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Bachelor of Commerce (B2001) | Level 2 • Part B Major | Monash University

Accounting Information Systems

Course Code: ACC2400 • Module 2 Notes

Module 2: Transaction Cycles: Revenue, Expenditure, Production, Payroll & General Ledger Systems

2.1 Transaction Processing Architecture and Coding Schemes

Every commercial organisation converts economic events into financial statements through recurring **transaction cycles**. Rather than recording ad-hoc entries directly into a monolithic ledger, modern Accounting Information Systems partition operational activity into five interlocking cycles: the *Revenue Cycle* (order-to-cash), the *Expenditure Cycle* (procure-to-pay), the *Production or Conversion Cycle* (raw inputs to finished goods or services), the *Human Resources and Payroll Cycle* (hire-to-retire), and the *General Ledger and Reporting Cycle* (record-to-report). Each cycle relies on disciplined transaction-processing architectures and standardised data-coding schemes.

Data Files, Processing Modes, and Audit Trails

At the storage layer, transaction processing systems distinguish between four operational file types:

- **Master Files:** Semi-permanent records holding cumulative balances and standing entity attributes, such as the `Customer Master` (credit limits, ABNs, receivables balance), `Supplier Master` (BSB/account numbers, payment terms), and `General Ledger Master`.
- **Transaction Files:** Temporary or append-only event records describing individual business occurrences (such as today's sales invoices or supplier EFT payments) that update master file balances.
- **Reference Files:** Lookup tables containing relatively stable parameters used across cycles, including Australian GST tax codes, ATO PAYG withholding tax tables, and standard freight schedules.
- **Archive / History Files:** Immutable historical records retained to satisfy statutory seven-year retention duties under section 286 of the *Corporations Act 2001 (Cth)* and five-year tax rules under the *Taxation Administration Act 1953 (Cth)*.

Organisations process transaction files into master files using two primary timing architectures. In **batch processing**, source events are accumulated over a defined interval (hourly or overnight), validated as a group using batch control totals, and posted sequentially to master files. Batch processing excels for high-volume, non-urgent runs such as fortnightly payroll disbursements or scheduled supplier EFT payment runs via Australian Bulk Electronic Clearing System (BECS) ABA files. By contrast, **online real-time processing (OLTP)** validates and posts each transaction immediately upon occurrence, updating inventory quantities and customer credit availability instantaneously. Real-time architectures are indispensable for e-commerce checkouts, point-of-sale retail networks, and multi-warehouse logistics where stale stock figures cause overselling.

Systematic Data Coding Schemes

Human-readable names are ambiguous and inefficient for computerised indexing. Consequently, AIS architects assign structured alphanumeric codes using four standard designs:

Coding Scheme	Structural Mechanism	Australian Accounting Example	Strengths and Limitations
Sequence Code	Items numbered consecutively in strict ascending order (1001, 1002, 1003).	Pre-numbered Tax Invoices `INV-00451` to `INV-00452`; Cheque numbers.	Guarantees completeness detection (gaps signal missing/voided documents); conveys no classification meaning.
Block Code	Contiguous numerical ranges reserved for predefined categories.	Chart of Accounts: `1000–1999` Assets, `2000–2999` Liabilities, `4000–4999` Revenue.	Allows structured expansion within blocks; requires careful initial sizing to prevent range exhaustion.
Group Code	Concatenated subfields where each digit position carries specific semantic meaning.	GL Account `03-4100-12` (Region `03` Victoria, Account `4100` Sales, Cost Centre `12` Melbourne).	Enables rapid multi-dimensional slicing and pivot reporting; increases key length and manual entry risk.
Mnemonic Code	Letters and digits chosen as memorable abbreviations of the item.	Warehouse bins `MEL-A04`; Tax codes `GST`, `FRE` (GST-Free), `CAP` (Capital Acquisitions).	Intuitive for clerks and auditors; limited capacity when large numbers of similar SKUs exist.

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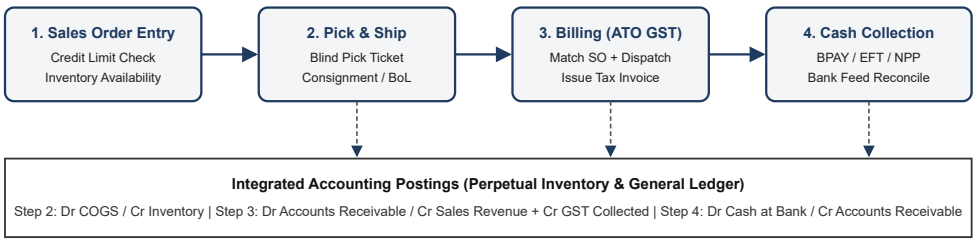
2.2 The Revenue Cycle: Order-to-Cash Workflows

The **Revenue Cycle** encompasses all recurring business activities and information-processing operations associated with providing goods or services to customers and collecting cash in exchange. Its primary objective is to deliver the right product to the right location at the agreed time and price, while safeguarding accounts receivable and ensuring accurate revenue recognition under **AASB 15 *Revenue from Contracts with Customers***.

