

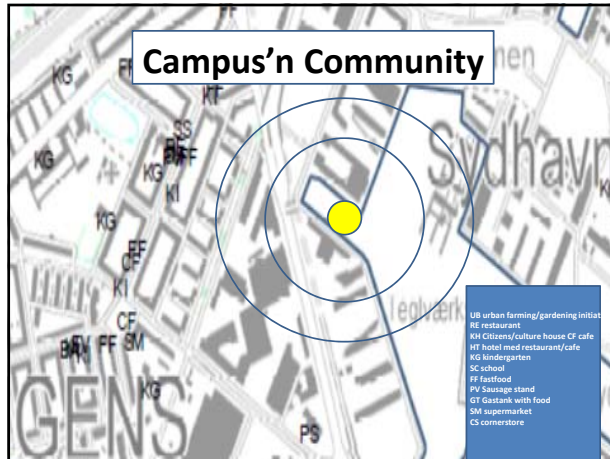
Graduate & PhD Course
 Measuring Dietary Behaviour the intelligent way
 Fudan University, Shanghai
 November 23–25, 2015

Monitoring behavior intelligently – a new focus on self-monitoring and choice architectures,

Bent Egberg Mikkelsen,
 Professor, Aalborg University



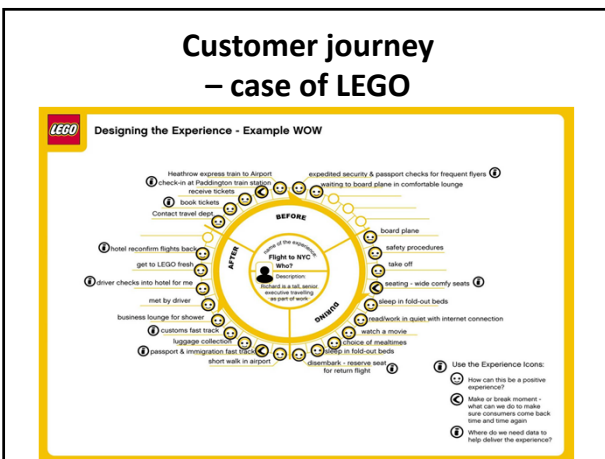
Campus'n Community



- UB urban farming/gardening initiative
- RE restaurant
- KH Citizens/Culture house
- CF cafe
- MT hotel/med restaurant/cafe
- KG kindergarten
- SC school
- FF fastfood
- PV Sausage stand
- GT Gastank with food
- SM supermarket
- CS cornerstore

Customer journey – case of LEGO

LEGO Designing the Experience - Example WOW



Applying FS in Kgs Enghave

- Investigating six different types of “meaningful places”
- Explore the feasibility of urban songlines as a method needs assessment
- Two end-users were asked to map places from their daily in SV
- Places were appointed a certain colour

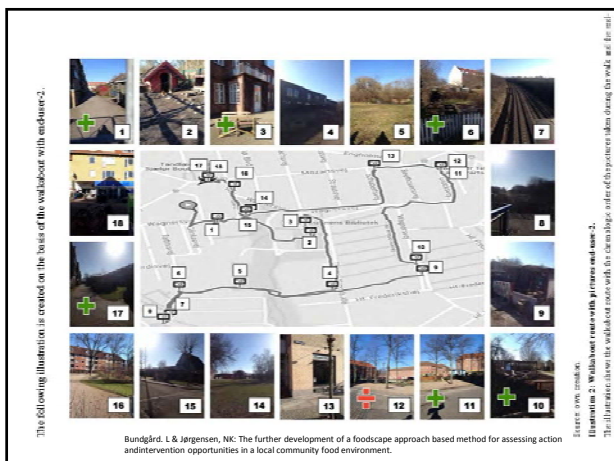
Bundgård, L & Jørgensen, NK: The further development of a foodscape approach based method for assessing action and intervention opportunities in a local community food environment.

