I214 Qualitative Data Analysis

March 19, 2013

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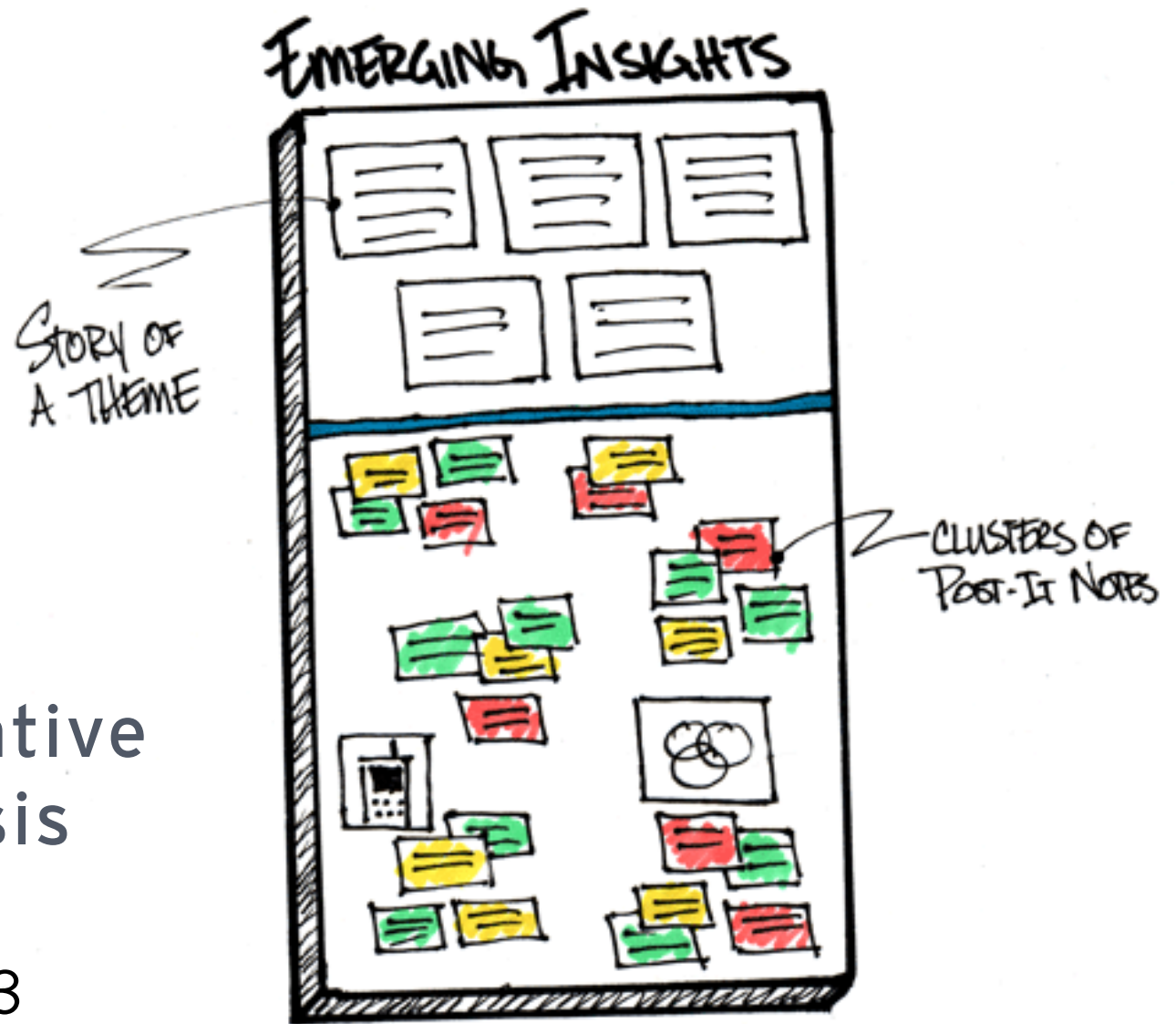
The basic process

Start with project goals and consider the outcomes

Prepare the data

Sorting and coding data

Revisit codes and groups

Make frameworks

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CONSIDER PROJECT GOALS

What are we looking for?

Answers to specific questions

Product requirements, user types, common activities, problem areas, needs, opportunities,

Questions that need further investigation

Unexpected problems or opportunities

Answers to specific questions

Questions asked as part of the interview protocol

Questions NOT asked: what evidence do we have for answers?

