

- Psychological environment

* Environmental influences

Wayfinding

- two most imp factors: layout of the building
quality of information
- Signage: using signs/pictograms to help shoppers navigate their way and overcome language barriers
- legibility of the space: obtaining and understanding of the environmental information
 - ~~Via~~ visible cues
 - Signage
 - architectural design
 - building layout
- the extent to which ~~the~~ shoppers explore is determined by the level of information available

Dogu and Erkip

Aim: to investigate the effect of spatial factors on wayfinding and orientation in a shopping mall (Turkey)

Hypothesis: - signage more imp than building configuration
- easier for frequent visitors
- gender differences

155 adult shoppers

Signs used pictograms and 'You are here' maps

- ~~Questionnaire~~ Questionnaire included multiple choice about familiarity and perception of the setting.
- task at the end where shoppers were asked to point at a random store
- wayfinding strategies (ability to give directions to a stranger)

~~Results~~

Results: - did not find signage more helpful than configuration
- 60% found signs insufficient, 68% found maps ^{insufficient}
- no gender differences (63% accuracy for both)

~~Conclusion~~

Conclusion: Aspects of spatial factors are combined with shopper's familiarity and preferences to help them orient themselves

Evaluation:

- an ecologically valid task used
- don't know if answers shoppers provided were correct
- not generalisable (small sample size, only one mall)
- cultural differences
- nomothetic approach (conclusions can be generalised and are more applicable)
- quantitative data (closed questions)

~~Literature~~ Gil et al.

Aim: to investigate the extent to which spatial configuration impacts movement around the store, duration of visit and interaction with others. (supermarket)

* Space syntax: analyses the relationship between spatial design and social or organisational performance.

- also to determine whether shoppers behave in a homogenous manner or whether there are individual differences

- CCTV cameras used to track movements and behaviour (time spent in each location, total duration, interaction)
- coloured tag given to individuals

- _/_/_
- naturalistic observation, opportunity sample, more than 480 shoppers
 - while leaving, shoppers were interviewed about their spending, use of shopping list and shopping habits

Results: - shopper behaviour mainly based on product location
 - grocery areas most popular

Four types of visit - short, round, central, wave

Five types of shoppers - specialist, native, tourist, explorer and raider

(Conclusion: shopper movements are not homogenous and diff groups with diff purposes adopt distinctive spatial strategies for their shopping.

Evaluation:

- high ecological validity
- representative of everyday behaviour
- can be easily replicated
- shopper categories can be used in further studies
- due to CCTV, may or may not modify behaviour
- sampling bias
- holistic approach (observation, interview)
- Individual explanation: 5 types of shopper for movement
- Situational: features of store patterns

layout

Central aisle was most accessible

and correlation between accessibility and movement patterns.

~~studies~~ Diners spend an avg of 109 seconds looking at the menu

* Menu design psychology

Pavesic

- menu is a silent salesperson
- important marketing and advertising tool
- well designed menu → increases avg spending
- Common mistakes in menu design:
 - not ~~less~~ considering the design
 - Poor use of space
 - incongruent (with restaurant color or decor)
 - overemphasising prices
 - monotonous, too big
- need to highlight most profitable dishes
- short and attractive to reduce time and increase revenue

Eye-tracking

- eye-trackers are used to see how eyes move around a menu
- adapt the menu so that the most profitable dishes are highlighted in the positions where the eye-trackers suggest the diners look at the most

Primacy effect → First things remembered

Recency effect → Last things

- People tend to remember items from beginning and end of the list compared to the middle

edge bias, edge avoidance

tendency to pay attention to the items located at the edges

Dayan and Bar-Hillel

Aim: to investigate the extent to which the position of food items in a menu affect customer choices.

two studies: i) laboratory exp, 240 students, 4 conditions

IV: the way items were sequenced

4 appetisers, 4 entrées, 6 soft drinks, 8 desserts
no prices written

ii) Field exp, coffee shop

coffee, soft drinks, desserts

edge items in middle and vice-versa

DV: target items purchased

Results: - Ps likely to select items at the extremes

- Findings support edge bias

(croissant chosen 18 times when first and only
9 times when fifth)

Conclusion: popularity of the menu items can be increased by moving items from the middle to edge

Evaluation:

- small changes to boost profits rapidly

- deterministic (consumers have free will)

- Study took place in lab and field

validity, reliability ↑

ecological validity

- not quite generalisable (only one cafe)

Effects of Food name on item choice

- another imp feature → power of descriptive language for marketing products
- 'words create magic'
- generates a sense of pleasure and anticipation
- ~~how~~ how menu engineering through manipulation of food descriptions affect consumer's attitude and likelihood of choosing dishes
- qualitative and quantitative data collected through content analysis and cluster analysis

Lockyer

Aim: to investigate how the choice of wording on a restaurant menu affects the selection.

