Chapter 4
Articulation Tables and Transaction Analysis

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Melbourne Business School

Chapter 2 addressed the purpose of each financial statement and how the five statements articulate or fit together. Chapter 3 addressed what common balance sheet line items tell us about and the activities that increase and decrease the balances of each of those line items.

In this chapter, we reinforce these issues by bringing them together in two different ways. In the first, we start with business activities and examine how common business activities affect each of the five financial statements. Specifically, we illustrate a simplified, internal bookkeeping process for transforming business activities into financial statements. That is, we work from Point A, business activities, to Point B, the financial statements.

With the second way, we work backwards from Point B, the financial statements, to Point A, the underlying business activities. That is, we start with a company's financial statements and use our knowledge of the different financial statements, the different line items within financial statements, and how the various financial statements articulate to infer the business activities the company engaged in during the year. We call this process, 'transaction analysis from a user's perspective'.

Business Activities to Financial Statements: Articulation Tables

Figure 1 presents Victoria Company's 30 June 2024 and 2023 balance sheets and its 2024 cash flow statement, 2024 income statement, 2024 comprehensive income statement, and 2024 shareholder equity statement. The arrows illustrate how the five statements articulate (i.e., fit together).

Figure 1
Victoria Company's 30 June 2024 and 2023 Balance Sheets and 2024 Flow Statements

Balance sheet	**2024**	**2023**
Current assets		
Cash & equivalents	800	500
Trade & other receivables	850	950
Inventory	150	100
Total current assets	1,800	1,550
Non-current assets		
Investments	330	0
PP&E	2,200	1,750
Total assets	4,330	3,300
Current liabilities		
Trade & other payables	220	320
Unearned revenue	50	0
Borrowings	70	80
Total current liabilities	340	400
Borrowings	1,780	1,100
Shareholder equity		
Contributed capital	1,200	1,000
Retained earnings	930	750
Accumulated OCI	80	50
Total liabilities & SE	4,430	3,300

2024 Cash Flow Statement	
Operating cash flows	280
Investing cash flows	(200)
Financing cash flows	220
Increase in cash	300
Begin cash balance	500
Ending cash balance	800

2024 Shareholder Equity Statement

	Contributed capital	Retained earnings	Accum OCI
Balance as of 30 June 2023	1,000	750	50
Comprehensive income			
Net income		240	
Other comprehensive income			30
Interactions with shareholders			
Shares issued	300		
Share buy-backs	(100)		
Dividends proposed	.	(60)	.
Balance as of 30 June 2024	1,200	930	80

2024 Income Statement	
Revenue	1,200
Expenses	
Cost of good sold	(550)
Wage expense	(210)
Depreciation expense	(150)
Other expenses	(150)
Gains (standard)	100
Losses (standard)	0
Net income	240

2024 Comprehensive Income Stmt		
Net income		240
Other comprehensive income		
Gains (special)	30	
Losses (special)	0	
Other comprehensive income		30
Comprehensive income		270

How did Victoria Company create its 2024 financial statements in Figure 1? The answer is: it captured and measured the financial effects of each relevant business activity that occurred during 2024 and then organized those financial effects into the appropriate financial statements.

In the remainder of this section, we illustrate a simplified bookkeeping process for how Victoria Company captured, measured, and organized its relevant 2024 business activities into its 2024 financial statements. The process we use relies upon a tool we created, called an **articulation table**.

Before walking through how Victoria Company created its 2024 financial statements, we first introduce a generic articulation table and discuss how it works. Figure 2 presents a generic articulation table that records the financial effects of five business activities.

Key point: Articulation tables are a tool that shows you on one page how a specific business activity is reflected in each of the financial statements. This means that it would be worthwhile to be thoroughly familiar with them and how they work.

Figure 2
Articulation Table

		Begin balance	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	End balance
	Cash Flow Statement							
+	Operating cash flows	0	250					250
+	Investing cash flows	0			(300)			(300)
+	Financing cash flows	0					100	100
	Net change in cash	0	250		(300)		100	50
+	Beginning cash	200						200
	Ending cash	200	250		(300)		100	250
	Balance Sheet							
+	Cash	200	250		(300)		100	250
+	Trade receivables	400	(250)			200		350
+	Inventory	250		100				350
+	Property, plant & equipment	1,250			300			1,550
	Total assets	2,100	0	100	0	200	100	2,500
+	Trade payables	200		100				300
+	Borrowings	800						800
+	Contributed capital	400					100	500
+	Retained earnings	600				200		800
+	Accumulated OCI	100						100
	Total liabilities & share equity	2,100	0	100	0	200	100	2,500
	Operations							
+	Revenue					200		200
-	Expenses	0						0
+	‘Standard’ gains	0						0
-	‘Standard’ losses	0						0
	Net income (loss)	0				200		200
+	‘Special’ gains	0						0
-	‘Special’ losses	0						0
	Comprehensive income (loss)	0				200		200
	Shareholder interactions							
+	Share issuance	0					100	100
-	Share buy-back	0						0
-	Dividends proposed	0						0

There are several key items for understanding the articulation table.

Notice that some numbers in the articulation table are in brackets and some are not. A number that is ***not*** in brackets is increasing the balance of that line item while a number in brackets is decreasing the balance of that line item. For example, in Activity 1, the balance of the 'Cash' line item is being increased by $250 while the balance of the 'Trade receivables' line item is being decreased by $250.

Key point: For an activity that decreases the balance of a line item, the dollar amount of the decrease is entered in that line item in brackets. In contrast, for an activity that increases the balance of a line item, the dollar amount of the increase is entered in that line item without brackets. This means that when totaling a line item across columns, dollar amounts not in brackets will be added while dollar amounts in brackets will be subtracted.

Notice that the articulation table in Figure 2 is divided into three sections: a shaded section in the middle, with an unshaded section at the top and a different unshaded section at the bottom.

The middle, shaded section is the heart of the articulation table, and it contains the balance sheet. In the balance sheet section, notice that each activity affects two different line items, other than the total line items. This reflects double-entry bookkeeping.[1] Recall that the balance sheet is a statement of the basic accounting equation. That is,

Assets = Liabilities + Shareholder equity

Double-entry bookkeeping maintains this equality on the balance sheet because double-entry bookkeeping requires that every relevant business activity affect at least two different line items on the balance sheet. For example, Activity 1 maintains the accounting equation because while the effect on cash increases assets by $250, the effect on trade receivables decreases assets by the same amount. Similarly, in Activity 2, assets and liabilities both increase by $100 due to the respective effects on inventory and trade payables.

Key point: The effect of a business activity must always maintain the equality of the balance sheet; that is, Assets = Liabilities + Shareholder equity. This requires that every relevant activity affects at least two balance sheet line items.

Notice the unshaded section of the articulation table above the balance sheet. This is the second section of the articulation table. ***This section is for cash flows***, partitioned into whether the cash flow is from an operating activity, an investing activity, or a financing activity.