Applying FS in Kgs Enghave

Table 6: Socio-demographic and socioeconomic factors of the end-users.

	End-user-1	End-user-2
Gender	Male	Female
Age	40	32
Civil status	Married	Married
Children	Two children aged five and six years	Two children aged 16 months and five and a half years
Education	Food technologist	Cand. Scient. Soc.
Work	Head responsible in a canteen	Taking care of her youngest child at home
Residence	Sydhavnen	Sydhavnen
Usual time when walking the walkabout route	Afternoon	Morning

(Appendix 15; Appendix 16)



LC-FAT - Local Community Foodscape Assessment Tool.

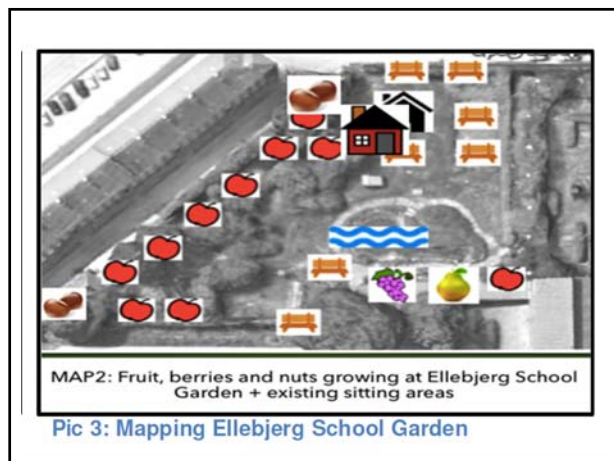
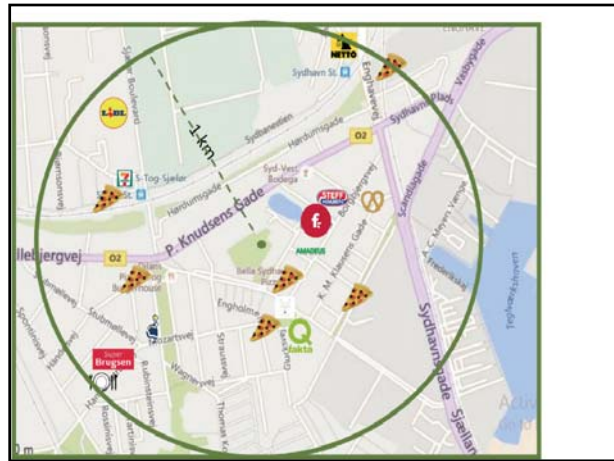
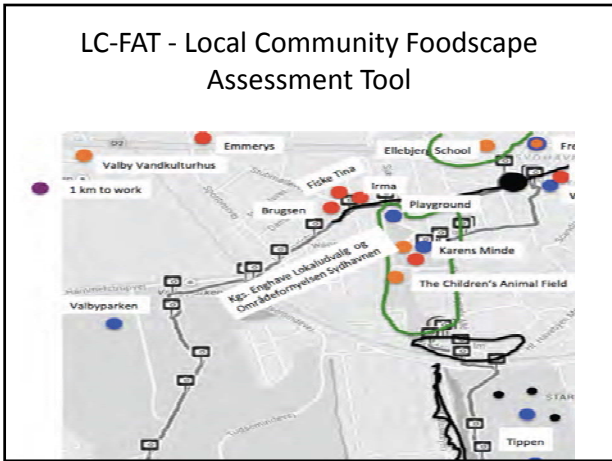
Template 2: How to choose WHO to involve. The template aims at assessing WHO is important to involve based on an assessment of power, legitimacy and urgency (PLU). The columns (2-4) within the A-part in template 2 are rated with the scores from the following table:

	Low-medium	Medium	Medium-high	High
Low	1	2	3	4
High	5	6	7	8

A-part

Describe the type of stakeholder (e.g. community leaders)	Power	Legitimacy	Urgency	Total score (P*L*U) ("What is in it for me")	Success criteria ("The importance of that stakeholder")	Adoption of innovation (Early mover, laggard etc.)	Actions that might get the stakeholder what he wants	Resources needed such as (money, time, knowl...)

