LAYOUT STRATEGIES

Innovations at McDonald's

- Indoor seating (1950s)
- Drive-through window (1970s)
- Adding breakfast to the menu (1980s)
- Adding play areas (late 1980s)
- Redesign of the kitchens (1990s)
- Self-service kiosk (2004)
- Now three separate dining sections

McDonald's New Layout

- Seventh major innovation
- Redesigning all 30,000 outlets around the world
- Three separate dining areas
  - Linger zone with comfortable chairs and Wi-Fi connections
  - Grab and go zone with tall counters
  - Flexible zone for kids and families
- Facility layout is a source of competitive advantage

Strategic Importance of Layout Decisions

The objective of layout strategy is to develop an effective and efficient layout that will meet the firm's competitive requirements

Layout Design Considerations

- Higher utilization of space, equipment, and people
- Improved flow of information, materials, or people
- Improved employee morale and safer working conditions
- Improved customer/client interaction
- Flexibility

Types of Layout

1. Office layout
2. Retail layout
3. Warehouse layout
4. Fixed-position layout
5. Process-oriented layout
6. Work-cell layout
7. Product-oriented layout

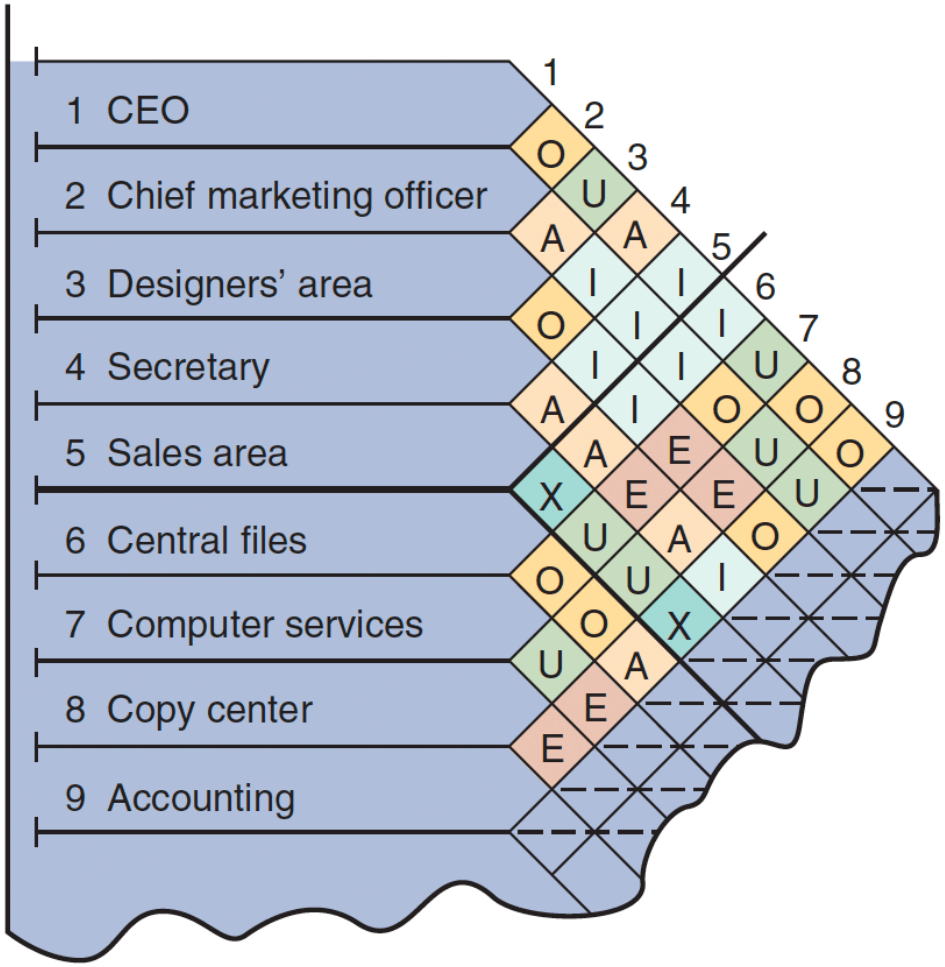
Good Layouts Consider

- Material handling equipment
- Capacity and space requirements
- Environment and aesthetics
- Flows of information
- Cost of moving between various work areas

Office Layout

- Grouping of workers, their equipment, and spaces to provide comfort, safety, and movement of information
- Movement of information is main distinction
- Typically in state of flux due to frequent technological changes

Relationship Chart



Value	CLOSENESS
A	Absolutely necessary
E	Especially important
I	Important
O	Ordinary OK
U	Unimportant
X	Not desirable

Five Helpful Ideas for Supermarket Layout

1. Locate high-draw items around the periphery of the store
2. Use prominent locations for high-impulse and high-margin items
3. Distribute power items to both sides of an aisle and disperse them to increase viewing of other items
4. Use end-aisle locations
5. Convey mission of store through careful positioning of lead-off department