Four Core Activities in Order-to-Cash

1. **Sales Order Entry:** Capture the customer's purchase order, verify product availability against inventory master records, and perform a formal *credit approval* check. For existing account customers, the AIS verifies automatically that the current accounts receivable balance plus the new order total does not exceed the approved credit limit. New customers or over-limit orders are routed to an independent Credit Manager rather than approved by commission-incentivised sales representatives.
2. **Shipping and Fulfilment:** Warehouse staff receive a digitally authorised *picking ticket* (excluding prices to encourage physical counting), pick goods, and transfer them to dispatch. The shipping clerk reconciles picked quantities against the sales order, records a *packing slip* and *bill of lading* (or consignment note), and confirms dispatch in the system, triggering an automated reduction in perpetual inventory and recognition of Cost of Goods Sold (COGS) and unbilled dispatch.
3. **Billing and Customer Statements:** Under Australian tax legislation (*A New Tax System (Goods and Services Tax) Act 1999 (Cth)*), a supplier registered for GST must issue a compliant **Tax Invoice** within 28 days of a request for taxable supplies exceeding $82.50 (GST-inclusive). For invoices of $1,000 or more, the tax invoice must explicitly display the supplier's identity and 11-digit Australian Business Number (ABN), the buyer's identity or ABN, issue date, line descriptions/quantities, and the GST amount (or a statement that the total price includes GST). The AIS posts a debit to Accounts Receivable Control (and customer subsidiary ledger), a credit to Sales Revenue (GST-exclusive), and a credit to GST Collected (a current liability).
4. **Cash Collections and Accounts Receivable Management:** Customers remit funds via Electronic Funds Transfer (EFT), BPAY, New Payments Platform (NPP / PayID), or corporate credit card. Because direct EFT deposits arrive at the bank independently of physical mail, Australian firms implement *remittance advice* matching—often automated via machine-readable BPAY customer reference numbers (CRNs) or PayTo/virtual bank accounts—to reconcile bank statement feeds against open invoices. Periodically, the credit department reviews an *Aged Accounts Receivable Schedule* (current, 30, 60, 90+ days) to compute the Expected Credit Loss (ECL) allowance under **AASB 9 *Financial Instruments***.

Figure 2.1: Order-to-Cash Revenue Cycle — Key Activities & Internal Control Gates



Worked Example 2.1: Revenue Cycle Billing, 10% GST & AASB 9 Allowance Calculation

Tasman Office Equipment Pty Ltd sells 40 ergonomic workstations to a Brisbane architectural firm at a GST-exclusive unit price of $850, with standard unit cost of $510 under perpetual FIFO. Sales terms are `2/10, n/30`. At month-end, Tasman's aged receivables schedule shows $220,000 in Current (expected loss rate 0.5%), $64,000 in 31–60 days (expected loss rate 4.0%), and $18,000 in 61+ days (expected loss rate 25.0%), with an existing credit balance in Allowance for Expected Credit Losses of $3,200.

1. **Calculate Tax Invoice total:** GST-exclusive revenue $= 40 \times 850 = 34{,}000$ AUD ($34,000). Australian 10% GST $= 34{,}000 \times 0.10 = 3{,}400$ AUD ($3,400). Total Tax Invoice receivable $= 37{,}400$ AUD ($37,400).
2. **Record perpetual COGS and revenue entries:**
   Dr Accounts Receivable $37{,}400 / Cr Sales Revenue 34{,}000$ / Cr GST Collected $3,400.
   Dr Cost of Goods Sold $20,400 (40 × $510) / Cr Inventory $20,400.
3. **Compute required AASB 9 Expected Credit Loss (ECL) balance:**

> $$\text{Target ECL} = (220{,}000 \times 0.005) + (64{,}000 \times 0.04) + (18{,}000 \times 0.25) = 1{,}100 + 2{,}560 + 4{,}500 = 8{,}160 \text{ AUD}$$

Where: $220{,}000$, $64{,}000$, and $18{,}000$ are the aged receivable balances (in AUD) multiplied by their respective lifetime ECL loss rates (0.5%, 4.0%, and 25.0%), yielding a required ending allowance of $8,160.

4. **Adjusting entry at month-end:** Required credit impairment expense $= 8{,}160 - 3{,}200 = 4{,}960$ AUD ($4,960: Dr Impairment Loss on Receivables $4,960 / Cr Allowance for Expected Credit Losses $4,960).

2.3 The Expenditure Cycle: Procure-to-Pay and Three-Way Matching

The **Expenditure Cycle** captures the acquisition of raw materials, merchandise inventory, fixed assets, and operating services from external suppliers and the subsequent disbursement of cash. Its overarching objective is to minimise the total cost of acquiring and maintaining inventory and services while preventing unauthorised purchases, duplicate payments, and fraudulent vendor billing.

Core Procure-to-Pay Activities

1. **Purchase Requisition and Supplier Selection:** When inventory drops to a system-defined reorder point (ROP), or when a department requires non-stock services, an authorised staff member creates a *Purchase Requisition*. Purchasing officers consult the Approved Supplier Master File—evaluating price, delivery lead time, quality history, and ABN/GST registration status—to issue a legally binding, pre-numbered **Purchase Order (PO)**. Separating requisitioning from purchasing prevents buyers from ordering unnecessary stock or directing orders to undisclosed related parties.
2. **Receiving Goods:** When goods arrive at the loading dock, receiving clerks verify deliveries against an authorised open PO using a **blind PO** (where ordered quantities are masked so clerks must physically count items rather than rubber-stamp paperwork). The receiving clerk generates a sequential *Receiving Report* noting quantities accepted, damaged items, and carrier details.
3. **Invoice Verification and Three-Way Matching:** Before Accounts Payable (AP) approves a supplier's Tax Invoice for payment, the AIS executes a **three-way match** comparing three independent documents: (a) the *Purchase Order* (confirming authorised items and contracted prices), (b) the *Receiving Report* (confirming actual physical receipt and condition), and (c) the *Supplier Tax Invoice* (confirming billed quantities, prices, ABN, and GST). Only when quantities and prices match within configured tolerance thresholds (e.g., $\pm 1\%$ or $50) does the system create a valid AP voucher. For services lacking physical receiving reports (such as legal fees or electricity), a two-way match pairs the PO or contract with formal budget-holder sign-off.
4. **Cash Disbursement (EFT / ABA Batch Processing):** On scheduled payment dates, the Treasurer or Finance Manager—not the AP clerk who recorded the invoice—reviews the proposed payment batch, verifies supporting voucher packages, and releases an encrypted ABA payment file through corporate banking portals using dual-authorisation tokens. Upon release, the AIS marks matched invoices as `PAID` to block duplicate settlement.