Notice that the ***only*** time a number is entered into the cash flow section is when an activity affects the 'Cash' line item in the balance sheet section (i.e., activities 1, 3, and 5). This is consistent with the fact that the purpose of the cash flow statement is to explain every source and use of cash during the

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[1] Luca Pacioli, an Italian monk who lived during the Renaissance, is considered the father of modern accounting for introducing double-entry bookkeeping to the world in a book entitled, *Summa*. This book was the most widely read mathematical work in all of Italy and was one of the first books published on the Gutenberg press, having a profound and lasting effect on commerce throughout the world. Johann Wolfgang Goethe, a philosopher, had this to say in 1796 about double-entry bookkeeping.

> ". . . Double-entry bookkeeping is one of the most beautiful discoveries of the human spirit. . .. It came from the same spirit which produced the systems of Galileo and Newton and the subject matter of modern physics and chemistry. By the same means, it organizes perceptions into a system, and one can characterize it as the first Cosmos constructed purely on the basis of mechanistic thought. . .. Without too much difficulty, we can recognize in double-entry bookkeeping the ideas of gravitation, or the circulation of the blood and of the conservation of matter."

year. In this section, a number not in brackets means that the company received cash while a number in brackets means that the company paid out cash.

Key point: If an activity affects the 'Cash' line item on the balance sheet section of the articulation table, there ***must*** be a corresponding entry in the cash flow statement section of the articulation table. That is, for the same dollar amount and with the same sign. This is consistent with the fact that the purpose of the cash flow statement is to explain every source and use of cash during the year.

Notice the unshaded section of the articulation table below the balance sheet. This is the third and final section of the articulation table. ***This section is for wealth flows***, partitioned into the wealth flows due to the company's operations versus due to the company's interactions with its shareholders.

Wealth flows due to operations are further partitioned into revenue, expenses, gains and losses that financial reporting standards do not require to be segregated (i.e., 'standard' gains and losses), and gains and losses that are required to be segregated (i.e., 'special' gains and losses). Wealth flows due to interactions with shareholders are further partitioned based on the nature of the interaction: issuing shares, buying back shares, or proposing a dividend.

Notice that the ***only*** time a number is entered into the wealth flow section is when an activity affects one of the line items in the shareholder equity section in the balance sheet section (i.e., activities 4 and 5). This is consistent with the fact that (1) the shareholder equity section on the balance sheet reports the company's net worth and (2) the purpose of the income statement, comprehensive income statement, and shareholder equity statement is to explain every source and use of wealth (i.e., change in net worth) during the year. In this section, each number indicates an increase in that type of wealth flow, meaning that all numbers in this section are entered without brackets.

Key point: If an activity affects one of the shareholder equity line items on the balance sheet section of the articulation table, there ***must*** be a corresponding entry in the wealth section of the articulation table. This is consistent with the fact that the collective purpose of the income statement, comprehensive income statement, and the shareholder equity statement is to explain every source and use of wealth during the year.

The final item to notice in Figure 2 is the first column, which contains plus and minus signs. A line item with a minus sign means that when calculating a column total or sub-total, the dollar amount of that line item should be subtracted. For example, in the wealth flow section, net income is calculated by adding together the 'Revenue' and 'Standard gains' line items and subtracting the 'Expense' and 'Standard' loss' line items.

With this background, we can now address how Victoria Company created its 2024 financial statements in Figure 1. The company's financial year-end is 30 June.

Beginning on page 6 (and continuing for 12 pages) are two sets of alternating tables. The 'Set A' tables are articulation tables that illustrate the effects on the financial statements of 25 common business activities. The 'Set B' tables explain the financial statement effects in words.

Below are the 25 business activities, partitioned based on the table in which the business activity is addressed. To the extent possible, similar types of business activities are grouped together.

Business activities addressed in Tables 1A and 1B:

A. During the year Sally Jones contributed $300 cash to the company, in exchange for ownership rights.
B. Later in the year, Sally Jones sold all her shares in Victoria Company to her brother for $400.
C. During the year the company paid out $100 cash to buy back shares from existing shareholders.

D. In July 2023 the company paid $50 to shareholders to settle the 30 June 2023 balance in Dividends Payable.
E. In June 2024 the company's Board of Directors proposed a $60 dividend to be paid in July 2024.

Business activities addressed in Tables 2A and 2B:

F. During the year the company paid out $80 cash to settle the current borrowing outstanding on 30 June 2023.
G. During the year the company borrowed $150 from its bank (under the terms of the loan, no principal payments are due until 2027).
H. On 30 June 2024 the company determines that $70 of its non-current borrowings will be repaid within the next 12 months.
I. The company paid $300 cash for equity shares in UM Ltd. The company plans to hold these shares for several years and elected to account for them as fair value through other comprehensive income (FVTOCI).
J. On 30 June 2024 the fair value of the investment in UM Ltd is $330. Financial reporting standards require that holding gains and losses on investments accounted as FVTOCI be segregated (i.e., are 'special').

Business activities addressed in Tables 3A and 3B:

K. During the year the company purchased PP&E for $1,000, paying cash for 40% of it and financing the remaining 60% with its bank (under the terms of the loan, no principal payments are during until 2027).
L. During the year the company sold some PP&E for $500 cash. The PP&E had originally cost $600 and had been depreciated $200 to date.
M. During the year the company used its PP&E in the running of its business, resulting in $150 of depreciation.

Business activities addressed in Tables 4A and 4B:

N. During the year the company made $700 of sales to customers on account (i.e., on credit).
O. During the year the company collected $800 of cash from customers in payment of outstanding invoices.
P. During the year the company collected $150 of cash from customers as advance payment for goods.
Q. During the year the company provided goods (retail value of $100) to customers who had paid in advance.

Business activities addressed in Tables 5A and 5B:

R. During the year the company made $400 of cash sales.
S. During the year the company purchased $600 of inventory from suppliers on account (i.e., on credit).
T. During the year the company paid $700 of cash to its inventory suppliers to settle outstanding invoices.
U. The cost of the inventory that the company sold (i.e., transferred control of) to customers during the year in Activities N, Q, and R was $550.

Business activities addressed in Tables 6A and 6B:

V. In July 2023 the company paid $20 to employees to settle the 30 June 2023 balance in Wages Payable.
W. During the year the employees earned wages and benefits of $200 that the company paid during the year.
X. During the year employees earned wages and benefits of $10 that had not paid as of 30 June 2024.
Y. During the year the company used — and paid for — $150 of various consumables (e.g., utilities).