Store Layout

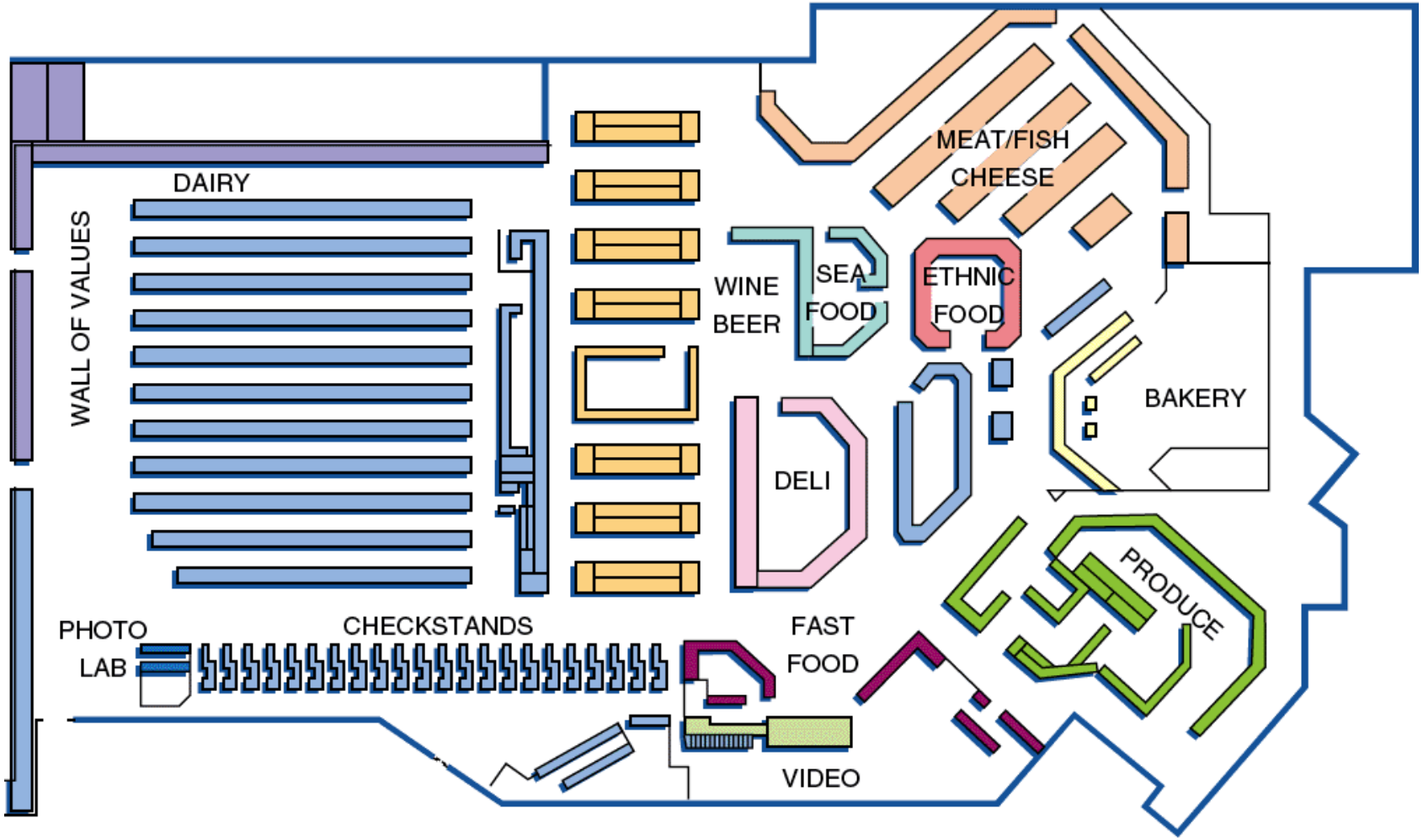
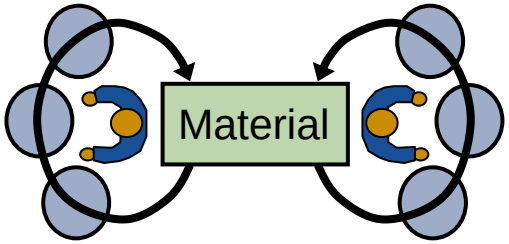


Figure 9.2

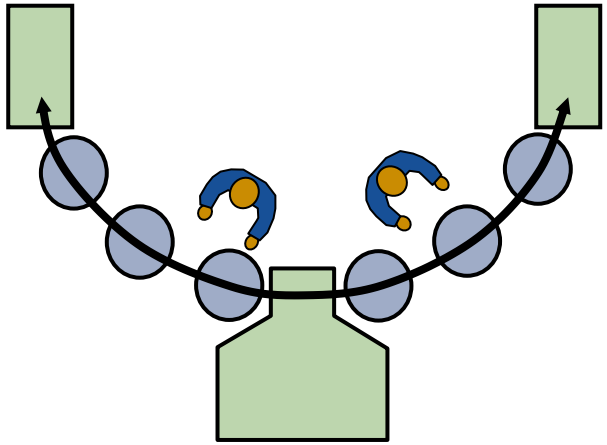
Requirements of Work Cells

- Identification of families of products
- A high level of training, flexibility and empowerment of employees
- Being self-contained, with its own equipment and resources
- Test (poka-yoke) at each station in the cell