Australian GST Input Tax Credits and Settlement Discounts

Under Australian GST rules, when a GST-registered business acquires taxable goods or services for creditable business purposes and holds a valid Tax Invoice, it claims an **Input Tax Credit (GST Paid)** equal to $1/11$ of the GST-inclusive purchase price. Suppose a Melbourne manufacturer receives a valid supplier Tax Invoice totalling $16,500 (GST-inclusive) for steel sheeting:

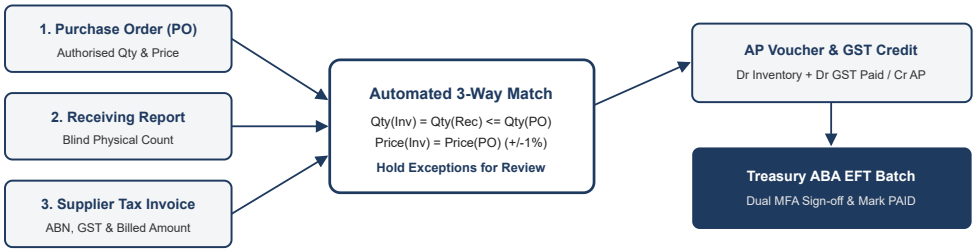
$$\text{GST Input Tax Credit} = \frac{\text{GST-Inclusive Amount}}{11} = \frac{16{,}500}{11} = 1{,}500 \text{ AUD}$$

Where: *GST-Inclusive Amount* is the total consideration stated on a valid Australian Tax Invoice subject to the standard 10% GST rate; and dividing by 11 extracts the exact 10% GST component embedded inside 110% of the net base ($10/110 = 1/11$).

Accordingly, the AIS posts Dr Raw Materials Inventory $15,000, Dr GST Paid (Input Tax Credit Receivable) $1,500, and Cr Accounts Payable $16,500. Notice that under AASB 102 *Inventories*, recoverable GST is excluded from inventory cost.

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Figure 2.2: Procure-to-Pay Three-Way Matching & Dual-Control EFT Release



Evaluated Receipt Settlement (ERS), Purchasing Cards, and Foreign-Currency Imports

High-volume Australian manufacturers and supermarket chains streamline procure-to-pay through **Evaluated Receipt Settlement (ERS)**—an invoice-less workflow permitted by ATO Recipient Created Tax Invoice (RCTI) rules when formal written agreements exist. Under ERS, once the receiving dock scans incoming barcodes against an open PO, the AIS computes the payable amount automatically from contracted PO unit prices and triggers scheduled EFT settlement, eliminating supplier invoice keying and matching exceptions entirely.

For low-value indirect purchases (travel, stationery, urgent hardware), companies deploy **Corporate Purchasing Cards (P-Cards)** configured with merchant-category restrictions and per-transaction limits, importing monthly card statements directly into expense-coding queues. Conversely, for cross-border inventory imports invoiced in foreign currency (e.g., USD or EUR), the AIS translates purchases at the spot exchange rate on the transaction date under **AASB 121 *The Effects of Changes in Foreign Exchange Rates***, revalues unsettled foreign payables at month-end closing rates, and tracks Australian import GST under the ATO's *Deferred GST Scheme* (reported directly at BAS label 7A rather than paid upfront at customs).

2.4 The Production (Conversion) Cycle & Cost Accounting

In manufacturing and engineering enterprises, the **Production (Conversion) Cycle** transforms raw materials, direct labour, and manufacturing overhead into finished goods. Although operational execution occurs on the factory floor, the AIS tightly integrates engineering specifications, shop-floor scheduling, and cost accounting so management can price products profitably and value work-in-process (WIP) and finished goods under **AASB 102**.

Engineering Master Data and Production Control Documents

- **Bill of Materials (BOM):** A hierarchical recipe specifying the exact part numbers, descriptions, and quantities of raw materials and subassemblies required to manufacture one unit of finished product.
- **Operations List (Routing Sheet):** A sequential specification of every manufacturing step, workstation, machine setup time, and standard labour hours needed to produce an item.
- **Production Order & Materials Requisition:** A production order authorises manufacturing a specified batch quantity. Using the BOM, the AIS automatically generates a *Materials Requisition* authorising the stores warehouse to release raw materials to the factory floor (Dr WIP / Cr Raw Materials).
- **Move Tickets and Job Time Tickets:** Move tickets track physical transfer of WIP across factory departments, while barcode or RFID employee time tickets capture direct labour hours spent on each production order (Dr WIP / Cr Payroll Clearing).

Cost Accounting Systems and Overhead Allocation

The AIS implements either **Job-Order Costing** (accumulating costs by distinct custom batches or contracts, common in specialised machinery or commercial construction) or **Process Costing** (averaging costs across continuous homogeneous production runs, common in food processing or chemical refining). Because actual manufacturing overhead (electricity, plant depreciation, factory supervisors) is known only intermittently, the AIS applies overhead continuously using a **Predetermined Manufacturing Overhead Rate (POHR)**:

$$\text{POHR} = \frac{\text{Estimated Annual Manufacturing Overhead}}{\text{Estimated Annual Activity Base}}$$

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$$\text{Applied Overhead} = \text{POHR} \times \text{Actual Activity Consumed}$$

Where: *POHR* is the predetermined overhead absorption rate (AUD per activity unit, such as machine hours or direct labour hours); *Estimated Annual Manufacturing Overhead* is budgeted indirect factory cost (AUD); *Estimated Annual Activity Base* is expected total cost-driver volume; and *Actual Activity Consumed* is the measured driver quantity recorded on shop-floor time or machine logs.

Worked Example 2.2: Job-Order Costing, Overhead Application & Variance Closure

Adelaide Precision Valves Pty Ltd budgets annual manufacturing overhead at $960,000 and estimated machine hours at 30,000 hours. During May, Job #J-882 (producing 200 industrial valves) consumes $18,400 in direct materials, 240 direct labour hours at $48/hour, and 310 actual machine hours. At year-end, actual total overhead incurred across all jobs was $985,000 against 30,500 actual machine hours worked.