LC-FAT - Local Community Foodscape Assessment Tool



Pic 3: Mapping Ellebjerg School Garden

LC-FAT - Local Community Foodscape Assessment Tool

ing illustration is created on the basis of the walkabout with end-user-2.

TIMELAPS: 6 min 27 sec
TOTAL WAITINGTIME: 3 min 50 sec

LUNCH MEAL CHOICE: Hot meal, potatoes and roots, white fish and the hot meal side dish salad. Aubergin form the vegetarian menu and a dip sauce.

DESCRIPTIVE TEXT OF THE ROUTE:
 Nicolas walks through the middle entrance into the food area. He walks from the "Salad Buffet" along the counter to the "Hot Meal" and "Vegetarian Dish" a lot of people are standing in line and he is walking in the opposite direction than most others. He notices that he forgot to take a plate. He walks out of the food area to the "Fresh Dishes" and there he takes a fork and knife and afterwards a plate. He queues up in line by the "Vegetarian Meal". He picks grilled aubergine and a dip. He queues up for the "Hot Meal". First he takes the potatoes & roots, then he skips the fish because the tray is empty at the moment, he takes some "Hot Meal Side Dish" salad and then he goes back to the fish that is getting refilled. After he has the fish he walks directly in direction of the cashdesk to queue up in line to pay. He pays with card.

1	2	3	4	5	6	7	8
DISHWARE	DISHWARE	VEGETARIAN DISH	MEAL EXTRAS	HOT MEAL	HOT MEAL SIDE DISH	HOT MEAL	PAYMENT
Cutlery	Porcelain Plate	Aubergine	Dip	Potatoes & Roots	Salad	White Fish	Card
		1 min 11 sec. waiting		18 sec. waiting	12 sec. waiting	4 sec. waiting	2 min 5 sec. waiting

Mapping the Ellebjerg school garden

Teglborg et al 2014

Foodscape Songlines

Aboriginal mythological foundation

- Assumes that the world is created by singing it alive (Marling, 2003).
- Each of the places where a new experience occurred represented a sacred place for the ancestors descendants to revisit and use.
- These sacred places and the lines that can be drawn in between them, including the distance, represents a "song line".
- The walkabout illustrates a path across the land and ancestors would go for walkabouts and follow these songlines.

Gitte Marling: **Urban Songlines – Hverdagslivets drømmespor** Aalborg Universitetsforlag 2004.

Foodscape Songlines

Conceptual foundation 1

- As places and artefacts in the land can be considered sacred, places of importance in a foodscape context can be considered as potential hotspots = action or hotspots
- Hotspots/touch points are places with affordances = action possibilities

IMAGES OF FOODSCAPES - INTRODUCTION TO FOODSCAPE STUDIES AND THEIR APPLICATION IN THE STUDY OF HEALTHY EATING OUT OF HOME ENVIRONMENTS. Mikkelsen, Bent Egeberg

Gitte Marling: *Urban Songlines – Hverdagslivets drømmespor* Aalborg Universitetsforlag 2004.

Foodscape Walkabouts

2 parts

1. Unstructured. The first exploratory situational analysis. The initial wandering, the curious go looking tour of the place in question. It results in maps of the place
2. Structured. Participatory walks with mediators or end users with visually assisted datacollection and with emphasis on hotspots and touch points



Gitte Marling: *Urban Songlines – Hverdagslivets drømmespor* Aalborg Universitetsforlag 2004.