- 48 participants (Focus group), 5 versions of the menu with different descriptions
- Ps had to rate how appealing they found each menu and the reason behind each rating
- Survey created to check the validity of ^{the} findings
- Ps agreed on importance of explanations (simple, precise and appealing)

Conclusion: menu wording has an impact on selection of items
- occasion also matters

Evaluation:

- Quantitative and qualitative data both collected
- Focus group and survey hence valid and generalisable
- random sampling
- may not reflect other cultures
- Focus groups: not always truthful or ~~opinion~~ opinions are skewed by others
- Application: altering the wordings can lead to major benefits

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* Consumer behaviour and personal space

- being closely packed together reduces satisfaction and may lead to avoidance behaviour
- dissatisfaction results from invasion of diners' personal space and reduced privacy.
- Individual, situational and cultural differences affect the amount of personal space required.
- less familiar we are to a person, the more uncomfortable we feel when personal space is invaded
- privacy also invaded when conversations can be overheard

Robert Robson et al. (key study)

- studied the importance of personal space by looking at user's perception of comfort
- examine whether tight table spacing influences guest attitudes and ~~lets~~ whether this is influenced by cultural differences
- also determined how much space between tables is seen as 'adequate' in diff scenarios. (business, friend, romantic)

IV: i) distance between tables

ii) who they were dining with

DV: Ps' emotions and anticipated behavioural reactions

- Independent measures design, over 1000 American Ps through a web-survey
- first the Ps were asked to ~~ff~~ provide demographics, then they had to react to one of the 3 images of tables placed either 6, 12 or 24 inches apart.
- Ps had to complete a questionnaire of 32 statements and rate their responses on a seven-point rating scale

Results:

- Ps felt more uncomfortable and dissatisfied when tables were 6 inches apart
- less distance between tables, more they felt crowded with less privacy
- concerns about disturbing others or being overheard
- 12 inch gap → felt most in control
- stress scores higher in tightly-spaced tables
- strong objection towards tightly-spaced tables in romantic context
- women much less comfortable and stressed than men

Conclusion:

- context is a key factor in consumer preference for spacing
- consumers dislike closely spaced tables

Evaluation:

- Ps confidentiality maintained
- Application: designers can modify the dining environment by using the available space to achieve high customer satisfactions (at least 12 inches apart) or could use booths/dividers
- strength: pilot study conducted of 10 Ps to increase validity
- only quantitative data collected using closed questions
- great cultural differences hence difficult to generalize

Hall's zones of Personal space

- we all have a physical space around ourselves in a bubble in which we feel comfortable. When this personal space is invaded, we feel uncomfortable and experience increased arousal and negative emotions.
- The size of this personal space bubble varies depending on individual and situational factors. (smaller at the sides, larger at front and behind)
- Social context also affects (example - crowded vs empty train)
- 'Proxemics' - study of how humans use personal and public space
- 4 zones of personal space: Intimate, personal, social, public
- also a correlation between familiarity with others and need for personal space.
- Hall divides cultures into 'contact' and 'non-contact'
contact: close interpersonal distance, more touching
non-contact: greater distance and less touching
- Alpha personal space: objective measure of distance
Beta personal space: individual's subjective distance
- when people invade our space, brains become highly active as we try to manage the situation and this leads to increased biological arousal.
- The response can be positive or negative depending on how the situation is interpreted.
- This could cause cognitive overload, meaning individual cannot cope up with the environmental inputs further resulting in behavioural constraints to reduce stimulation, such as avoiding eye contact and making attempts to maintain the interpersonal distance.
- People with autism require more personal space.

The social structure of queue

waiting for a turn in a line or sequence
Queues are an accepted social organisation of waiting

- regulates the order in which people gain access to goods
- possesses a distinctive spatial form
- individuals should have pre-existing knowledge on how it functions

the formality of queuing depends on the knowledge and socio-psychological rules associated with the conflict of delaying individual progress and protecting the queue from being disrupted.

Milgram et al. (1986)

Aim: to observe reactions to an intruder who attempts to jump the queue in a public place

Hypothesis: people would be less likely to show defensive behaviour if other members also behaved passively, accepting the behaviour.

- Field experiment in NYC, observation

IV: no. of intruders and whether people behind the intruder were confederates

DV: number of times the queue members demonstrated defensive behaviour

buffer: stood between genuine participant and the confederate, behaving passively

Results:

example of defensive behaviour: physical, verbal and non-verbal ^{objection}

Physical - 10%, Verbal - 22%, non-verbal - 15%

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Conclusion: - objections more likely if there are more than one intruder

- less likely if adjacent queue members do not object

Evaluation:

- field exp, high ecological validity
- less likely to show demand characteristics as they were not aware of the experiment
- both quantitative and qualitative data
- diff reactions when the purpose of queuing is diff
- took place in USA, hence may lack generalisability due to cultural differences
- supports situational explanation: No. of intruders and buffers
- individual and cultural difference will also matter (eg- personality). amygdala reactivity determines the extent to which the jumper is seen as a threat and this will be different for all due to biological or environmental factors.