1. **Compute POHR:** $\text{POHR} = 960{,}000 / 30{,}000 = 32.00$ AUD ($32.00 per machine hour).
2. **Calculate total cost of Job #J-882:**
   - Direct Materials: $18,400
   - Direct Labour: $240 \times 48 = 11{,}520$ AUD ($11,520)
   - Applied Manufacturing Overhead: $310 \times 32.00 = 9{,}920$ AUD ($9,920)
   - Total Job Cost $= 18{,}400 + 11{,}520 + 9{,}920 = 39{,}840$ AUD ($39,840), giving a unit cost of $39{,}840 / 200 = 199.20$ AUD ($199.20 per valve).
3. **Determine year-end overhead variance:** Total Overhead Applied $= 30{,}500 \times 32.00 = 976{,}000$ AUD ($976,000). Comparing applied ($976,000) to actual ($985,000) reveals **under-applied overhead of $9,000**. Because $9,000 is immaterial relative to total production cost, the AIS closes the variance directly to Cost of Goods Sold (Dr COGS $9{,}000 / Cr Manufacturing Overhead Control 9{,}000$).

Standard Costing and Automated Production Variance Analysis

In addition to tracking actual job costs, manufacturing AIS modules maintain engineering *standard costs* per unit inside the Item Master and Routings tables so exceptions surface immediately on factory variance dashboards rather than waiting for year-end physical stocktakes. Two core direct-input variance pairs guide operational control:

$$\text{MPV} = \text{AQ}_p(\text{AP} - \text{SP}), \qquad \text{MQV} = \text{SP}(\text{AQ}_u - \text{SQ})$$

$$\text{LRV} = \text{AH}(\text{AR} - \text{SR}), \qquad \text{LEV} = \text{SR}(\text{AH} - \text{SH})$$

Where: *MPV* and *MQV* are Direct Material Price and Quantity Variances (AUD); AQ_p and AQ_u are actual material quantities purchased and used; *SQ* is standard quantity allowed for actual good output; *AP* and *SP* are actual and standard material prices (AUD); *LRV* and *LEV* are Direct Labour Rate and Efficiency Variances (AUD); *AH* is actual direct labour hours worked; *SH* is standard hours allowed for actual output; and *AR* and *SR* are actual and standard hourly wage rates (AUD). Positive results represent unfavourable (cost-increasing) variances, whereas negative results represent favourable variances.

Worked Example 2.6: Production Variance Decomposition

Geelong Alloy Castings Pty Ltd sets a standard of 4.0 kg of aluminium alloy at $12.00/kg and 1.5 direct labour hours at $44.00/hour per finished housing. During August, the plant produces 1,000 housings using $4{,}250$ kg purchased and consumed at $11.60/kg, and logs 1,460 actual labour hours at an average wage of $45.50/hour.

1. **Material Price Variance:** $\text{MPV} = 4{,}250(11.60 - 12.00) = -1{,}700$ AUD ($1,700 Favourable).
2. **Material Quantity Variance:** Standard quantity $SQ = 1{,}000 \times 4.0 = 4{,}000$ kg, so $\text{MQV} = 12.00(4{,}250 - 4{,}000) = +3{,}000$ AUD ($3,000 Unfavourable — prompting production engineers to investigate scrap rates from lower-grade alloy).
3. **Labour Rate Variance:** $\text{LRV} = 1{,}460(45.50 - 44.00) = +2{,}190$ AUD ($2,190 Unfavourable).
4. **Labour Efficiency Variance:** Standard hours $SH = 1{,}000 \times 1.5 = 1{,}500$ hours, so $\text{LEV} = 44.00(1{,}460 - 1{,}500) = -1{,}760$ AUD ($1,760 Favourable).

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2.5 Human Resources Management, Payroll Cycle & Single Touch Payroll (STP)

The **HRM and Payroll Cycle** manages employee onboarding, time capture, statutory deductions, net wage disbursements, leave provisioning, and real-time government reporting. Payroll represents one of the largest cash outflows in Australian service and retail organisations and carries stringent legal exposure under the *Fair Work Act 2009 (Cth)*, ATO Pay As You Go (PAYG) withholding rules, and the *Superannuation Guarantee (Administration) Act 1992 (Cth)*.

Core Payroll Activities and Statutory Australian Obligations

1. **Maintain Employee Master File:** HR staff (strictly segregated from payroll processing) maintain employee Tax File Numbers (TFNs), Fair Work Modern Award classifications, hourly/salary rates, Superannuation fund USIs, and nominated bank BSB/account numbers. Changes to bank details or pay rates require independent dual approval and trigger automated exception alerts.
2. **Validate Time and Attendance Data:** Salaried staff submit exception-based leave requests, whereas waged staff log hours via biometric terminals or geofenced timesheets approved by line supervisors before entering payroll processing.
3. **Compute Gross-to-Net Pay, PAYG, and Superannuation:** Using ATO statutory withholding schedules (incorporating tax-free threshold claims, HELP/HECS study-loan repayments, and Medicare levy), the payroll engine calculates:
   - **Gross Pay:** Ordinary Time Earnings (OTE) plus overtime, allowances, and paid leave.
   - **PAYG Withholding:** Income tax deducted on behalf of the employee and remitted to the ATO via the Business Activity Statement (BAS).
   - **Net Pay:** Gross Pay less PAYG withholding and authorised post-tax deductions, disbursed via ABA bank file.
   - **Employer Superannuation Guarantee (SG):** Calculated as the statutory percentage (e.g., 11.5% for the 2024–25 period and rising to 12.0% from 1 July 2025 under staged legislation; systems parameterise the effective rate by pay date) applied to Ordinary Time Earnings (OTE), remitted to employees' complying super funds via SuperStream clearing houses.
   - **Leave Accruals (AASB 119):** Pro-rata provisions for Annual Leave (typically 4 weeks per year plus 17.5% leave loading where applicable under awards) and Long Service Leave (state-specific vesting rules).
4. **Single Touch Payroll (STP Phase 2) Reporting:** Under Australian tax law, employers must transmit year-to-date payroll information—disaggregated into gross salary, overtime, paid leave, allowances, PAYG withheld, and superannuation liability—digitally to the ATO **on or before every payday** using SBR-enabled payroll software. STP Phase 2 eliminates end-of-year paper Payment Summaries by pre-filling employee MyGov tax returns automatically and enabling real-time compliance cross-checks by Services Australia and the ATO.