Table 1A
Articulation Table for Activities A – E

		30 June 2023	Activity A	Activity B	Activity C	Activity D	Activity E	Carry forward
	Cash Flow Statement							
+	Operating cash flows	0						0
+	Investing cash flows	0						0
+	Financing cash flows	0	300		(100)	(50)		150
	Net change in cash	0	300		(100)	(50)		150
+	Beginning cash	500						500
	Ending cash	500	300		(100)	(50)		650
	Balance Sheet							
+	Cash	500	300		(100)	(50)		650
+	Trade receivables gross	900						900
-	Allowance for bad debts	150						150
+	Other receivables	200						200
+	Inventory	100						100
+	Prepayments	0						0
	Total current assets	1,550	300	0	(100)	(50)	0	1,700
+	Investments	0						0
+	Property, plant & equip gross	2,250						2,250
-	Accumulated depreciation	500						500
	Total assets	3,300	300	0	(100)	(50)	0	3,450
+	Trade payables	250						250
+	Wages payable	20						20
+	Dividends payable	50				(50)	60	60
+	Unearned revenue	0						0
+	Borrowings (current)	80						80
	Total current liabilities	400	0	0	0	(50)	60	410
+	Borrowings (non-current)	1,100						1,100
+	Contributed capital	1,000	300		(100)			1,200
+	Retained earnings	750					(60)	690
+	Accumulated OCI	50						50
	Total liabilities & share equity	3,300	300	0	(100)	(50)	0	3,450
	Operations							
+	Revenue							
-	Expenses	0						0
+	‘Standard’ gains	0						0
-	‘Standard’ losses	0						0
	Net income (loss)	0						0
+	‘Special’ gains	0						0
-	‘Special’ losses	0						0
	Comprehensive income (loss)	0						0
	Shareholder interactions							
+	Share issuance	0	300					300
-	Share buy-back	0			100			100
-	Dividends proposed	0					60	60

Table 1B
Victoria Company's Business Activities A – E and Explanation of Effects

	Panel A: Activity	Panel B: Explanation of Effect on Financial Statements

A	During the year Sally Jones contributed $300 cash to the company, in exchange for ownership rights in the company.	• Cash increases by $300 because the company now has an additional $300 of cash that it controls.
		  • This $300 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with shareholders, so it is a financing activity cash flow.
		• Contributed Capital increases by $300 because the company received a $300 contribution directly from shareholders.
		  • This $300 affects shareholder equity, and therefore must be explained on a wealth flow statement. This wealth flow is from interacting with shareholders, so it is explained on the shareholder equity statement, as a share issuance.
		• The accounting equation stays in balance because assets and shareholder equity both increase by $300.

B	Later in the year, Sally Jones sold all her shares in Victoria Company to her brother for $400.	• This is not a business activity of the company; it is an activity between two entities that are independent of the company. Accordingly, it does not affect the company's financial statements. Consistent with this, nothing is recorded in the articulation table.

C	During the year the company paid out $100 cash to buy back shares from existing shareholders.	• Cash decreases by $100 because the company now has $100 less cash that it controls.
		  • This $100 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with shareholders, so it is a financing activity cash flow.
		• Contributed Capital decreases by $100 because the company now holds less shareholder contributions.
		  • This $100 affects shareholder equity, and therefore must be explained on a wealth flow statement. This wealth flow is from interacting with shareholders, so it is explained on the shareholder equity statement, as a share buy-back.
		• The accounting equation stays in balance because assets and shareholder equity both decrease by $100.

D	In July 2023 the company paid $50 to shareholders to settle the 30 June 2023 balance in Dividends Payable.	• Cash decreases by $50 because the company now has $50 less cash that it controls. • This $50 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with shareholders, so it is a financing activity cash flow. • Dividends Payable decreases by $50 because the company has settled — and thus eliminated — the 30 June 2023 obligation for dividends. • The accounting equation stays in balance because assets and liabilities both decrease by $50.
E	In June 2024 the company's Board of Directors proposed a $60 dividend to be paid in July 2024.	• Retained Earnings decreases by $60 because the dividend proposal is a distribution of net income to shareholders and thus reduces the earnings being retained in the company. • This $60 affects shareholder equity, and therefore must be explained on a wealth flow statement. This wealth flow is from interacting with shareholders, so it is explained on the shareholder equity statement, as a dividend proposal. • Dividends Payable increases by $60 because the dividend proposal by the Board creates an obligation for the company to pay $60 to its shareholders. • The accounting equation stays in balance because shareholder equity and liabilities decrease and increase, respectively, by the same amount.

Table 2A
Articulation Table for Events F - J

		Carry forward	Activity F	Activity G	Activity H	Activity I	Activity J	Carry forward
	Cash Flow Statement							
+	Operating cash flows	0						0
+	Investing cash flows	0				(300)		(300)
+	Financing cash flows	150	(80)	150				220
	Net change in cash	150	(80)	150		(300)		(80)
+	Beginning cash	500						500
	Ending cash	650	(80)	150		(300)		420
	Balance Sheet							
+	Cash	650	(80)	150		(300)		420
+	Trade receivables gross	900						900
-	Allowance for bad debts	150						150
+	Other receivables	200						200
+	Inventory	100						100
+	Prepayments	0						0
	Total current assets	1,700	(80)	150	0	(300)	0	1,470
+	Investments	0				300	30	330
+	Property, plant & equip gross	2,250						2,250
-	Accumulated depreciation	500						500
	Total assets	3,450	(80)	150	0	0	30	3,550
+	Trade payables	250						250
+	Wages payable	20						20
+	Dividends payable	60						60
+	Unearned revenue	0						0
+	Borrowings (current)	80	(80)		70			70
	Total current liabilities	410	(80)	0	70	0	0	400
+	Borrowings (non-current)	1,100		150	(70)			1,180
+	Contributed capital	1,200						1,200
+	Retained earnings	690						690
+	Accumulated OCI	50					30	80
	Total liabilities & share equity	3,450	(80)	150	0	0	30	3,550
	Operations							
+	Revenue							0
-	Expenses	0						0
+	‘Standard’ gains	0						0
-	‘Standard’ losses	0						0
	Net income (loss)	0						0
+	‘Special’ gains	0					30	30
-	‘Special’ losses	0						0
	Comprehensive income (loss)	0					30	30
	Shareholder interactions							
+	Share issuance	300						300
-	Share buy-back	100						100
-	Dividends proposed	60						60