F-Songlines approach step by step

- FW 1. Get a first impression. Snapshot
- Plan next steps. How to engage with citizens
- Mapping: how things appear = "food reality"
- FW 2. Structured, v-assisted and participatory
- Draft stories. How the foodscape COULD be
- Do a moodboard. Present visually
- Create storyboard. Present visually

Customer Journey Mapping (CJM) key benefits

- Provides a single cross "business unit" view of the experience delivered by all customers
- Defines key enabling requirements (skills, data, processes, measures, etc.)
- Highlights areas of importance where it should be applied (Critical, Positive, Core, Peak or End)
- As well as areas NOT valued by customers (costs can be optimised)

Hellman-Hansen/Mikkelsen The Nudge Experiment: Can we help managers in vocational school to choose healthier at check-out counters in cash cafeterias?

Inducing consumption






Politicising Obesity



22

Preventive strategies three levels

Type	Content	Examples	Theoretical foundations	Characteristics
Individual 	Counselling	Behavioural modification	Modelling Vicarious learning Rewarding etc	High costs
Mass strategies 	Campaigns		Marketing, ELM, KAB	Only affecting those already in low risk
Structural prevention 	Menu board Labelling. Choice architectures, Space management Taxation	Explicit, regulation Implicit, nudging	SEM, SCT, Dual process theories	Affecting a broad audience. Politically sensitive Revenue AND benefits

Nuffield Intervention ladder

Box 3.2: The intervention ladder

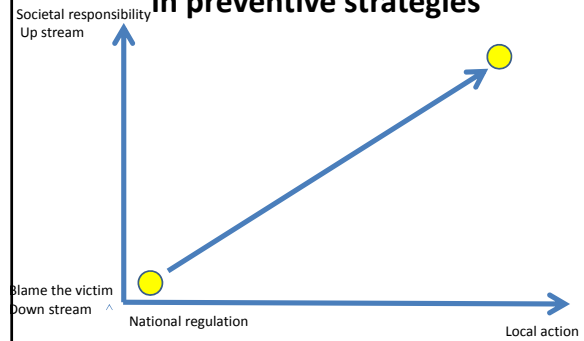
The range of possible interventions is ordered from the most restrictive (at the top) to the least restrictive (at the bottom). The ladder is progressive in nature, with each step being more restrictive than the one above it. When considering which rung is appropriate for a particular public health goal, the benefits to individuals should be weighed against the erosion of individual freedom. Economic costs and benefits would need to be taken into account alongside health and societal benefits. The ladder of possible policy action is as follows:

- Eliminate choice.** Regulate in such a way as to entirely eliminate choice, for example through compulsory isolation of patients with infectious diseases.
- Restrict choice.** Regulate in such a way as to restrict the options available to people with the aim of preventing them, for example removing unhealthy ingredients from foods, or unhealthy foods from shops or restaurants.
- Guide choice through disincentives.** Fiscal and other disincentives can be put in place to influence people to pursue certain activities, for example through taxes on cigarettes, or by discouraging the use of cars in cities through charging schemes or limitations of parking spaces.
- Guide choices through incentives.** Regulations can be offered that guide choices by fiscal and other incentives, for example offering tax-breaks for the purchase of bicycles that are used as a means of travelling to work.
- Guide choices through changing the default policy.** For example, in a restaurant, instead of providing a standard side dish (with healthier options available), menus could be changed to provide a more healthy option as standard (with chips as an option available).
- Enable choice.** Enable individuals to change their behaviours, for example by offering participation in a 'stop smoking' programme, building cycle lanes, or providing free fruit in schools.
- Provide information.** Inform and educate the public, for example as part of campaigns to encourage people to walk more or eat five portions of fruit and vegetables per day.
- Do nothing or simply monitor the current situation.**

Prevention and health promotion
Downstream or upstream?



