Group Assignment 3

Introduction to Business Information Systems Group 40

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Woolworths Supermarket

- **Purpose:** sell consumables, perishables to consumers
- **Business Area:** Checkouts – Assisted Checkout
- **Justification for selecting the business and business area**
- **Focused process**: Checkout process -> cashier-to-customer : linked to SCM.

PROCESS: WOOLWORTHS CHECKOUT WITH CASHIER

WOOLWORTHS CHECKOUT SERVICE

Customer

- Start
- 1. Approach the cash register
- 9. Respond with payment method
- 15. Provide credit/debit card
- 17. Receive receipt and exit store with items
- End

Cashier

- 2. Check for product type (repeat for all items)
- 3. Packaged and labelled with barcode?
  - Yes → 4. Scan item barcode
  - No → 5. Identify product and measure weight/quantity
- POS Machine
- 8. Inform total cost and enquire payment type
- 10. Cash or Card?
  - Cash → 11. Enter cash amount
  - Card → 14. Complete sales
- POS Machine
- 16. Provide receipt
- 13. Provide receipt and change

Machine

- 6. Apply applicable discount
- 7. Calculate Total cost
- 12. Calculate change amount

Description	Input, Output, External service, technology dependence
1) Customer arrives at the cash register with items. Waiting for turn to check-out with cashiers	-
2) For each items that customer choose, cashier check for its type. Repeat until there is no item left.	I= Grocery items
3) For every item, cashier have to make a decision that whether the product is packaged and labelled with barcode or if it is fresh produce with no packaging. If packaged, proceed to step 4. If not proceed to step 5	-
4) Cashier use POS machine (barcode scanner) to scan product barcode	I= item barcode, T= POS machine (barcode scanner)
5) Cashier have to identify the product and its weight/quantity if item is not packaged and labelled with barcode	I= product, O= Product information (weight/qty), T= POS machine
6) The machine automatically apply the applicable discount for the product (if have) or by using customer's discount code (if have). Total cost of product can be reduced	I= Discount code of product, or from customer and; O= Applicable discount; T= sale machine
7) Based on the inputs, machine calculate total cost	I= product information, the discount; O= total cost, T= POS machine
8) Cashier inform the total cost which appear on the machine screen and ask customer for the payment method	I= total cost, O= total cost

	Description	Input, Output, External service, technology dependence
9)	Customer answer which type of payment they want to pay.	None
10)	If customer pay by cash proceed to step 11, if they give card proceed to step 14	O= cash/ card given
11)	Cashier confirm cash and input the amount into system	I= cash, T= sales machine
12)	The machine calculate the change amount that needed to be returned to customer	I= cash amount given, O= change amount required, T= sales machine
13)	Cashier provides the change which appear on the machine's screen, then hands changes with receipt to customer	O= change amount, receipt
14)	The card given by customer will be inserted / swiped / scanned to the pos machine (eftpos) by cashier. Cashier posts the total amount. Sales is completed.	I= card, post total amount, T= POS machine (eftpos machine)
15)	Return card to customer	O= card
16)	Cashier takes printed receipt from the machine and provides to customer as proof of transaction	(not sure this is I or O) = receipt
17)	Customer receive the receipt and exit store with items.	I= receipt, O= items bought