Improving Layouts Using Work Cells



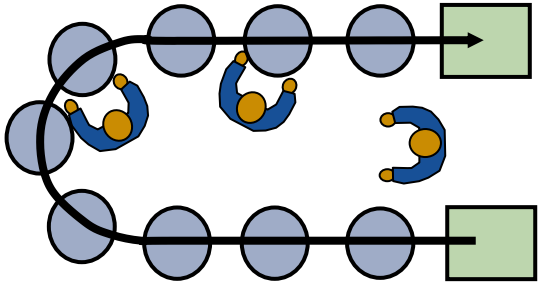
Current layout - workers in small closed areas.



Improved layout - cross-trained workers can assist each other. May be able to add a third worker as additional output is needed.

Improving Layouts Using Work Cells

Current layout - straight lines make it hard to balance tasks because work may not be divided evenly



Improved layout - in U shape, workers have better access. Four cross-trained workers were reduced.

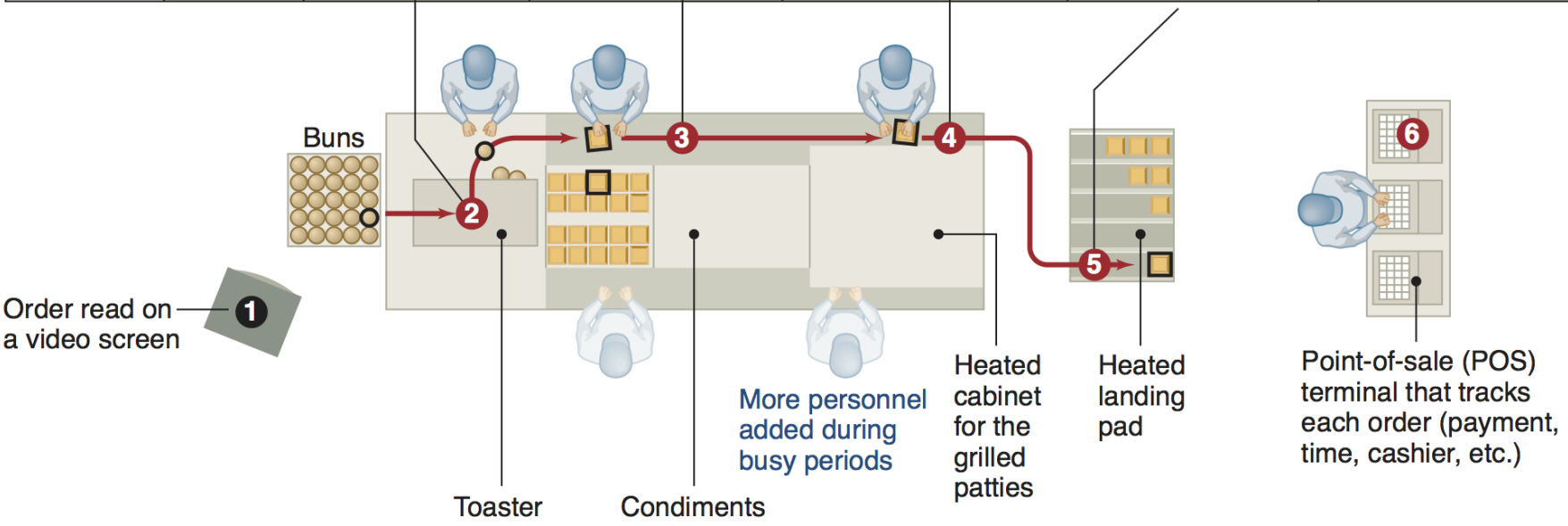
U-shaped line may reduce employee movement and space requirements while enhancing communication, reducing the number of workers, and facilitating inspection

Work Balance Charts

- Used for evaluating operation times in work cells
- Can help identify bottleneck operations
- Flexible, cross-trained employees can help address labor bottlenecks
- Machine bottlenecks may require other approaches

McDonald's Assembly Line

Elapsed time	0:00	0:11	0:31	0:45		1:30
Task time (seconds)		11	20	14	0	45
Task	1. Order	2. Bun toasting	3. Assembly with condiments	4. Wrapping of patty with bun	5. Order picked up immediately to keep it fresh	6. Customer service (order and payment)



Assembly-Line Balancing

- Objective is to minimize the imbalance between machines or personnel while meeting required output
- Starts with the precedence relationships
  - Determine cycle time
  - Calculate theoretical minimum number of workstations
  - Balance the line by assigning specific tasks to workstations

Terima Kasih
ngiyabonga
рахмат
danke
謝謝
spas
teşekkür ederim
Баярлалаа
mersi
kia ora
barka
welalin
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