Table 2B
Victoria Company's Business Activities F – J and Explanation of Effects

	Panel A: Activity	Panel B: Explanation of Effect on Financial Statements
F	During the year the company paid out $80 cash to settle the current borrowing outstanding on 30 June 2023	• Cash decreases by $80 because the company now has $80 less cash that it controls. • This $80 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with lenders, so it is a financing activity cash flow. • Borrowings (current) decreases by $80 because the company has settled — and thus eliminated — this obligation. • The accounting equation stays in balance because assets and liabilities both decrease by $80.
G	During the year the company borrowed $150 from its bank (under the terms of the loan, no principal payments are due until 2027).	• Cash increases by $150 because the company now has $150 additional cash that it controls. • This $150 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with lenders, so it is a financing activity cash flow. • Borrowings (non-current) increases by $150 because the company now owes $150 of additional principal to a lender. Because no principal payments are due until 2027, all the new principal is non-current. • The accounting equation stays in balance because assets and liabilities both increase by $150.
H	On 30 June 2024 the company determines that $70 of its non-current borrowings will be repaid within the next 12 months.	• Borrowings (current) increases by $70 because the company now has loan principal that is payable within 12 months. • Borrowings (non-current) decreases by $70 because $70 of the balance in this account is now payable within the next 12 months. • The accounting equation stays in balance because Borrowings (current) and Borrowings (non-current) increase and decrease, respectively, by the same amount.
I	During the year, the company paid $300 cash for equity shares in UM Ltd. The company intends to hold these shares for several years, and has elected to account for them as fair value through other comprehensive income (FVTOCI)	• Cash decreases by $300 because the company now has $300 less cash that it controls. • This $300 affects cash, and therefore must be explained on the cash flow statement. This cash flow is due to acquiring investments, so it is an investing cash flow. • Investments increase by $300 because the company now controls equity shares in another company; the company should classify the investment as non-current because it expects to hold these shares for several years. • The accounting equation stays in balance because assets are both increased (via Investments) and decreased (via Cash) by $300.
J	On 30 June 2024 the fair value of the company's investment in UM Ltd is $330. Financial reporting standards require that holding gains and losses on investments accounted for as FVTOCI be segregated (i.e., are 'special').	• Investments increase by $30 because under the FVTOCI designation, investments should be reported at their current fair value, which in this case is $30 more than their current value on the balance sheet (i.e., $330 - $300). • Accumulated Other Comprehensive Income increases by $30 because the company generated a $30 gain that financial reporting standards says must be segregated (i.e., the gain is 'special') • This $30 affects shareholder equity, and therefore must be explained on a wealth flow statement. The gain is 'special', so this wealth flow is explained on the comprehensive income statement, as other comprehensive income. • The accounting equation stays in balance because assets and shareholder equity both increase by $30.

Table 3A
Articulation Table for Events K - M

		Carry forward	Activity K	Activity L	Activity M	Carry forward
	Cash Flow Statement					
+	Operating cash flows	0				0
+	Investing cash flows	(300)	(400)	500		(200)
+	Financing cash flows	220				220
	Net change in cash	(80)	(400)	500)		20
+	Beginning cash	500				500
	Ending cash	420	(400)	500		520
	Balance Sheet					
+	Cash	420	(400)	500		520
+	Trade receivables gross	900				900
-	Allowance for bad debts	150				150
+	Other receivables	200				200
+	Inventory	100				100
+	Prepayments	0				0
	Total current assets	1,470	(400)	500	0	1,570
+	Investments	330				330
+	Property, plant & equip gross	2,250	1,000	(600)		2,650
-	Accumulated depreciation	500		(200)	150	450
	Total assets	3,550	600	100	(150)	4,100
+	Trade payables	250				250
+	Wages payable	20				20
+	Dividends payable	60				60
+	Unearned revenue	0				0
+	Borrowings (current)	70				70
	Total current liabilities	400	0	0	0	400
+	Borrowings (non-current)	1,180	600			1,780
+	Contributed capital	1,200				1,200
+	Retained earnings	690		100	(150)	640
+	Accumulated OCI	80				80
	Total liabilities & share equity	3,550	600	100	(150)	4,100
	Operations					
+	Revenue	0				0
-	Expenses	0			150	150
+	'Standard' gains	0		100		100
-	'Standard' losses	0				0
	Net income (loss)	0		100	(150)	(50)
+	'Special' gains	30				30
-	'Special' losses	0				0
	Comprehensive income (loss)	30		100	(150)	(20)
	Shareholder interactions					
+	Share issuance	300				300
-	Share buy-back	100				100
-	Dividends proposed	60				60

Table 3B
Victoria Company's Business Activities K – M and Explanation of Effects

	Panel A: Activity	Panel B: Explanation of Effect on Financial Statements
K	During the year the company purchased PP&E for $1,000, paying cash for 40% of it and financing the remaining 60% with its bank (under the terms of the loan, no principal payments are during until 2027).	• PP&E Gross increases by $1,000 because the company now has $1,000 additional PP&E that it controls. • Cash decreases by $400 because the company now has $400 less cash that it controls. • This $400 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with suppliers of non-consumables, so it is an investing activity cash flow. • Borrowings (non-current) increases by $600 because the company now owes $600 of additional principal to a lender. Because no principal payments are due until 2027, all the new principal is non-current. • The accounting equation stays in balance because assets and liabilities both increase by $600. For assets, the occurs via a $1,000 increase in PP&E and a $400 decrease in Cash.

L	During the year the company sold some PP&E for $500 cash. The PP&E had originally cost $600 and had been depreciated $200 to date.	• Cash increases by $500 because the company now has $500 additional cash that it controls.
		    • This $500 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from disposing a non-consumable asset, so it is an investing activity cash flow.
		• PP&E Gross decreases by $600 to remove the original cost of the disposed PP&E from this account because the company no longer controls this PP&E.
		• Accumulated Depreciation decreases by $200 to remove the amount from this account associated with the disposed PP&E because the company no longer controls this PP&E.
		• Retained Earnings increases by $100 because the company generated a gain that financial reporting standards says does not need to be segregated (i.e., it is a 'standard' gain). Specifically, the company received $500 cash for PP&E that was reported on its balance sheet at only$400.
		    • This $100 affects shareholder equity, and therefore must be explained on a wealth flow statement. The gain is standard', so this net wealth inflow is explained on the income statement as a gain.
		• The accounting equation stays in balance. Notice that Accumulated Depreciation has a minus sign in the first column. Decreasing Accumulated Depreciation by $200 therefore ***increases*** total assets by $200. So, total assets increased by $200 due to the effect on Accumulated Depreciation, increased $500 due to the effect on Cash, and decreased $600 due to the effect on PP&E Gross, for an overall net increase in assets of $100. This is the same amount by which shareholder equity increased.

M	During the year the company used its PP&E in the running of its business, resulting in $150 of depreciation.	• Accumulated Depreciation increases by $150 for the decrease during the year in the service potential of the PP&E due to the company using the PP&E in its ordinary day-to-day activities. • Retained Earnings decreases by $150 because the company used $150 of wealth through operations that are part of the company's ordinary day-to-day activities. • This $150 affects shareholder equity, and therefore must be explained on a wealth flow statement. This gross wealth outflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as an expense. • The accounting equation stays in balance. Notice that Accumulated Depreciation has a minus sign in the first column. Increasing Accumulated Depreciation by $150 therefore ***decreases*** total assets by $150. This is the same amount by which total liabilities and shareholder equity decreased.