Entity-Relationship Diagram

Not all customers have a Woolworths membership
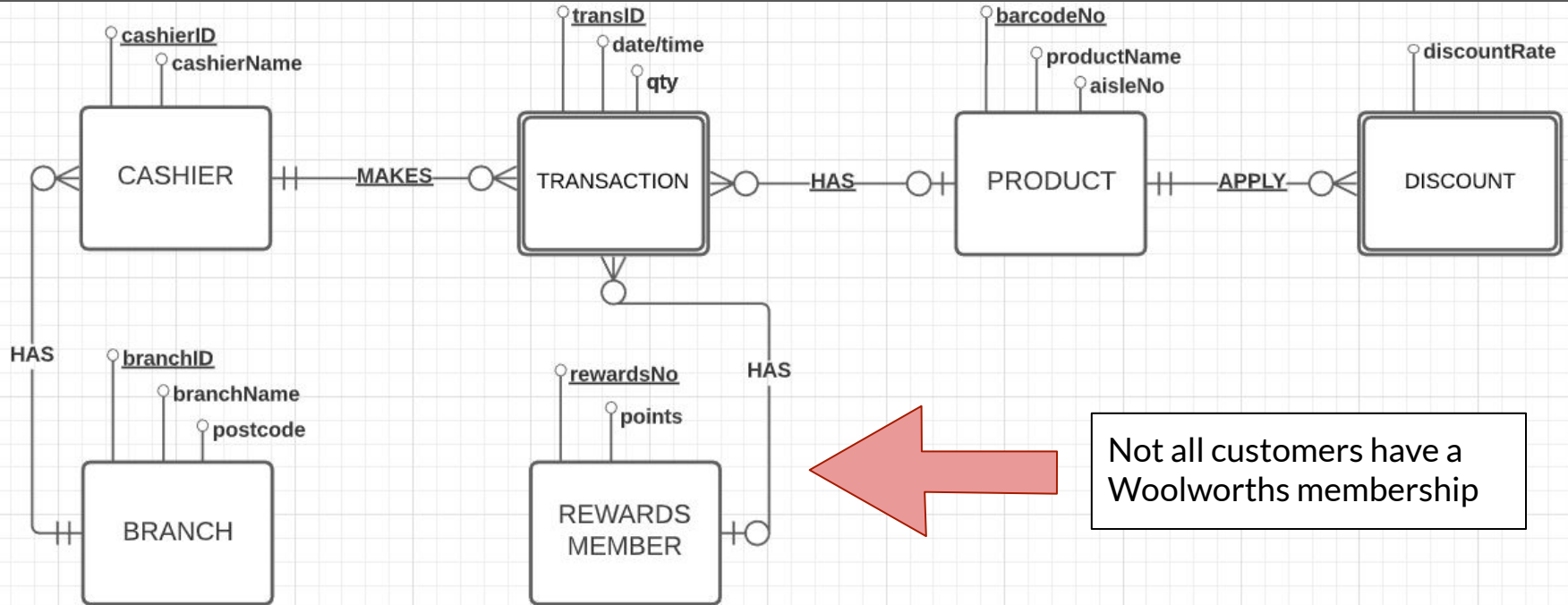
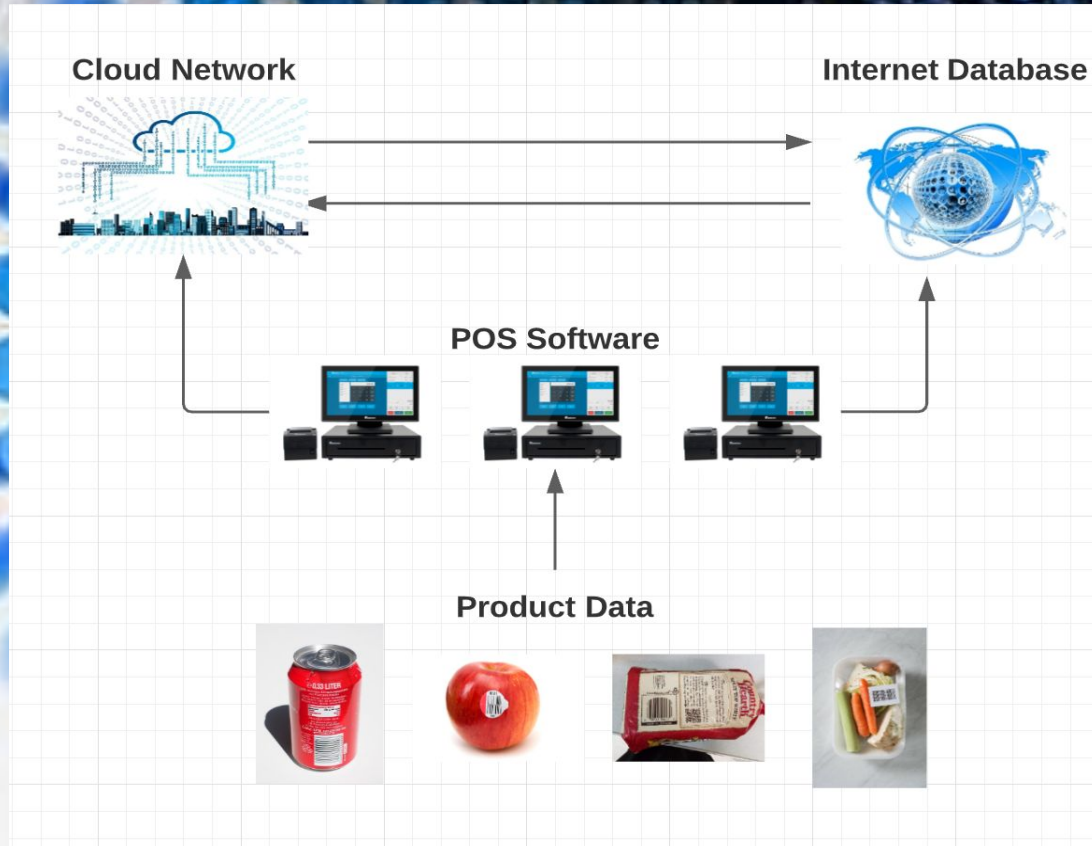# External Service Technology .