Worked Example 2.3: Australian Fortnightly Payroll, Superannuation & Journal Entries

Consider a Melbourne software consultancy processing fortnightly payroll for one full-time analyst earning an annual base salary of $91,000 ($3,500 gross per fortnight, all Ordinary Time Earnings), claiming the tax-free threshold with no HELP debt. Assume the applicable ATO fortnightly PAYG withholding is $682 and the effective Superannuation Guarantee (SG) rate is 12.0%. Additionally, annual leave accrues at 7.692% of base pay ($4/52$ weeks).

1. **Compute Net Pay:** $\text{Net Pay} = 3{,}500.00 - 682.00 = 2{,}818.00$ AUD ($2,818.00).
2. **Compute Employer Superannuation Guarantee:** $\text{SG} = 3{,}500.00 \times 0.12 = 420.00$ AUD ($420.00).
3. **Compute Annual Leave Provision:** $\text{Leave Expense} = 3{,}500.00 \times (4/52) = 269.23$ AUD ($269.23).
4. **Record Integrated Payroll Journal Entries:**
   - *Accrue Payroll & Statutory Liabilities:* Dr Wages & Salaries Expense $3,500.00 / Cr Payroll Clearing (Net Wages Payable) 2,818.00 / Cr PAYG Withholding Payable $682.00.
   - *Accrue Superannuation & Leave:* Dr Superannuation Expense $420.00 / Cr Superannuation Payable 420.00; Dr Annual Leave Expense $269.23 / Cr Provision for Annual Leave $269.23.
   - *Disburse Net Pay & Transmit STP Event:* Dr Payroll Clearing $2,818.00 / Cr Cash at Bank $2,818.00, accompanied by immediate STP Phase 2 JSON/XML submission to the ATO gateway.

STP Phase 2 Data Component	System Mapping Requirement	Australian Regulatory Purpose
Disaggregated Gross Income	Separate Gross, Overtime, Bonuses, Paid Leave, Directors' Fees, and Allowances.	Enables accurate Services Australia social-security and child-support assessments.
Income Stream & Tax Treatment	Tag each payee (e.g., `SAW` Salary & Wages, `WHM` Working Holiday Maker, `FEI` Foreign).	Applies correct ATO withholding tables and Medicare/HELP thresholds automatically.

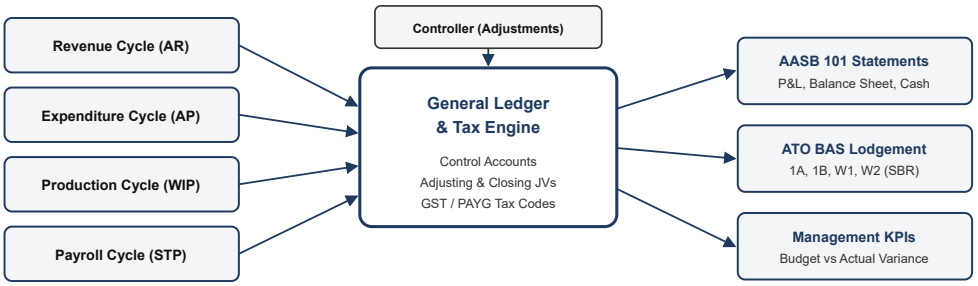
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STP Phase 2 Data Component	System Mapping Requirement	Australian Regulatory Purpose
Salary Sacrifice Reporting	Report pre-tax super and novated-lease deductions separately rather than netting down gross.	Prevents artificial understatement of Ordinary Time Earnings (OTE) for Super Guarantee audits.
Cessation Reason Codes	Record standardised reason (Voluntary, Redundancy, Dismissal) upon employee termination.	Replaces paper Employment Separation Certificates and validates ETP tax concessions.

2.6 General Ledger, Financial Reporting & Australian BAS/GST Workflows

The **General Ledger and Reporting System (GLRS)** sits at the apex of the AIS, consolidating summary journal vouchers from all subsidiary transaction cycles alongside non-routine adjusting entries (depreciation, impairments, fair-value revaluations, and tax accruals) to generate statutory financial statements and tax lodgements.

Figure 2.2: Hub-and-Spoke General Ledger & Reporting System Integration



Control Account Reconciliation and Period-End Close

To keep the General Ledger concise while preserving granular detail, the GL holds single **Control Accounts** (such as `1120 Accounts Receivable Control`, `2110 Accounts Payable Control`, and `1200 Inventory Control`) whose balances must equal the exact sum of all open items in their respective subsidiary ledgers at all times. During period-end close, automated reconciliation checks verify that $\sum \text{Subsidiary Ledger Balances} = \text{GL Control Balance}$ before running depreciation, accruals, tax provisions, and temporary-account closing entries.

Australian Business Activity Statement (BAS) Compilation Workflow

Australian entities registered for GST lodge a monthly or quarterly **Business Activity Statement (BAS)** with the ATO to report and settle GST, PAYG withholding, and PAYG income tax instalments. Accurate BAS preparation depends directly on tagging every revenue and expenditure line item with the correct tax code inside the AIS:

BAS Label	Statutory Description	AIS Data Source & Tax Code Logic
`G1`	Total Sales (GST-inclusive where applicable)	Sum of taxable sales (`GST`), GST-free exports/health/food (`FRE`), and input-taxed supplies.
`1A`	GST on Sales (Output Tax Collected)	Credit balance accumulated in `2210 GST Collected` (10% of taxable supplies).
`1B`	GST on Purchases (Input Tax Credits)	Debit balance accumulated in `1310 GST Paid` (includes capital `G10` and non-capital `G11` acquisitions).
`W1`	Total Salary, Wages and Other Payments	Gross taxable payroll posted from Payroll Cycle during the BAS quarter (reconciled to STP YTD deltas).
`W2`	Amount Withheld from Payments at W1	Total PAYG Withholding liability posted to `2230 PAYG Withholding Payable`.
`9`	Net Payment or Refund Due to/from ATO	Computed as $(1A - 1B) + W2 + \text{PAYG Instalments (if applicable)}$.