Table 4A
Articulation Table for Events N - Q

		Carry forward	Activity N	Activity O	Activity P	Activity Q	Carry forward
	Cash Flow Statement						
+	Operating cash flows	0		800	150		950
+	Investing cash flows	(200)					(200)
+	Financing cash flows	220					220
	Net change in cash	20		800	150		970
+	Beginning cash	500					500
	Ending cash	520		800	150		1,470
	Balance Sheet						
+	Cash	520		800	150		1,470
+	Trade receivables gross	900	700	(800)			800
-	Allowance for bad debts	150					150
+	Other receivables	200					200
+	Inventory	100					100
+	Prepayments	0					0
	Total current assets	1,570	700	0	150	0	2,420
+	Investments	330					330
+	Property, plant & equip gross	2,650					2,650
-	Accumulated depreciation	450					450
	Total assets	4,100	700	0	150	0	4,950
+	Trade payables	250					250
+	Wages payable	20					20
+	Dividends payable	60					60
+	Unearned revenue	0			150	(100)	50
+	Borrowings (current)	70					70
	Total current liabilities	400	0	0	150	(100)	450
+	Borrowings (non-current)	1,780					1,780
+	Contributed capital	1,200					1,200
+	Retained earnings	640	700			100	1,440
+	Accumulated OCI	80					80
	Total liabilities & share equity	4,100	700	0	150	0	4,950
	Operations						
+	Revenue	0	700			100	800
-	Expenses	150					150
+	'Standard' gains	100					100
-	'Standard' losses	0					0
	Net income (loss)	(50)	700			100	750
+	'Special' gains	30					30
-	'Special' losses	0					0
	Comprehensive income (loss)	(20)	700			100	780
	Shareholder interactions						
+	Share issuance	300					300
-	Share buy-back	100					100
-	Dividends proposed	60					60

Table 4B
Victoria Company's Business Activities N – Q and Explanation of Effects

<table>
<tr><th></th><th>Panel A: Activity</th><th>Panel B: Explanation of Effect on Financial Statements</th></tr>
<tr><td>N</td><td>During the year the company made $700 of sales to customers on account (i.e., on credit).</td><td>• Trade Receivables Gross increases by $700 because the activity created $700 of new receivables (i.e., invoices) due from customers.
• Retained Earnings increases by $700 because the company generated $700 of new wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities).
  • This $700 affects shareholder equity, and thus must be explained on a wealth flow statement. This gross wealth inflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as revenue.
• The accounting equation stays in balance because assets and shareholder equity both increase by $700.</td></tr>
<tr><td>O</td><td>During the year the company collected $800 of cash from customers in payment of outstanding customer invoices.</td><td>• Cash increases by $800 because the company now controls $800 of additional cash.
  • This $800 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with customers, so it is an operating activity cash flow.
• Trade Receivables Gross decreases by $800 because collecting these payments from customers eliminates outstanding customer invoices.
• The accounting equation stays in balance because assets are both increased (via Cash) and decreased (via Trade Receivables Gross) by $800.</td></tr>
<tr><td>P</td><td>During the year the company collected $150 of cash from customers as advance payment for goods.</td><td>• Cash increases by $150 because the company now controls $150 of additional cash.
  • This $150 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with customers, so it is an operating activity cash flow.
• Unearned Revenue increases by $150 because the company is not entitled to keep the $150 until it provides the requested goods to the customers. That is, collecting the cash from customers obligates the company to provide goods in the future to those customers.
• The accounting equation stays in balance because assets and liabilities both increase by $150.</td></tr>
<tr><td>Q</td><td>During the year the company provided goods (with a retail value of $100) to customers who had paid in advance.</td><td>• Unearned Revenue decreases by $100 because providing goods to customers who had paid in advance eliminates the company's obligation to those customers.
• Retained Earnings increases by $100 because the company generated $100 of new wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities).
  • This $100 affects shareholder equity, and therefore must be explained on one of the wealth flow statements. This gross wealth inflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as revenue.
• The accounting equation stays in balance because liabilities and shareholder equity decrease and increase, respectively, by the same dollar amount.</td></tr>
</table>

Table 5A
Articulation Table for Events R - U

		Carry forward	Activity R	Activity S	Activity T	Activity U	Carry forward
	Cash Flow Statement						
+	Operating cash flows	950	400		(700)		650
+	Investing cash flows	(200)					(200)
+	Financing cash flows	220					220
	Net change in cash	970	400		(700)		670
+	Beginning cash	500					500
	Ending cash	1,470	400		(700)		1,170
	Balance Sheet						
+	Cash	1,470	400		(700)		1,170
+	Trade receivables gross	800					800
-	Allowance for bad debts	150					150
+	Other receivables	200					200
+	Inventory	100		600		(550)	150
+	Prepayments	0					0
	Total current assets	2,420	400	600	(700)	(550)	2,170
+	Investments	330					330
+	Property, plant & equip gross	2,650					2,650
-	Accumulated depreciation	450					450
	Total assets	4,950	400	600	(700)	(550)	4,700
+	Trade payables	250		600	(700)		150
+	Wages payable	20					20
+	Dividends payable	60					60
+	Unearned revenue	50					50
+	Borrowings (current)	70					70
	Total current liabilities	450	0	600	(700)	0	350
+	Borrowings (non-current)	1,780					1,780
+	Contributed capital	1,200					1,200
+	Retained earnings	1,440	400			(550)	1,290
+	Accumulated OCI	80					80
	Total liabilities & share equity	4,950	400	600	(700)	(550)	4,700
	Operations						
+	Revenue	800	400				1,200
-	Expenses	150				550	700
+	'Standard' gains	100					100
-	'Standard' losses	0					0
	Net income (loss)	750	400			(550)	600
+	'Special' gains	30					30
-	'Special' losses	0					0
	Comprehensive income (loss)	780	400			(550)	630
	Shareholder interactions						
+	Share issuance	300					300
-	Share buy-back	100					100
-	Dividends proposed	60					60

Table 5B
Victoria Company's Business Activities R – U and Explanation of Effects

	Panel A: Activity	Panel B: Explanation of Effect on Financial Statements

R	During the year the company made $400 of cash sales	• Cash increases by $400 because the company now controls $400 of additional cash.
		   • This $400 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with customers, so it is an operating activity cash flow.
		• Retained Earnings increases by $400 because the company generated $400 of new wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities).
		   • This $400 affects shareholder equity, and therefore must be explained on a wealth flow statement. This gross wealth inflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as revenue.
		• The accounting equation stays in balance because assets and shareholder equity both increase by $400.

S	During the year the company purchased $600 of inventory from suppliers on account (i.e., on credit)	• Inventory increases by $600 because the company now controls $600 of additional merchandise that it intends to resell to customers. • Trade Payables increases by $600 because the company now owes an additional $600 to its inventory suppliers. • The accounting equation stays in balance because assets and liabilities both increase by $600.
T	During the year the company paid $700 of cash to its inventory suppliers to settle outstanding invoices.	• Cash decreases by $700 because the company now has $700 less cash that it controls. • This $700 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with suppliers of consumables, so it is an operating activity cash flow. • Trade Payables decrease by $700 because the payment eliminated the company's obligation to its inventory suppliers for the invoices paid. • The accounting equation stays in balance because assets and liabilities both decrease by $700.
U	The cost of the inventory that the company sold (i.e., transferred control of) to customers during the year in Activities N, Q, and R was $550.	• Inventory decreases by $550 because the company no longer controls the $550 of inventory it sold to customers. • Retained Earnings decreases by $550 because the company used $550 of wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities). • This $550 affects shareholder equity, and therefore must be explained on a wealth flow statement. This gross wealth outflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as an expense. • The accounting equation stays in balance because assets and shareholder equity both decrease by $550.