PREPARING YOUR DATA

Make your data manipulatable

Break text into smaller, but still meaningful, units that can be addressed separately

Print out important photos

This is also part of the analysis process

What you do not include may well be forgotten

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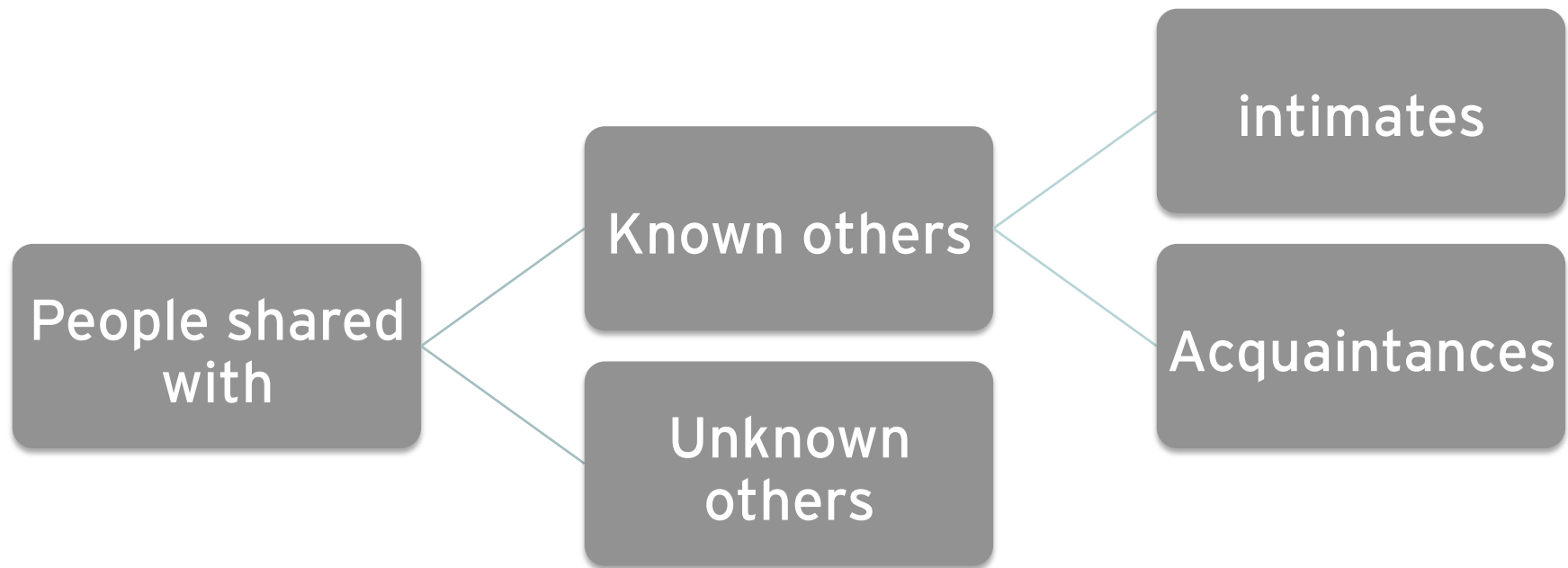# SORTING AND CODING DATA

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Coding

"Coding means that we attach labels to segments of data that depict what each segment is about. Coding distills data, sorts them, and gives us a handle for making comparisons"

Charmaz, *Constructing Grounded Theory,* Ch. 1

Codes are constructed and interpretive

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Example of categories: photo sharing

People shared with

Known others

Unknown others

intimates

Acquaintances

Reflection

This process was extremely enlightening for me.

practice my moderator and interviewer skills. I fou

having a well thought out and structured interview

some questions off script or alter from it slightly, i

aws a blank.

