1. **Preventive control:** E.g. firewall, qualified personnel, segregation of duties, physical access control, encryption, authentication control, review + approval for purchase requisitions, training, passwords → stop from occurring

2. **Detective control:** E.g. log analysis, intrusion detection systems, error messages in database, duplicate checking of calculations, past-due account reports, cash counts, bank reconciliation → identify & alert

3. **Corrective control:** E.g. disaster recovery plan, anti-virus software, adjusted → fix

Ideal control: ↓ to 0 risk of undetected errors (debit wrong account) or irregularity (theft) → may be *impractical* (cost > benefit)

Expected annual loss = exposure per year (amt of loss associated with control problem) x risk (probability)

W5 Revenue Cycle:

→ all events involved in the sales of goods & services including the collection of pmts.

→ **Competitive advantage:** customer service, product pricing/control costs

2 phases:

- Sales: orders properly recorded & controlled, sales made to creditworthy customers, delivered goods meet customer's needs.
- A/R (back-office/back-end): pmt correctly received, recorded & banked (right amt, product, time)

'Sail a ship with billy cash':

1. **Process sales order:**

Activity	Conducted by	Risks	Controls
Inventory check	Sales officer	Promise goods not available	- Inventory checks (Backorder, RFID, barcodes)
		Poor decisions: allow orders to proceed when not available/ reject when available	- Perpetual inventory records - Periodical physical inventory checks - Exception reporting for management of any sales rejected
Credit check	Sales officer/ sales manager	Customers won't/can't pay	- Credit checks - Independent maintenance of customer accts & credit limits (not for Sales staff → avoid credit limits are based on sales targets rather than fiscal soundness of customers) - Pre-billing systems
		Poor decisions: incorrectly accept/reject customers	- Exception reporting listing sales rejected - Regular monitoring A/R balances & age
Create sales order	Sales officer/ sales manager	Create fictitious sales	- Signed PO form from customers - Confirm customer accounts regularly via statements of account
		Failure to process valid sales request	Enter data physically close to where order request is received + timely
		Incorrect decision outcome advised	Automation via pre-devised workflow
		Customer not advised of outcome	Exception reporting of customer orders not acknowledged within a reasonable timeframe
		Incorrect sales advised → under/overpmt of commissions	- Automation using sales order data - Approval from sales manager before paying
		Incorrect goods included on picking ticket	Automation using sales order data
		Warehouse not advised of picking ticket details	- Automation using sales order data - Exception reporting of sales orders with no picking tickets generated

2. Ship goods:

Activity	Conducted by	Risks	Controls
Pick	Picking officer	Wrong goods	Check goods to picking ticket by an independent staff member
		Theft	- Restrict warehouse access - Random periodic physical stocktakes
Pack	Shipping officer	Packed incorrectly	- Independent check of packed goods to picking ticket - Barcode scanners
		Labelled incorrectly	- Firmly attach shipping label to goods after packing - Independent check of packed goods to picking ticket & shipping label
		Slow/non-shipment	Exception reporting of goods picked but not shipped within a reasonable timeframe
		Theft	- Independent shipping authorization check - Restrict access to packed goods waiting to be delivered
Ship	Deliver staff/ courier	Delivered incorrectly	Separately & clearly packaging and labeling each order
		Theft	Require valid customer signature

3. Bill the customers:

Activity	Conducted by	Risks	Controls
Check sales completion	Billing officer	Failure to bill	Separation of billing & shipping functions
		Bill when no good shipped	- Pre-number shipping documents and review ones not invoiced - Pre-billing system vs. Post-billing system - Reconciliation of sales order to shipping documents
Create invoice	Billing officer	Invoice errors – over/under-billing	- Independent pricing data &/or fixed price lists - Populate price data with data from those price lists - Confirm customer accts regularly (for over-billing only)

4. Receive & record pmt

Activity	Conducted by	Risks	Controls
Receive pmt	A/R officer/ cashier	Late/slow/non -pmt of accts	- Prompt invoice & set suitable pmt terms - Regularly & consistently follow of overdue accts - Remove credit facilities for non-payers
		Theft	- Minimise cash handling points & # of people - Enter cash receipts close to where received - Lockboxes/ safes & bank regularly - Immediate check endorsement & separation of remittance advice & checks - 1-for-1 checking of deposit slip & checks - Regular bank reconciliation by an independent person - Limit access to online banking - Regular customer statements
Record pmt	A/R officer	Incorrect	- Create batch/ hash totals of cash receipts & reconcile inputs to A/R - Issuing regular customer statements - Incorporate use of turnaround documents

Technologies: ERP (integrate data, link b/w relevant modules), EDI (data exchange), XML (for online sales sites), CRM, digital imaging (scanning documents), data mining/ trend analysis (revenue data warehouse), online pmt facilities, barcode scanners, RFID

Data: Customer (credit, address, demographics…), Inventory, A/R, Cash receipts, Sales, A/R adjustments

Business decisions:
- Strategy-level: price setting, sales return & warranty policies, provision for customer credit facilities, cash collection policies & procedures
- Operational: responding to customer inquiries/ request to extend credit, calculation of inventory availability, selecting goods delivery method, determining correct cash receipt allocations for a customer pmt

Objective	KPI
Effectively conduct, record & monitor sales	# data entry errors detected Customer complaints/ satisfaction Credit requests # credit memos raised due to billing errors % sales invoiced on the day of shipping
Arrange the prompt supply	Cycle time to fill & deliver orders % of sales on back order Sales returns
Ensure pmts are correctly received, recorded & banked	Aged A/R reporting # bad debt w/o Average pmt times

W6 Expenditure Cycle:

→ all events involved in the purchase of goods & services and the pmt.

→ Key consideration: balance the supply & demand for products with CF considerations

→ **Competitive advantage:** high quality products, product pricing/control costs.

2 phases:
- Purchasing: right goods, amt, time.
- A/P: right people, amt, time.

1. Determine demand for goods:

Activity	Conducted by	Risks	Controls
Collect requests	Purchase requisition officer	Under/over-estimate requirements	- Exception reporting & monitoring of stock-outs &/or obsolete goods - Separate review & approval of requisitions generated
Create purchase requisition	Purchase requisition officer	Request unnecessary items	- As above - Validity checks on large dollar or unusual items