Table 6A
Articulation Table for Events V - Y

		Carry forward	Activity V	Activity W	Activity X	Activity Y	30 June 2024
	Cash Flow Statement						
+	Operating cash flows	650	(20)	(200)		(150)	280
+	Investing cash flows	(200)					(200)
+	Financing cash flows	220					220
	Net change in cash	670	(20)	(200)		(150)	300
+	Beginning cash	500					500
	Ending cash	1,170	(20)	(200)		(150)	800
	Balance Sheet						
+	Cash	1,170	(20)	(200)		(150)	800
+	Trade receivables gross	800					800
-	Allowance for bad debts	150					150
+	Other receivables	200					200
+	Inventory	150					150
+	Prepayments	0					0
	Total current assets	2,170	(20)	(200)	0	(150)	1,800
+	Investments	330					330
+	Property, plant & equip gross	2,650					2,650
-	Accumulated depreciation	450					450
	Total assets	4,700	(20)	(200)	0	(150)	4,330
+	Trade payables	150					150
+	Wages payable	20	(20)		10		10
+	Dividends payable	60					60
+	Unearned revenue	50					50
+	Borrowings (current)	70					70
	Total current liabilities	350	(20)	0	10	0	340
+	Borrowings (non-current)	1,780					1,780
+	Contributed capital	1,200					1,200
+	Retained earnings	1,290		(200)	(10)	(150)	930
+	Accumulated OCI	80					80
	Total liabilities & share equity	4,700	(20)	(200)	0	(150)	4,330
	Operations						
+	Revenue	1,200					1,200
-	Expenses	700		200	10	150	1,060
+	'Standard' gains	100					100
-	'Standard' losses	0					0
	Net income (loss)	600		(200)	(10)	(150)	240
+	'Special' gains	30					30
-	'Special' losses	0					0
	Comprehensive income (loss)	630		(200)	(10)	(150)	270
	Shareholder interactions						
+	Share issuance	300					300
-	Share buy-back	100					100
-	Dividends proposed	60					60

Table 6B
Victoria Company's Business Activities V – Y and Explanation of Effects

<table>
<tr><th></th><th>Panel A: Activity</th><th>Panel B: Explanation of Effect on Financial Statements</th></tr>
<tr><td>V</td><td>In July 2023 the company paid $20 to employees to settle the 30 June 2023 balance in Wages Payable.</td><td>Cash decreases by $20 because the company now has $20 less cash that it controls.
This $20 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with suppliers of consumables, so it is an operating activity cash flow.
Wages Payable decreases by $20 because paying the outstanding wages eliminates the company's 30 June 2023 liability.
The accounting equation stays in balance because assets and liabilities both decrease by $20.</td></tr>
<tr><td>W</td><td>During the year the employees earned wages and benefits of $200 that the company paid during the year.</td><td>Cash decreases by $200 because the company now has $200 less cash that it controls.
This $200 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with suppliers of consumables, so it is an operating activity cash flow.
Retained Earnings decreases by $200 because the company used $200 of wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities).
This $200 affects shareholder equity, and therefore must be explained on a wealth flow statement. This gross wealth outflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as an expense.
The accounting equation stays in balance because assets and shareholder equity both decrease by $200.</td></tr>
<tr><td>X</td><td>During the year the employees earned wages and benefits of $10 that the company had not paid as of 30 June 2024.</td><td>Wages Payable increases by $10 because the employees have done something for the company that the company has not yet paid them for, creating an obligation for the company.
Retained Earnings decreases by $10 because the company used $10 of wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities).
This $10 affects shareholder equity, and therefore must be explained on a wealth flow statement. This gross wealth outflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as an expense.
The accounting equation stays in balance because liabilities and shareholder equity increase and decrease, respectively, by the same amount.</td></tr>
<tr><td>Y</td><td>During the year the company used — and paid for — $150 of various consumables (e.g., utilities).</td><td>Cash decreases by $150 because the company now has $150 less cash that it controls.
This $150 affects cash, and therefore must be explained on the cash flow statement. This cash flow is from interacting with suppliers of consumables, so it is an operating activity cash flow.
Retained Earnings decreases by $150 because the company used $150 of wealth through operations that are part of the company's ordinary day-to-day activities (i.e., operating activities).
This $150 affects shareholder equity, and therefore must be explained on a wealth flow statement. This gross wealth outflow is due to the company's ordinary day-to-day activities, so it is explained on the income statement as an expense.
The accounting equation stays in balance because assets and shareholder equity both decrease by $150.</td></tr>
</table>

Based on Tables 1 – 6, Figure 3 presents Victoria Company's 2024 and 2023 balance sheets, and the three statements that report the company's 2024 wealth flows: (1) 2024 income statement, (2) 2024 comprehensive income statement, and (3) 2024 shareholder equity statement. The information for the 2023 balance sheet is from the corresponding column in Table 1A.

The information for each of the 2024 wealth flow statements is from the last column in Table 6A, except for the expense information in the income statement. For the expense line items, the type of expense and associated dollar amount are extracted from the relevant individual business activities. For example, the dollar amount for the 'Wage expense' line item is the sum of the expense amounts from Activities W and X.

The arrows in Figure 3 indicate how these four financial statements articulate. Consistent with this, notice that the three wealth flow statements collectively explain the change during 2024 in Victoria Company's shareholder equity accounts, and thus the change in the company's net worth.

Figure 3
Victoria Company's 30 June 2024 and 2023 Balance Sheet and 2024 Wealth Flow Statements

2024 Income Statement	
Revenue	1,200
Expenses	
Cost of good sold	(550)
Wage expense	(210)
Depreciation expense	(150)
Other expenses	(150)
Gains (standard)	100
Losses (standard)	0
Net income	240

2024 Comprehensive Income Stmt		
Net income		240
Other comprehensive income		
Gains (special)	30	
Losses (special)	0	
Other comprehensive income		30
Comprehensive income		270

Balance sheet	**2024**	**2023**
Current assets		
Cash & equivalents	800	500
Trade & other receivables	850	950
Inventory	150	100
Total current assets	1,800	1,550
Non-current assets		
Investments	330	0
PP&E	2,200	1,750
Total assets	4,330	3,300
Current liabilities		
Trade & other payables	220	320
Unearned revenue	50	0
Borrowings	70	80
Total current liabilities	340	400
Borrowings	1,780	1,100
Shareholder equity		
Contributed capital	1,200	1,000
Retained earnings	930	750
Accumulated OCI	80	50
Total liabilities & SE	4,430	3,300

2024 Shareholder Equity Statement	Contributed capital	Retained earnings	Accum OCI
Balance as of 30 June 2023	1,000	750	50
Comprehensive income			
Net income		240	
Other comprehensive income			30
Interactions with shareholders			
Shares issued	300		
Share buy-backs	(100)		
Dividends proposed	.	(60)	.
Balance as of 30 June 2024	1,200	930	80

Figure 4 presents Victoria Company's 2024 and 2023 balance sheets and its 2024 cash flow statement. The sub-totals in the cash flow statement are from the last column in Table 6A. For each individual cash flow line item, the type of cash flow and associated dollar amount are extracted from the relevant individual business activities. For example, the dollar amount for the "Cash collected from customers' line item is the sum of the operating activity amounts from Activities O, P, and R.