A new paradigm
in preventive strategies



Mile High Nudging

Air NZ

- <https://www.youtube.com/watch?v=qOw44VFNk8Y>
- https://www.youtube.com/watch?feature=player_embedded&v=3iaTEgoezNQ

Virgin

- https://www.youtube.com/watch?v=eyygn8HFTCo&feature=player_embedded

United

- https://www.youtube.com/watch?v=WqAAQOZZMyw&feature=player_embedded

Delta

- <https://www.youtube.com/watch?v=FZm4gqagnVs>

Large plate size more intake

The slide features a central image of a white plate on a black background with horizontal lines. The text "Large Plate" is written in yellow cursive on the left side of the plate, and "Intake" is written in yellow cursive on the right side. Below the image, there is a list of references:

- Wansink et al
- Bucher et al

The slide also contains a title "Large plate size more intake" at the top and a small logo in the top left corner.

Plate size



IMG_0723.MOV

Consumer decision journey



The four 4 P's

- Product
- Price
- Promotion
- Placement

McCarthy, Jerome E. (1964). *Basic Marketing. A Managerial Approach*. Homewood, IL: Irwin.

Science of persusaion

- Reciprocity. Tendency to return favors
- Commitment. Likelyhood of honoring agreements
- Social Proof. Do things that others are doing
- Authority. Tendency to obey authority figures/modelling/vicorius learning
- Liking. Persuasion by people we like.
- Scarcity. The "limited time only" trick

Cialdini, R. B. (2001). *Influence: Science and practice* (4th ed.). Boston: Allyn & Bacon



Science of persuasion

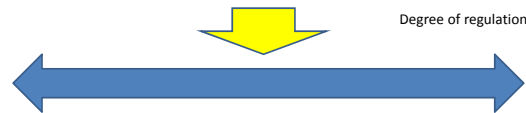
Two routes

- **Elaboration likelihood model (ELM)** a model of how attitudes are formed and changed
- The idea of an "**elaboration continuum**" is introduced
- Ranges from **low elaboration** (low thought) to **high elaboration** (high thought).
- **Peripheral route:** Emotional appeals—fear, humor, and sex—and compared their impact with. Uses preexisting ideas and superficial qualities to be persuaded
- **Central route:** Central, rational, logic, information. Rational appeals such as comparison, gain/loss, and one or two sided (Hornikx and O’Keefe 2009).

Richard E. Petty & John Cacioppo in the early nineteen eighties

Nudging as a third way?

- Soft and hard paternalism



Degree of regulation

[Robert Nozick \(1938-2002\)](#) var en af de store teoretikere bag libertarianisme, og hans bog [Anarchy, State, and Utopia](#)

Christopher B. Gray (ed.), *Philosophy of Law: An Encyclopedia*, Garland Pub. Co, 1999, II.632-635. [Copyright](#) © 1999, [Peter Suber](#), [Paternalism](#), [Peter Suber](#), [Philosophy Department](#), [Fairham College](#). "Paternalism" comes from the Latin *pater*, meaning to act like a father, or to treat another person like a child. ("Parentalism" is a gender-neutral anagram of "paternalism".) In modern philosophy and jurisprudence, it is to act for the good of another person without that person's consent, as parents do for children.



Dual brainprocesses

Traditional	"Nudging"
Reflexive	Non reflexive
Explicit	Implicit
Cognitive	Non cognitive
Slow	Fast
Non automatic	Automatic
Brain based	Bodily embedded
Rational	Non rational
Self-aware	Unconscious
Controlled	Non-controlled
Effortfull	Effortless
Deductive	Associative
Rule-following	Skilled

More dualism

Table 4.1 Two cognitive modes of thinking

Automatic thinking	Reflective thinking
Uncontrolled	Controlled
Effortless	Effortful
Associative	Deductive
Fast	Slow
Unconscious	Self-aware
Skilled	Rule following

Source: Thaler and Cass R. Sunstein (2008), *Nudge: The Art of Persuasion*. London: Penguin. Reproduced with permission of the publisher. © 2008 by Penguin Books Ltd.

