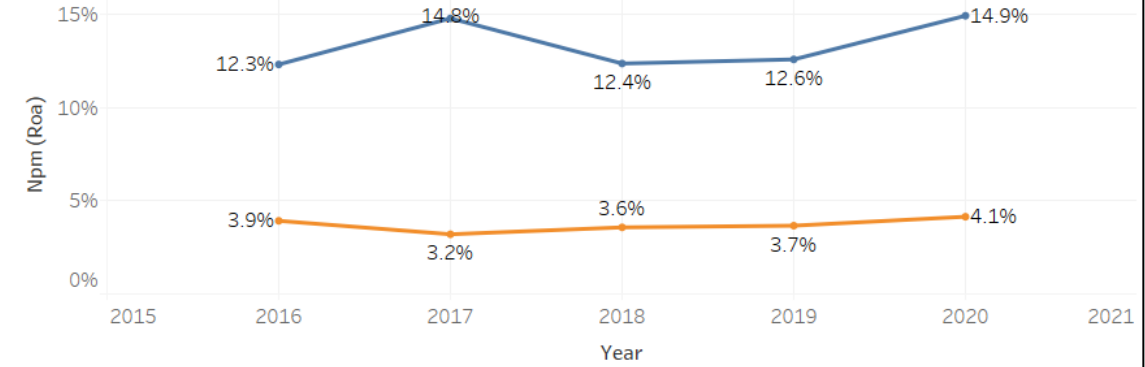
ROA



Asset Turnovers



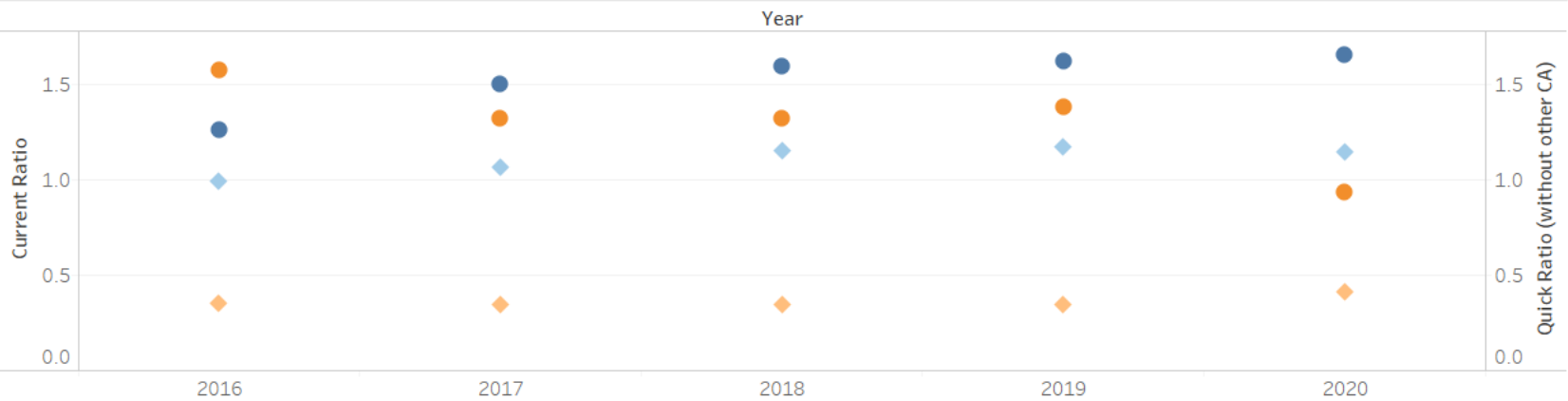
Net profit margin



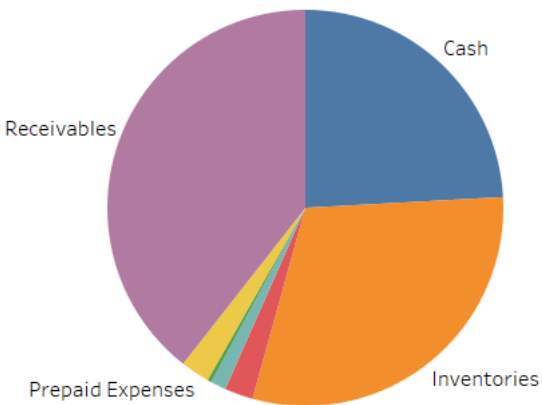
Sales & After-tax profit



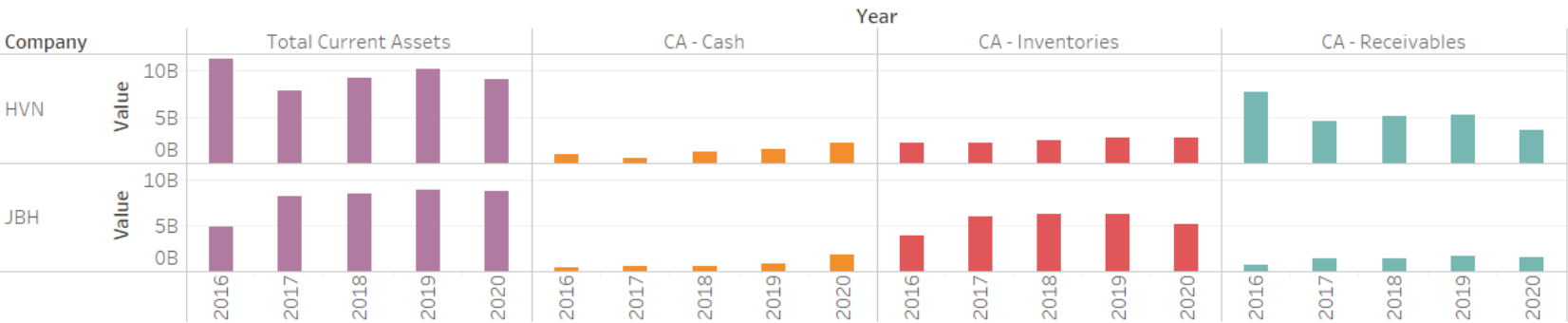
Liquidity Ratios



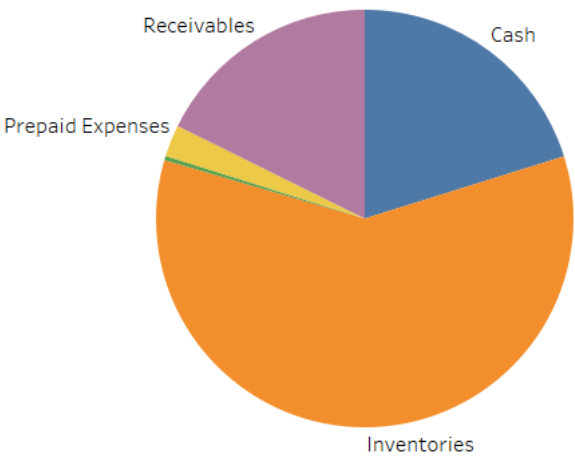
HVN Current Assets 2020



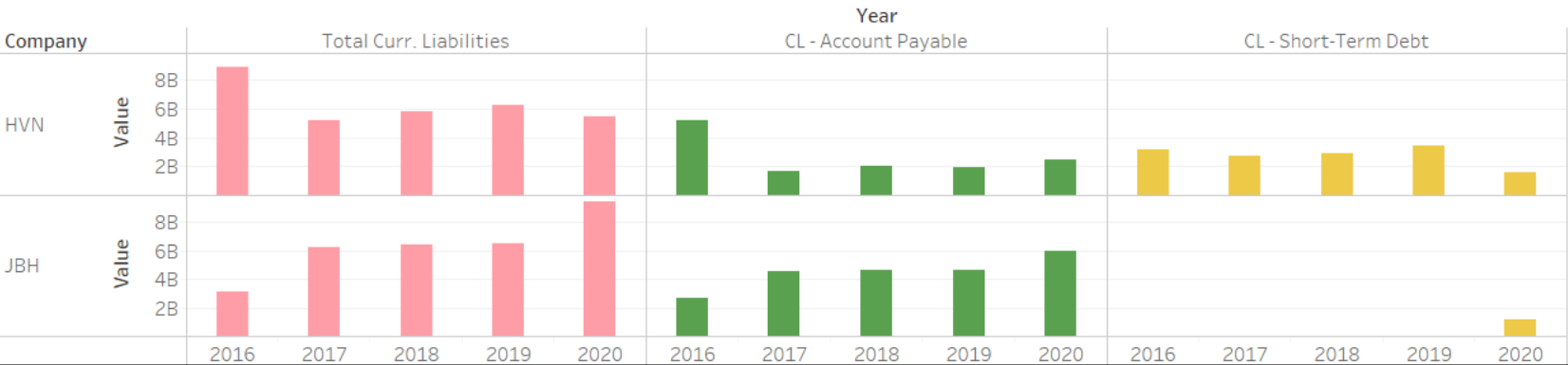
Current Assets



JBH Current Assets 2020



Current Liabilities



Reflections



- In the end ;) students were really happy that they did it
- Significant improvement in adjusting entries-question in final exam
- Less stressed about new software in Team Assignment
- Students were keen to learn more



- Manage student's anxiety
- Give students more time
- Reduce 'other' assessments
- Death by online marking (timing?)

Thank you



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<https://doi.org/10.2308/JETA-2020-031>