The arrow in Figure 4 indicates how these two financial statements articulate. Consistent with this, notice that the cash flow statement explains the change during 2024 in Victoria Company's 'Cash and cash equivalent' line item.

Figure 4
Victoria Company's 30 June 2024 and 2023 Balance Sheet and 2024 Cash Flow Statements

Balance sheet	2024	2023
Current assets		
Cash & equivalents	800	500
Trade & other receivables	850	950
Inventory	150	100
Total current assets	1,800	1,550
Non-current assets		
Investments	330	0
PP&E	2,200	1,750
Total assets	4,330	3,300
Current liabilities		
Trade & other payables	220	320
Unearned revenue	50	0
Borrowings	70	80
Total current liabilities	340	400
Borrowings	1,780	1,100
Shareholder equity		
Contributed capital	1,200	1,000
Retained earnings	930	750
Accumulated OCI	80	50
Total liabilities & SE	4,430	3,300

2024 Cash Flow Statement	
Operating cash flows	
Cash collected from customers	1,350
Cash paid to suppliers of inventory	(700)
Cash paid to employees	(220)
Cash paid to suppliers of other non-consumables	(150)
Net operating cash flows	280
Investing cash flows	
Cash from disposing of PP&E	500
Paid for PP&E	(400)
Paid for investments	(300)
Net investing cash flows	(200)
Financing cash flows	
Proceeds from lenders	150
Principal payments to lenders	(80)
Proceeds from issuing shares	300
Payments for share buybacks	(100)
Dividend payments	(50)
Net financing cash flows	220
Increase in cash	300
Begin cash balance	500
Ending cash balance	800

Financial Statements to Business Activities: Transaction Analysis

The prior section illustrates a simplified bookkeeping process for how companies capture, measure, and organize the financial effects of business activities into financial statements. In this section we address transaction analysis from a user's perspective. Intuitively, this refers to starting with a company's financial statements and essentially working backgrounds through the bookkeeping process to infer specific business activities the company engaged in during the year.

Key point: Transaction analysis from a user's perspective is nothing more than a puzzle where you use your knowledge of the different financial statements, the different line items within financial statements, and how the financial statements articulate — and importantly, how individual lines in the financial statements articulate — to solve for missing information: a specific business activity the company engaged in during the year.

You may be wondering who uses transaction analysis from a user's perspective. The answer is that it is used both internally within companies and by people outside the company.

Historically, companies used transaction analysis from a user's perspective to create their cash flow statements. Companies did not have the ability to extract from their accounting systems the detailed information needed to create the statement of cash flows. Instead, they used the information in the other four statements to infer all the types — and associated dollar amounts — of cash flows that occurred during the year.

While technological advances theoretically have made this approach obsolete, that is not the case. Changing a company's accounting system to provide the detailed information needed to directly create a statement of cash flows is a non-trivial task and can be extremely expensive. Instead, globally, many (if not most) companies still use some variation of the transaction analysis approach to create their cash flow statements.

People external to the company also use transaction analysis from a user's perspective. For example, forensic accountants — often as part of a criminal or civil proceeding — investigate a company's financial information for evidence of illegal activities or fraud. As part of their investigation, forensic accountants typically use some variation of transaction analysis from a user's perspective. Similarly, auditors and regulators use variations of transaction analysis to help them identify the presence (or absence) of potential problems with a company's financial statements.

Some investors, lenders, competitors, and financial analysts may also use transaction analysis as part of evaluating a company. Transaction analysis can help them better understand the company's business, its financial statements, and the reasonableness of its financial statements.

Transaction analysis from a user's perspective is also an excellent teaching and assessment tool. As a teaching tool, transaction analysis helps reinforce each statement's purpose, where in the financial statements and notes information about specific business activities is reported, the business activities that affect a specific balance sheet line item and how those activities affect the balance of that line item, how the statements articulate, how individual line items in the financial statements articulate, and what individual financial statement line items tell us. As an assessment tool, transaction analysis allows assessment of all the items in the prior sentence.

The process for transaction analysis from a user's perspective is relatively straightforward. Specifically, at the heart of transaction analysis is using the information available in a company's financial statements and notes to reconcile the ending balance of a balance sheet line item to its beginning balance.

To illustrate the process, we use the inventory line item. Figure 5 presents a template for this line item. Intuitively, the template reflects all the business activities that could affect the inventory line item in an articulation table. The template shows that reconciling the ending balance to the beginning balance requires five pieces of information. The pieces are (1) the balance per the prior year's balance sheet, (2) the balance per the current year's balance sheet, (3) the dollar amount of inventory purchased during the year, (4) the cost of inventory sold during the year, and (5) the dollar amount of impaired inventory during the year.

Realize that if we know four of the dollar amounts but not the fifth, we can calculate (i.e., infer) the missing dollar amount! That is, the missing dollar amount is the dollar amount needed to make the template balance. That is transaction analysis from a user's perspective.

Figure 5
Inventory Template

Inventory (Retail Company)

Balance per prior-year balance sheet
(cost of goods the company acquired — with the intent to resell to customers through its ordinary day-to-day activities — prior to the close of business on last year's balance sheet date and still held as of that date, subject to a cost recovery test)

Additions:

Acquire inventory, most likely purchased from a supplier on credit
(cost of goods acquired during the year)

Deductions:

Sell (i.e., transfer control of) goods to a customer
(cost of goods sold during the year to customers)

Inventory fails cost recovery test, so its service potential is deemed to be impaired
(the portion of the cost of existing inventory lost during the via impairment)

Balance per current-year balance sheet
(cost of goods the company acquired — with the intent to resell to customers through its ordinary day-to-day activities — prior to the close of business on this year's balance sheet date and still held as of that date, subject to a cost recovery test)

Transaction analysis is a process, which means that there is a systematic approach for doing it. The following steps illustrate the process that will work for most situations.

Step 1: Select the appropriate template. In other words, identify the balance sheet line item you need to reconcile and identify the business activities that affect the balance of that line item.[2]

Step 2: Insert into the template (1) the beginning balance of the line item per last year's balance sheet and (2) the ending balance per this year's balance sheet.

Step 3: Find information in the financial statements and/or notes about all the remaining missing dollar amounts. In most situations, there will not be information about one of the missing dollar amounts.