Additionally, I found it very challenging to stay qui

application. Because I am so familiar with the gar

Affinity clustering

Mindmapping software

Photo courtesy User Insight
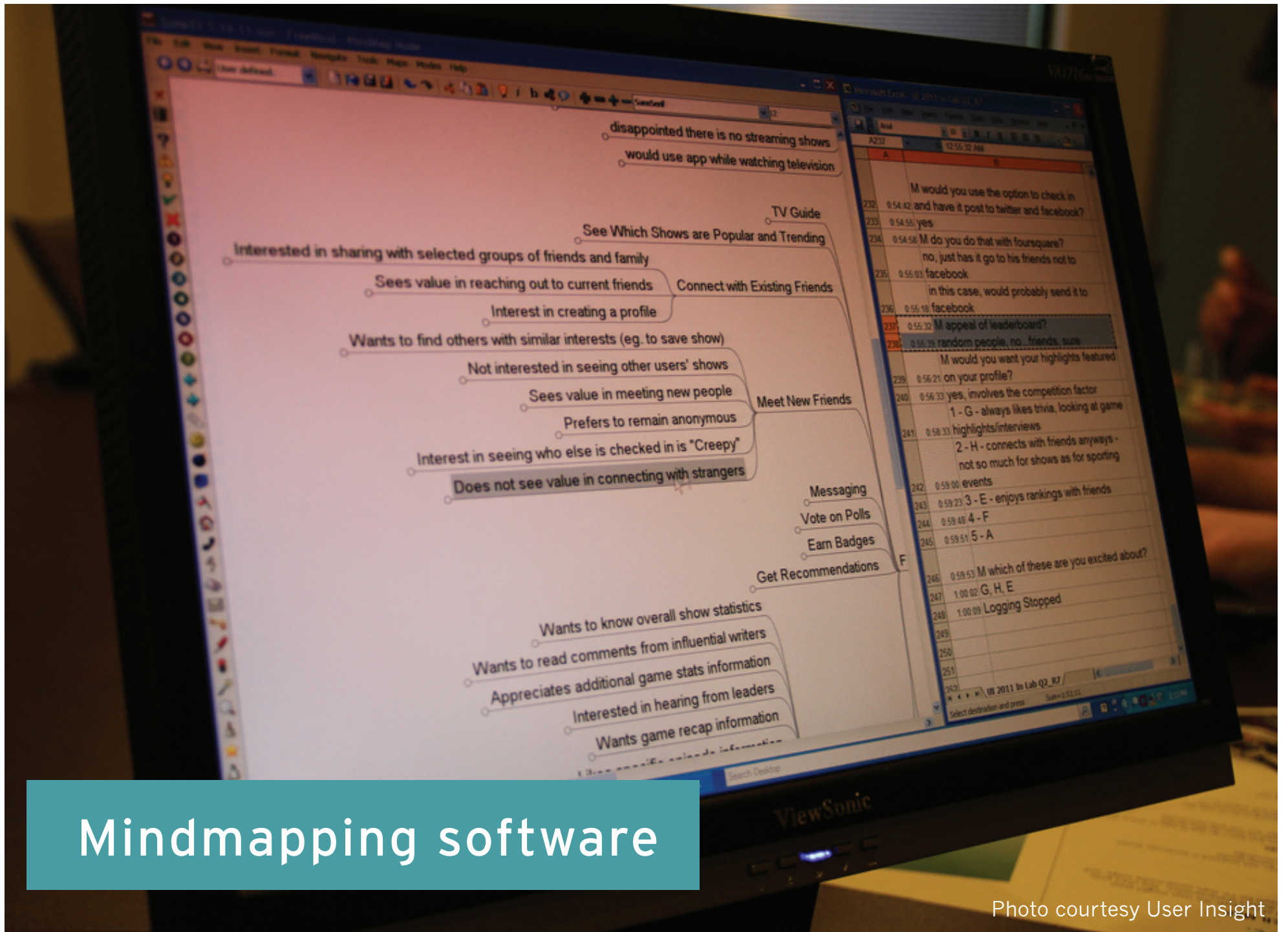
Useful coding vocabulary

In vivo coding

General terms that "everyone knows" (...or do they?)

An striking term or phrase that distills an experience

Insider shorthand

Open coding

Categories

Subcategories

Properties

Qualities/attributes of a category

Dimensions

Ranges along which properties vary

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From Charmaz (2006), Ch. 3

Coding questions

What process is at issue here? How can I define it?

How does the research participant(s) act while involved in this process?

What does the research participant(s) profess to think and feel? What might his behavior indicate?

When, why, and how does the process change?

What are the consequences of the process?

What resources does the process require? Where do those resources come from?