Worked Example 2.4: Quarterly BAS Reconciliation and Clearing Entry

During Q3 (1 January to 31 March), Hobart Marine Services Pty Ltd records the following verified figures from its AIS general ledger (on an accrual GST reporting basis):

- Taxable domestic boat-servicing sales: $330,000 GST-inclusive (comprising $300,000 net revenue and $30,000 GST collected).
- GST-free export spare-parts sales: $45,000 (no GST charged).
- Taxable operating & inventory purchases (valid Tax Invoices held): $198,000 GST-inclusive (comprising $180,000 net cost and $18,000 GST input tax credit).
- Gross wages paid across six fortnightly STP pay runs: $112,000, with total PAYG tax withheld of $23,400.

Compute the BAS labels and the net ATO remittance using:

$$\text{Net ATO Payable} = (1\text{A} - 1\text{B}) + \text{W2}$$

Where: *1A* is total GST collected on taxable sales (AUD); *1B* is total creditable GST paid on business acquisitions (AUD); and *W2* is total PAYG income tax withheld from employee wages (AUD).

1. **G1 (Total Sales):** $330{,}000 + 45{,}000 = 375{,}000$ AUD ($375,000).
2. **1A (GST on Sales):** $30,000 ($1/11$ of $330,000).
3. **1B (GST on Purchases):** $18,000 ($1/11$ of $198,000). Net GST payable $= 30{,}000 - 18{,}000 = 12{,}000$ AUD ($12,000).
4. **W1 and W2:** $\texttt{W1} = 112{,}000$ AUD ($112,000); $\texttt{W2} = 23{,}400$ AUD ($23,400).
5. **Net ATO Payable (Label 9):** $12{,}000 + 23{,}400 = 35{,}400$ AUD ($35,400).
6. **BAS Clearing Journal Entry upon Lodgement & Payment:** Dr GST Collected $30,000/*DrPAY GWithholdingPayable*23,400 / Cr GST Paid (Input Tax Credit) $18,000 / Cr Cash at Bank (ATO Payment) $35,400.

Before submitting the BAS electronically via Standard Business Reporting (SBR), the Finance Manager executes a three-way tax reconciliation comparing the BAS GST worksheet against the GL GST clearing accounts and comparing W1/W2 against cumulative STP Phase 2 payroll submissions—eliminating penalties for misstatement under ATO administrative penalty regimes.

2.7 Working Capital Optimisation, Fixed Asset Subledgers & Financial Close Controls

Integrating the five transaction cycles within a unified AIS enables management to monitor working capital velocity and non-current asset stewardship continuously rather than waiting for quarterly financial statements. Two quantitative operational controls bridge the Revenue, Expenditure, and General Ledger cycles: **Economic Order Quantity (EOQ)** inventory replenishment and the **Cash Conversion Cycle (CCC)**.

Inventory Replenishment and Cash Conversion Cycle Metrics

Within the Expenditure Cycle, purchasing too infrequently causes stockouts and lost sales, whereas ordering excessively inflates warehousing, insurance, obsolescence, and working-capital financing costs. The AIS inventory module computes the cost-minimising order batch size using the classical Economic Order Quantity model and triggers automated purchase requisitions whenever on-hand plus on-order stock reaches the Reorder Point (ROP):

$$\text{EOQ} = \sqrt{\frac{2DS}{H}}$$

$$\text{ROP} = (d \times L) + \text{Safety Stock}$$

$$\text{CCC} = \text{DIO} + \text{DSO} - \text{DPO}$$

Where: *EOQ* is the optimal order quantity (units per purchase order); *D* is annual demand (units); *S* is the fixed administrative cost of placing and receiving one purchase order (AUD); *H* is the annual holding cost per unit (AUD); *ROP* is the reorder threshold (units); *d* is average daily unit demand; *L* is supplier delivery lead time (days); *CCC* is the Cash Conversion Cycle (days); *DIO* is Days Inventory Outstanding; *DSO* is Days Sales Outstanding; and *DPO* is Days Payable Outstanding.

Worked Example 2.5: EOQ Ordering and Working Capital Velocity Analysis

Perth Mining Logistics Pty Ltd consumes $D = 18{,}000$ high-pressure hydraulic filters per year. Each purchase order costs $S = 160$ AUD ($160) in procurement and receiving administration, and annual holding cost is $H = 16$ AUD ($16) per filter. Average daily demand is $d = 50$ filters (360-day year), supplier lead time is $L = 6$ days, and policy mandates a safety buffer of 120 filters. From the AIS cycles, annual COGS is $2,160,000 with average inventory of $270,000; annual credit sales are $3,240,000 with average receivables of $360,000; and average accounts payable is $240,000.

1. **Calculate EOQ:**

$$\text{EOQ} = \sqrt{\frac{2 \times 18{,}000 \times 160}{16}} = \sqrt{360{,}000} = 600 \text{ filters per order}$$

   Where: $D = 18{,}000$ units, $S = 160$ AUD, and $H = 16$ AUD, yielding $18{,}000/600 = 30$ purchase orders per year.