Web Services:

- POS software design

Outsourcing:

- Check out software design and production
- Check out machinery design and production
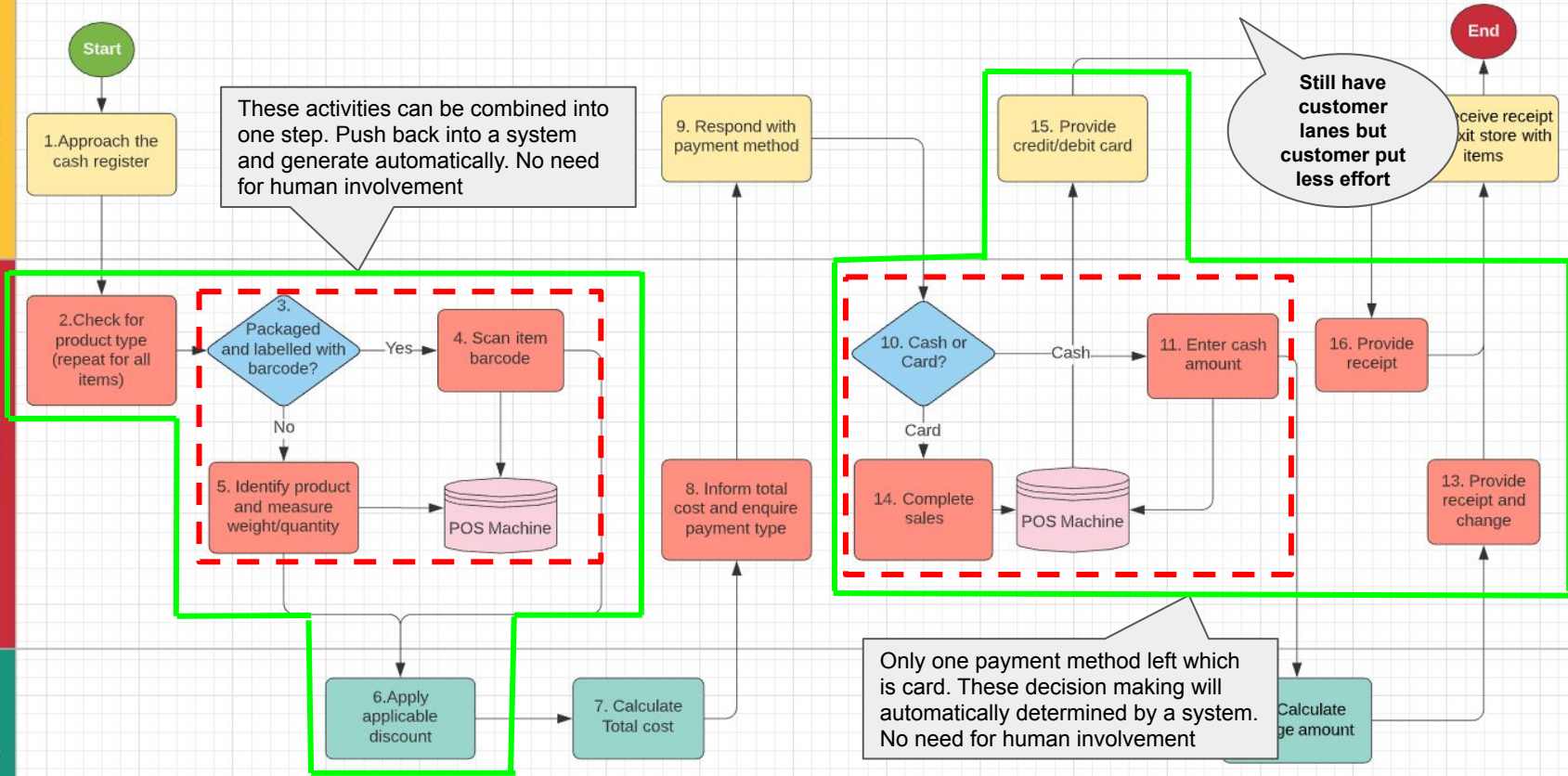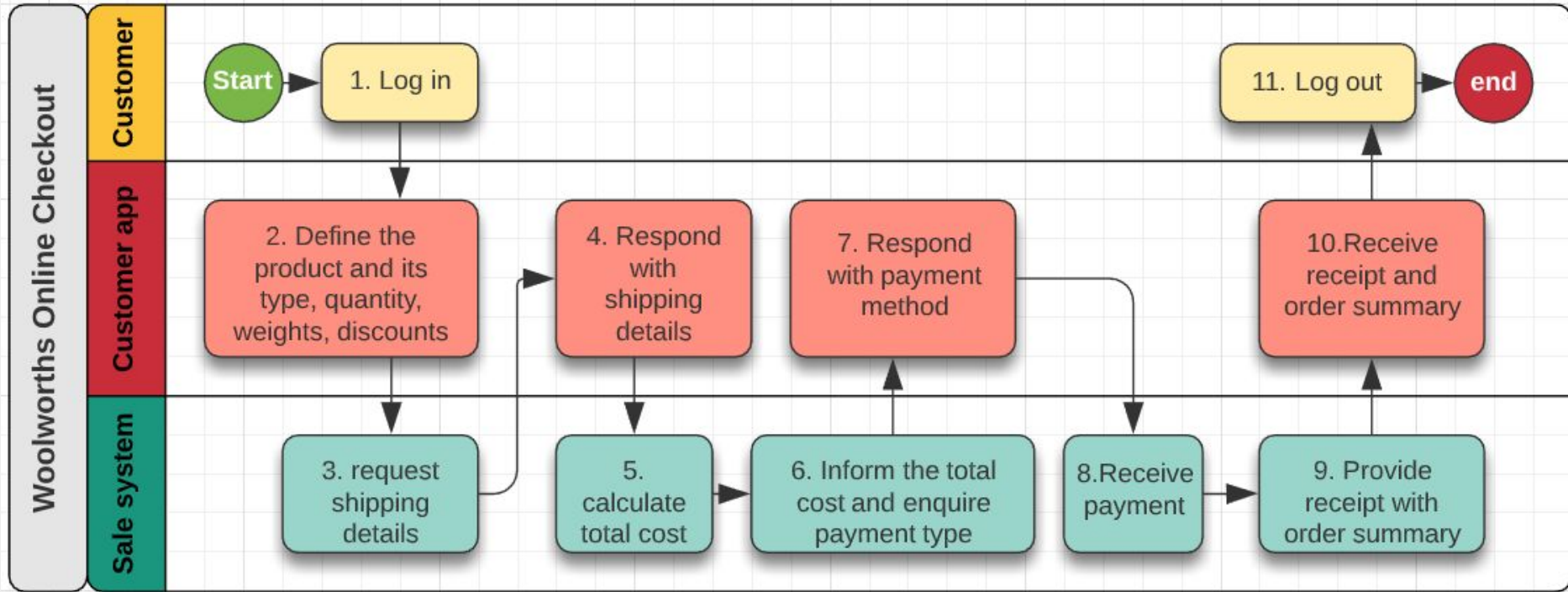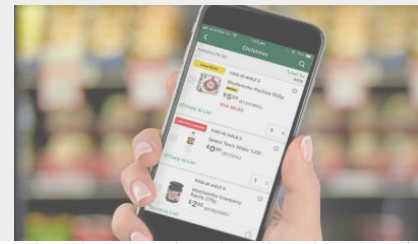
Technologies Enabling the Checkout Process.