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A code for coding

Remain open

Stay close to the data

Keep your codes simple and precise

Construct short codes

Preserve actions

Compare data with data

Move quickly through the data

From Charmaz (2006), Ch. 3

MAKING FRAMEWORKS

We are looking for patterns in the data

Typologies

    Users

    Uses/activities

Correlations

    (vs causality)

    Group differences

Temporal patterns

Recurring issues/themes

Higher-order abstractions

    Needs

    Opportunities

Tools

Taxonomies

Maps

Timelines

Flowcharts

Spectrums

Matrices
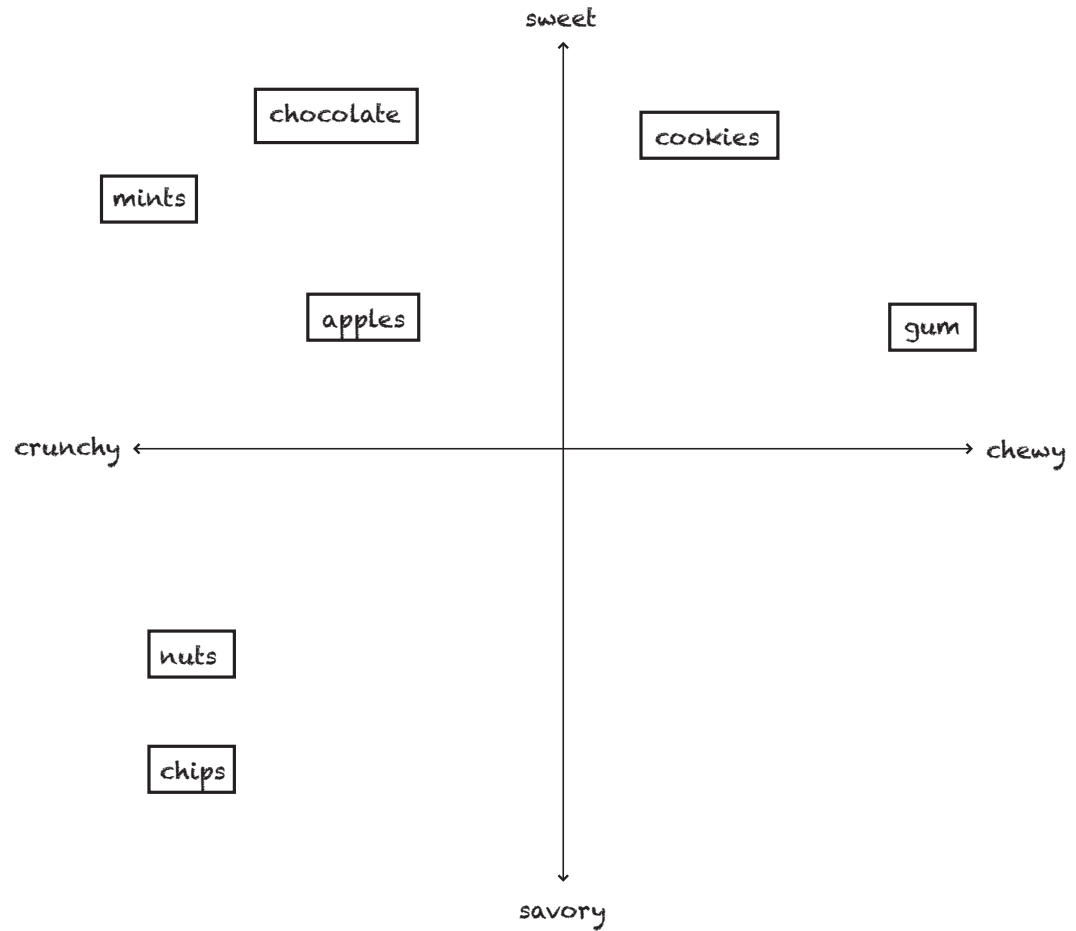
Example user typology: networks