Step 4: Calculate (i.e., infer) the dollar amount needed to balance the template.

Assume that we are performing transaction analysis on Victoria Company's 2024 financial statements from the first section of this chapter; in particular, its inventory line item. All five of the company's financial statements are complete, and we have access to all five of them in Figures 3 and 4.

Figure 6 presents the application of the four steps above to Victoria Company's inventory line item.

Step 1: Select the appropriate template. As shown in Figure 6, we are using the inventory template for a retail company.

Step 2: Insert into the template (1) the line item's beginning balance per last year's balance sheet and (2) the line item's ending balance per this year's balance sheet. From the balance sheets in Figure 3, the dollar amounts are $100 and $150, respectively.

Figure 6
Reconciliation Table for Inventory

Inventory (Retail Company)	
Balance per prior-year balance sheet **From 'Inventory' line item on 30 June 2023 balance sheet (Step 2)**	**$100**
Additions:	
Acquire inventory, most likely purchased from a supplier on credit (cost of goods acquired during the year) **Dollar amount of inventory acquired during the year (Inferred; Step 4)**	**X = 600**
Deductions:	
Sell (i.e., transfer control of) goods to a customer (cost of goods sold during the year to customers) **From 'Cost of sold' line item on 2024 income statement (Step 3)**	**(550)**
Inventory fails cost recovery test, so its service potential is deemed to be impaired (the portion of the cost of existing inventory lost during the via impairment) **No 'Inventory impairment' on 2024 income statement (Step 3)**	**0**
Balance per current-year balance sheet **From 'Inventory' line item on 30 June 2024 balance sheet (Step 2)**	**$150**

Step 3: Find information in the financial statements or notes about all the remaining missing dollar amounts. The additions and deductions are things that may have happened during the year, which means that information about them, if there is any, would be reported in either one of the other four financial statements or in a note to the financial statements.

Per Victoria Company's 2024 income statement (see Figure 3), the cost of the inventory the company sold during 2024 is $550 (i.e., the 'cost of goods' line item).

[2] As part of the discussion of common balance sheet line items in Chapter 3, templates were provided for each of the line items discussed. You simply need to determine which template from Chapter 3 to use.

If there had been an impairment, the resulting loss would also have been reported on the income statement. The fact that Victoria Company's 2024 income statement does not include an impairment loss implies that there was no inventory impairment during 2024.

There is no information reported in any of Victoria Company's financial statements about the dollar amount of inventory purchased during the year. We therefore will need to infer this dollar amount.

Step 4: Calculate (i.e., infer) the dollar amount needed to balance the template. The balance increased by $50 during 2024, implying that the additions are $50 greater than the deductions. Given that the total deductions are $550, we can infer that the additions are $600 (i.e., $50 greater than the deductions). The fact that we inferred the $600 is signified by the "X =".

Compare Figure 6 to the inventory line item in Victoria Company's articulation table. The reconciliation in Figure 6 simply replicates the information in that line item.

- The $100 beginning balance in Figure 6 is the $100 in the '30 June 2023' column in Table 1A.
- The $600 addition in Figure 6 is the $600 for Activity S in Table 5A.
- The $550 deduction in Figure 6 is the $550 for Activity T in Table 5A.
- The $150 ending balance in Figure 6 is the $150 in the '30 June 2024' column in Table 6A.

There is no other activity in the articulation table that affect the inventory line item, confirming that there was no impairment of inventory during 2024.

The same process illustrated in Figure 6 for inventory applies to all other balance sheet line items. The key is knowing where to find information about the relevant activities that affected the balance of the line item during the year. The ability to find the needed information also depends upon how detailed and transparent the company's financial statements and notes are.

Final Thoughts on Transaction Analysis

The first thought relates to how detailed and accurate the reconciliation table needs to be. The answer is: it depends on why you are doing the analysis. However, as a general rule, the goal is to reflect the underlying business activities in the reconciliation table ***as completely and accurately as the available information allows.*** If you want a complete and accurate understanding of the business activities that happened during the year, then you need to be as complete and accurate as possible when entering information into the reconciliation table.

To illustrate, consider the reconciliation table below in Figure 7 for the property, plant, and equipment gross line item. We want to discuss the two bolded lines in the additions section of the table.

Figure 7
Reconciliation Table for Property, Plant, and Equipment Gross

Property, Plant, and Equipment Gross	
Balance per prior-year balance sheet	$90,000
Additions:	
Acquire (i.e., obtain control of) new PP&E	
(cost of PP&E acquired during the year)	
Cost of PP&E obtained during the year via loans	**5,000**
Cost of PP&E obtained during the year for cash	**15,000**
Deductions:	
Dispose existing PP&E	
(the original cost of the PP&E disposed of during the year)	
Original cost of PP&E disposed during the year	X = 10,000
Balance per current-year balance sheet	100,000

During the year, the company acquired a total of $20,000 new PP&E. However, it acquired part of this PP&E via a loan and part by paying cash. These are listed separately in the reconciliation table — rather than combined into a single line item — because listing them separately provides a more complete and accurate reflection of the business activities that occurred during the year. In other words, the reconciliation table reveals more information — which helps us better understand what happened — if the two activities are listed separately than if they are combined.

The second thought is that there are some situations where to find the missing information, you will need to use two separate balance sheet line items. This situation typically occurs when there is some relation between the two balance sheet line items such as exists between inventory and trade payables. The good news is that the same four steps typically apply to these situations; you simply apply the steps separately to each line item. The key is figuring out which of the two line items you need to reconcile first (because the information you infer from one line item is needed to complete the reconciliation of the other line item).

The final thought is advice for Step 3: how to find information in the financial statements and notes about specific business activities. This step is typically the most challenging for students. The better your working knowledge of the financial statements and how they fit together, the easier this step becomes. For Step 3, there are two more concrete bits of advice.

Advice 1: The articulation table — particularly the one in this chapter— is your friend for Step 3. The articulation table in the first part of this chapter tells you where to find information in the financial statements for 25 common business activities. For example, if you look at the trade receivables gross line item in Figure 4A on page 12, you will see that when this balance sheet line item is increased, the revenue line item on the income statement is also increased. This tells us that the place to look for information about the increase in the trade receivables gross line item is the revenue line item on the income statement.

This advice about the articulation table works for every balance sheet line item. For the balance sheet line item of interest, trace across the columns in the articulation table until you find a business activity that affects that line item and then look at the rest of that column to see where else in the financial statements that business activity affects. This tells you where you are likely to find information about that business activity.

Key point: The information in articulation tables can help you identify where to find information in the financial statements about the business activities that affect a specific balance sheet line item.

Advice 2: Do not forget about the notes! In some cases, the information you want for Step 3 will be disclosed in a note. Recall that if a company has a note devoted to a particular balance sheet line item, the company (except for US companies) typically will reference that note on its balance sheet. So, the company is explicitly telling you where you can get more information about that line item. Whether that note contains the information you want, you will have to decide.