2. **Calculate Reorder Point:** $\text{ROP} = (50 \times 6) + 120 = 420$ filters. When available stock drops to 420 units, the AIS raises an automated requisition for 600 units.
3. **Calculate Cash Conversion Cycle components (365-day convention):**
   - $\text{DIO} = (270{,}000/2{,}160{,}000) \times 365 = 45.63$ days
   - $\text{DSO} = (360{,}000/3{,}240{,}000) \times 365 = 40.56$ days
   - $\text{DPO} = (240{,}000/2{,}160{,}000) \times 365 = 40.56$ days
4. **Compute net CCC:** $\text{CCC} = 45.63 + 40.56 - 40.56 = 45.63$ days. Cash remains tied up in working capital for approximately 45.6 days between paying suppliers and collecting from customers.

Fixed Asset Subledger Integration under AASB 116

Capital expenditures—such as CNC machining centres, delivery fleets, or enterprise servers—enter through the Expenditure Cycle (tagged with tax code `CAP` for BAS label `G10`) but post to a specialised **Fixed Asset Register (FAR)** rather than operating expense accounts. Each asset record stores serial numbers, location, acquisition cost, residual value, useful life, and parallel depreciation schedules for both accounting purposes (**AASB 116 *Property, Plant and Equipment***) and Australian tax purposes (ATO Division 40 diminishing-value or prime-cost effective lives). At each month-end close, the FAR generates a batch depreciation journal voucher automatically and reconciles accumulated depreciation and carrying amounts back to the General Ledger control accounts.

Close Process Step	Cycle / Subledger Source	Key Automated AIS Control
1. Subledger Cut-off	Revenue, Expenditure, Inventory	Lock prior-period posting dates; verify unbilled dispatches and uninvoiced goods received (GR/IR clearing).
2. Bank & Clearing Reconciliation	Cash Management & Payroll	Auto-match daily bank feeds; verify `Payroll Clearing` and `Suspense` accounts equal zero.
3. Automated Accruals & FAR	Fixed Assets & HRM	Execute recurring depreciation runs, leave liability updates, and prepaid amortisation schedules.
4. Tax & Statutory Mapping	GL Tax Engine	Reconcile `GST Collected` / `GST Paid` and `PAYG Withholding` prior to BAS/SBR submission.
5. Trial Balance Review	General Ledger	Run variance thresholds (>10% month-on-month flux alerts) and publish AASB 101 financial statements.

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2.8 End-to-End Cycle Threat Mapping, Adjustment Notes & Subledger Reconciliation

Although each transaction cycle maintains specialised master files and operational documents, financial statement integrity depends on cross-cycle control alignment. When goods are returned, prices are adjusted after invoicing, or early-settlement discounts are taken under Australian GST rules, the AIS must issue a compliant **Adjustment Note** (formerly known as a Credit Note) and update both the subsidiary ledger and BAS GST clearing accounts simultaneously.

GST Adjustment Events and Settlement Discounts

Under Division 19 of the *A New Tax System (Goods and Services Tax) Act 1999 (Cth)*, whenever a previously issued Tax Invoice is reduced due to returned defective stock, a post-sale volume rebate, or an early-payment discount actually taken by the customer, an *adjustment event* occurs. If the GST-inclusive consideration decreases by ΔP_{incl}, the supplier experiences a decreasing GST adjustment equal to $1/11$ of the reduction, while the buyer experiences an increasing GST adjustment (reducing its previously claimed Input Tax Credit) of equal amount.

Worked Example 2.7: Sales Return Adjustment Note & Early Settlement Discount

On 4 June, Southern Timber Wholesalers Pty Ltd sells structural hardwood to a Geelong builder for $22,000 GST-inclusive ($20,000 net revenue plus $2,000 GST Collected; perpetual inventory cost $12,400) on credit terms `2/10, n/30`. On 8 June, the builder returns 10% of the timber due to moisture damage (returned to salable grade inventory at cost $1,240), and Southern Timber issues a valid GST Adjustment Note. On 12 June (within the 10-day discount window), the builder settles the remaining balance via EFT, taking the 2% early-payment discount.

1. **Record 8 June Sales Return & GST Adjustment Note:**
   - Gross return $= 10\% \times 22{,}000 = 2{,}200$ AUD ($2,200), comprising $2,000 Sales Returns & Allowances and $200 GST adjustment.
   - Dr Sales Returns & Allowances $2{,}000/DrGSTCollected200$ / Cr Accounts Receivable $2,200.
   - Restore perpetual inventory: Dr Inventory $1,240 / Cr Cost of Goods Sold $1,240.
2. **Compute Net Balance Eligible for Discount on 12 June:** Remaining GST-inclusive receivable $= 22{,}000 - 2{,}200 = 19{,}800$ AUD ($19,800).
3. **Compute 2% Settlement Discount & GST Adjustment:**

$$\text{Discount (GST-inclusive)} = 19{,}800 \times 0.02 = 396.00 \text{ AUD}$$

$$\text{GST Adjustment Component} = \frac{396.00}{11} = 36.00 \text{ AUD}$$

   Where: 396.00 AUD is the 2% gross reduction in settlement amount; dividing by 11 extracts the exact 36.00 AUD GST reduction, leaving 360.00 AUD net Sales Discount expense (reducing net revenue under AASB 15).
4. **Record 12 June Cash Receipt & Settlement Entry:** Cash collected $= 19{,}800 - 396 = 19{,}404.00$ AUD ($19,404.00). Dr Cash at Bank $19{,}404.00/DrSalesDiscounts360.00$ / Dr GST Collected $36.00/CrAccountsReceivable19{,}800.00$.

Cross-Cycle Threat and Automated Control Matrix

System architects and internal auditors evaluate cycle reliability by mapping transaction-level threats directly to automated preventive and detective controls inside the AIS:

Cycle	Critical Operational Threat	Misstatement / Cash Impact	Automated AIS Control
Revenue	Shipping goods without billing or billing unshipped orders at year-end.	Unrecorded revenue or premature cut-off overstatement (AASB 15 breach).	Pre-numbered dispatch notes automatically queued for daily unbilled-shipment exception audit.
Expenditure	Paying duplicate supplier invoices or paying for undelivered stock.	Overstated expenses/AP and direct cash leakage.	Duplicate invoice-number + ABN + amount block combined with mandatory 3-way match.