-Problem: Bottleneck; Customers and cashiers get frustrated because duplication occur and time-consuming

-Improvements: reduce manual handling data ; fewer task are need which can improve process efficiencies

New process (Woolworths, 2020)

Benefits: reduced 6 steps, process cycle times only take 5 minutes

See changes: **more** green (automation) *less* yellow (customer effort)

	Description	Input, Output, External service, technology dependence	
1	Customer accesses <<Woolworths App>> and log in using their own Woolworths online account.	I= customer data account(email/id; password); T	T=Woolworths App (via Play Store, AppStore, etc.) <<https://www.woolworths.com.au/shop/discover/about-us/woolworths-app>> E= design database, (1) user – interface, data protection software
2	The app specifies the product and its type, quantity, weight, discount then reviewed in the cart	I= the chosen product, quantity, weight, O= summary and total cost appear in the cart	
3	System generate and asking about shipping details, after customers review their cart and tap <checkout>	None	
4	Customer app will respond with it by let's customer choose <Pick up> or <Delivery> location/time	O= delivery method, location, time	
5	Based on the inputs, sale system will calculate the total cost	I= product, delivery information, O= total cost	
6	System inform the total cost through the customer app by showing the order summary. System generate and ask for the payment method	I= total cost	
7	Customer app respond with it by let's customer adding their card details and click <place order> whenever they done	I= customer card data detail (name, card number, expired date)	
8	The payment sent and received by the sale system when customer successfully place order	I=money; O=completed payment	
9	Sale system prepares the receipt with order summary (shipping details, product information) and send information to the system database	I=product, shipping information, total cost, payment method; O= receipt, T	(9): T= Woolworths database system for tracking orders
10	Customer app receive it and allow customer to review their order, including product's prices, billing time and delivery information	I=receipt or order summary	
11	After checking the receipt, customer lick <logout> and process end	None	

Direct benefits

+ staff reductions: decreasing wages for cashiers so Woolworths can concentrate on other added-value activities

+ reducing human error because less mistake made by cashier

+ minimise customer complaint since conflict between cashier and customer can be restricted.

+ increase sales window: no open/close time restriction

Indirect benefits

+ increase safety during an pandemic by avoid the crowded concentrated customer at the checkout counter, during covid 19

+ increase convenience to client by overcoming geographical limitations

+ increased demand in delivery industry
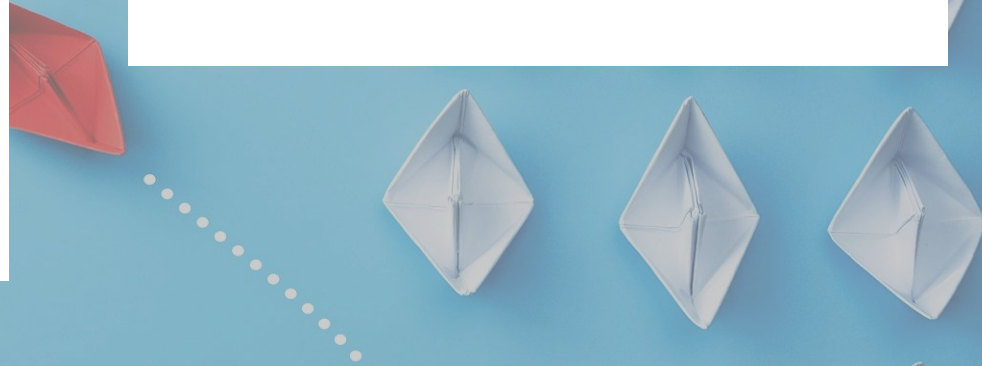
Ethical & Security Concerns

Diffusion of Innovation Curve

Increased unemployment nationally

Causes problems for "Laggards" and "Late Majority" in the *Diffusion of Innovation Theory* (Everett M., 2003) who are less willing to adjust to innovation and modern technology

A complete shift into an app-based supermarket will *limit access* for people with no access to technology or the internet.

Increased privacy concerns due to heightened volume of information stored by Woolworths.

Risk of malware and cyber security threats
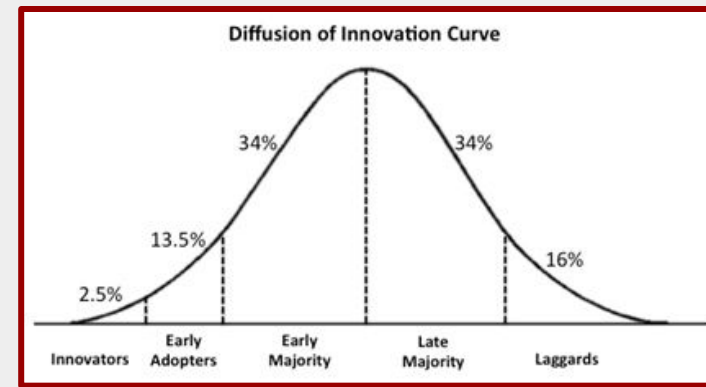
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