Examples

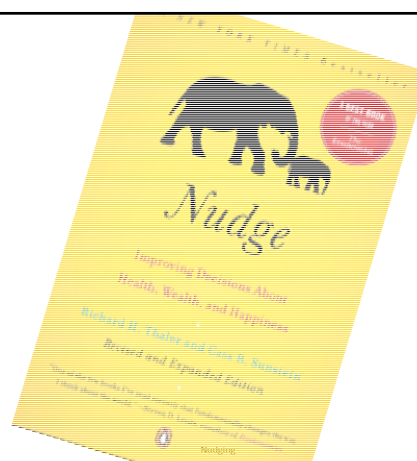
- Savings
- Waste handling
- Organ donations
- and
- Healthy eating

Inducing consumption

Examples of nudges

- Appearance (how things look)
- Anchoring (to set high price, amount, goal, compare everything subsequent with that)
- What others are doing (collectivity)
- Variety (affluence)
- Novelty (something is new)
- Bogoffs (Buy1Get1ForFree)
- Brand (logos etc)
- Prices

Lobstein, EUPHA, 2013; Fat Crisis



A Nudging Typology? According to Thaler

- [5.7 Thaler-Sunstein Heuristics - in detail](#) - (different types of types of nudges)
 - [1 'Anchoring and Adjusting'](#) (comparing then guessing)
 - [2 'Availability'](#) (perceived popularity/rarity)
 - [3 'Representativeness'](#) (stereotyping and comparison)
 - [4 'Optimism/over-confidence'](#) (under/over-estimation or complacency)
 - [5 'Loss aversion'](#) (holding on to things/resistance) 'status quo bias' (inertia)
 - [6 'Status quo bias'](#) (inertia, default to no action)
 - [7 'Framing'](#) (orientation, accentuation, presentation, styling)
 - [8 'Temptation'](#) (greed, ego, short-term reward)
 - [9 'Mindlessness'](#) (negligence, avoidance, not concentrating)
 - [10 'Self-control strategies'](#) (habits and routines to counter weaknesses)
 - [11 'Following the herd'](#) (conforming, mob instinct, safety in numbers)
 - [12 'Spotlight effect'](#) (anxiety, pressure, "...everyone's watching my decision", fear of making errors)
 - [13 'Priming'](#) - (the ways people can be made ready or prepared before thinking and deciding, e.g., visualization, role-modelling, building belief, offering methods not just directions)
 - [14 'Stimulus response compatibility'](#) - overlays other heuristics and 'nudges' - (the design of signage, language, so that it looks and seems appropriate for the message it conveys)
 - [15 'Feedback'](#) - overlays other heuristics and 'nudges' - (given to respondent during and after thinking/decisions, enabling adjustment and useful experience)

A Nudging Typology? Other

- [6.1 Positioning - moving things, prominence](#)
- [6.2 Limiting - expiry dates, limited stock](#)
- [6.3 Sympathy - ease of adoption, path of least resistance](#)
- [6.4 Accessibility - efficiency of communication, reach, penetration](#)
- [6.5 Likeability - trust, reputation, credibility, honesty, integrity \(of 'nudger'\)](#)
- [6.6 Relevance - fit with audience needs, self-image, situation](#)
- [6.7 Mood-changers - inspiration, passion, flair, intrigue, humour/humor](#)
- [6.8 Fear - thinking driven by risk or threat](#)
- [6.9 Facilitation - helping people to think and decide](#)
- [6.10 Sensory - sounds/music, smells, touch, colour/color](#)

Nudging towards a taxonomy?

- The classification comes from the work of Susan Michie, e.g.:
- [A taxonomy of behavior change techniques used in interventions.](#)
- Abraham C, Michie S.
- Health Psychol. 2008 May;27(3):379-87. doi: 10.1037/0278-6133.27.3.379.
- PMID:
- 18624603
- [Similar articles](#)
- [Reliability of Identification of Behavior Change Techniques in Intervention Descriptions.](#)
- Abraham C, Wood CE, Johnston M, Francis J, Hardeman W, Richardson M, Michie S.
- Ann Behav Med. 2015 Aug 20. [Epub ahead of print]