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Cycle	Critical Operational Threat	Misstatement / Cash Impact	Automated AIS Control
Production	Inaccurate Bill of Materials quantities or unrecorded shop-floor scrap.	Distorted Inventory / COGS valuation under AASB 102.	Standard-to-actual quantity variance alerts (>5%) and barcode material issue scans.
Payroll	Misclassifying allowances as non-OTE or omitting Superannuation Guarantee.	ATO SGC penalties, director penalty notices (DPNs), and Fair Work underpayments.	Award-interpretation rules engine locked to STP Phase 2 tax-treatment codes.
General Ledger	Posting manual journals directly to AR/AP Control Accounts.	Breaks tie-out between GL Control balance and subsidiary ledger schedules.	Flag Control Accounts as "System-Post Only" to prohibit manual journal entries.

2.9 Period-End Adjusting Automation, Deferred Revenue (AASB 15) & Payroll Clearing Controls

In service, SaaS, and subscription enterprises across Australia, customers frequently pay upfront for 12-month maintenance contracts or annual software licences. Recording the entire cash receipt directly into Sales Revenue violates the core accrual recognition principle of **AASB 15 *Revenue from Contracts with Customers***, which requires recognising revenue over time as performance obligations are satisfied. Modern AIS General Ledger modules automate this compliance through **Deferred Revenue Schedules** (Contract Liabilities) linked directly to billing line items.

Automated AASB 15 Contract Liability Rollforward

When a tax invoice for an annual subscription is issued, the AIS posts the GST-exclusive principal to a current liability account (`2310 Unearned Revenue / Contract Liability`) while still recognising the full 10% GST Collected immediately on the invoice date (because Australian GST attribution on an accruals basis occurs at the earlier of invoice issue or cash receipt, regardless of accounting deferral under AASB 15). Each subsequent month-end close, the AIS generates an automated recurring reversing/amortisation journal releasing $1/12$ of the net principal into earned revenue.

Worked Example 2.8: SaaS Annual Billing, GST Attribution & Monthly Revenue Release

On 1 April 2027, Melbourne Cloud Analytics Pty Ltd bills an ASX-listed client $26,400 GST-inclusive for a 12-month enterprise analytics subscription covering 1 April 2027 to 31 March 2028. Compute the initial Tax Invoice posting, the monthly AASB 15 revenue release, and the 30 June 2027 financial year-end Contract Liability balance.

1. **Separate GST and Net Contract Principal:**

$$\text{GST Collected} = \frac{26{,}400}{11} = 2{,}400 \text{ AUD}, \qquad \text{Net Principal} = 26{,}400 - 2{,}400 = 24{,}000 \text{ AUD}$$

   Where: $26,400 AUD is the GST-inclusive invoice total; dividing by 11 extracts the $2,400 AUD GST obligation reportable in the April–June Q4 BAS (Label `1A`), leaving $24,000 AUD as the unearned contract principal.

2. **Initial 1 April Invoice Posting:** Dr Accounts Receivable $26,400 / *Cr Contract Liability* (*Unearned Revenue*) 24,000 / Cr GST Collected $2,400.
3. **Monthly Revenue Amortisation (April, May, June):** Monthly earned revenue $= 24{,}000/12 = 2{,}000$ AUD ($2,000/month). At each month-end, the AIS posts Dr Contract Liability $2,000 / *Cr Subscription Revenue* 2,000.
4. **30 June 2027 Year-End Balances:** Cumulative FY2027 revenue recognised (3 months: April–June) $= 3 \times 2{,}000 = 6{,}000$ AUD ($6,000). Remaining Contract Liability on the 30 June 2027 Balance Sheet $= 24{,}000 - 6{,}000 = 18{,}000$ AUD ($18,000, representing 9 months of performance obligations due in FY2028).

Journal Voucher Approval Hierarchy and Clearing Account Hygiene

Non-routine manual journal vouchers (impairment write-downs, fair-value revaluations, bonus accruals, and intercompany eliminations) bypass subsidiary cycle controls and represent the primary vector for management override of controls under ASA 240. Best-practice GLRS governance enforces four strict controls over manual journals:

- **Maker-Checker Segregation:** The system enforces workflow routing prohibiting any user who prepares a manual journal voucher from approving or posting that same voucher.

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- **Mandatory Supporting Attachment:** ERP configuration blocks submission of manual journals unless a PDF working paper or calculation schedule is attached inside the voucher record.
- **Zero-Balance Clearing Verification:** Transit accounts—specifically `GR/IR Clearing` (Goods Received / Invoice Received) and `Payroll Clearing`—must be reconciled and cleared to $0.00 each month. Persistent credit balances in `GR/IR Clearing` indicate uninvoiced supplier receipts requiring accrued-liability recognition at cut-off.
- **Standardised Chart of Accounts Rollups:** Mapping every GL account strictly to AASB 101 statement captions prevents ad-hoc reclassification adjustments in external Excel consolidation sheets.

GL Account Type	Normal Balance	Primary Source Cycle	Period-End Control Verification
`1120` AR Control	Debit	Revenue Cycle	Reconcile to Aged Receivables Summary; test AASB 9 ECL allowance.
`1200` Inventory Control	Debit	Expenditure & Production	Reconcile to perpetual stock valuation report; apply lower of cost & NRV (AASB 102).
`2110` AP Control	Credit	Expenditure Cycle	Reconcile to Open Supplier Voucher listing; review debit vendor balances.
`2150` GR/IR Clearing	Zero (Transit)	Expenditure (Receiving)	Investigate unmatched receipts > 30 days old; accrue unbilled liabilities.
`2210` / `1310` GST Clearing	Credit / Debit	Revenue & Expenditure	Tie net balance directly to lodged ATO BAS labels `1A` and `1B`.
`2310` Contract Liability	Credit	Revenue & GL Recurring	Verify remaining unearned months against active SaaS/service contract register.

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