Continuum of
Network Users
Users/VAR/MIS

Technology **Pull**

- Looking to create success
- Growing business
- Acquiring tools

| Lead User | Confident Competent | Determined Novice |

| Bleeding Edge | Fearful Competent | Staying Alive |

Large Office

Small Office

Technology **Push**

- Expense
- New toy
- Overcoming fear
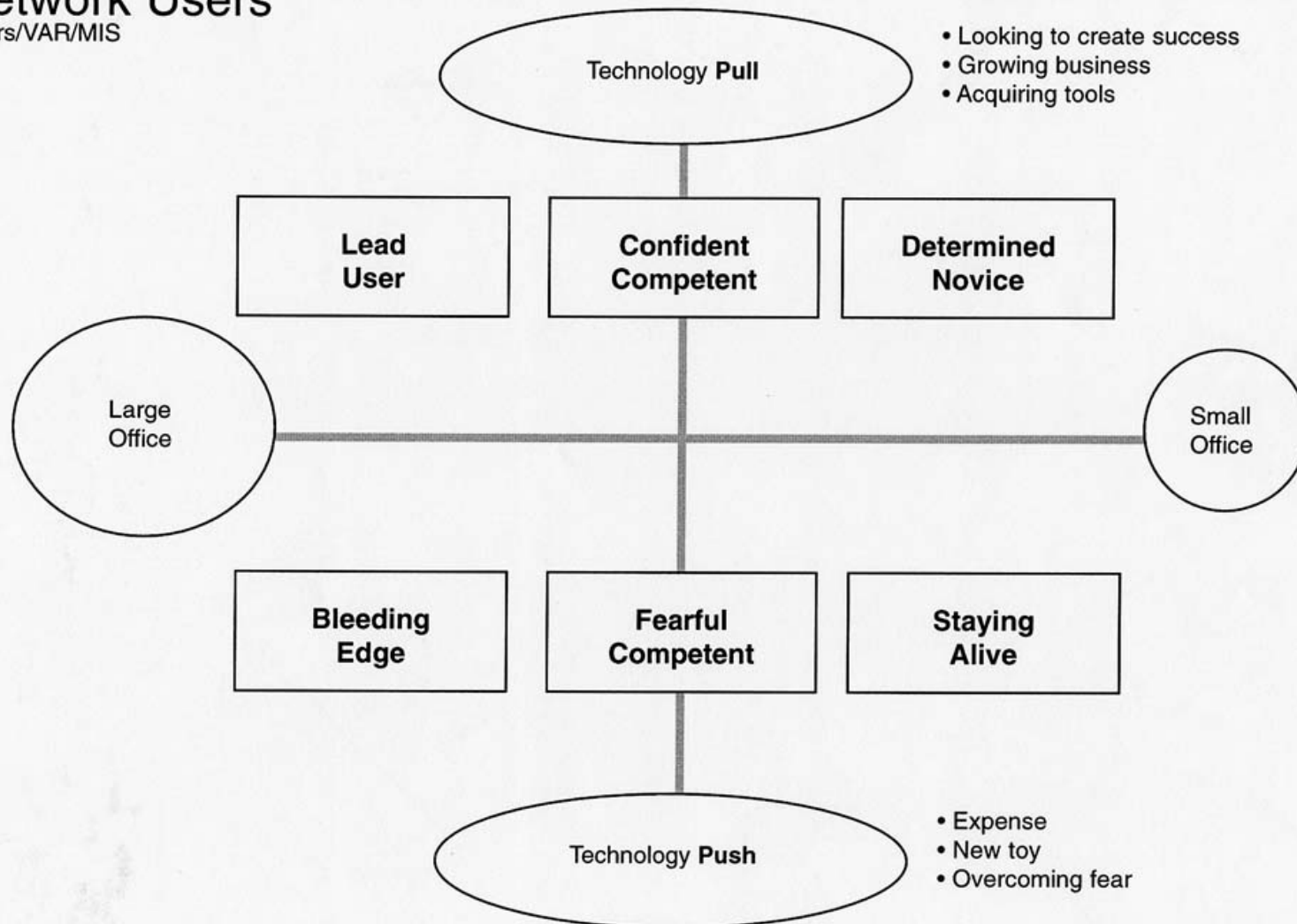
Correlations

May be either

A priori questions

those that emerge from the data

Usually not causes

Kinds of correlations of interest

Inter- and intra-group differences

Example of group differences: Parents and shopping study

Parents with babies and toddlers often shopped online

…The Internet is **open 24 hours, just when you're up with a baby**

…Pleasure/achievement of getting **"the right thing"**

Parents with school-age kids often went to stores

…Going out to stores can be **a fun outing**

…Solving problems fast for **school deadlines**

…Limited choices **simplify deliberations**

Example correlation question

Almost everyone who was serious about photography started young:

high school or (more often) before

Many took classes in high school

→ *Does serious engagement with photography correlate with early introduction?*

Temporal patterns: frequency

Where do you encounter advertisements during a normal weekday?
What kinds of advertisements do you encounter?
What are you doing when you encounter them?

Legend:
- radio
- billboard
- packaging
- clothes
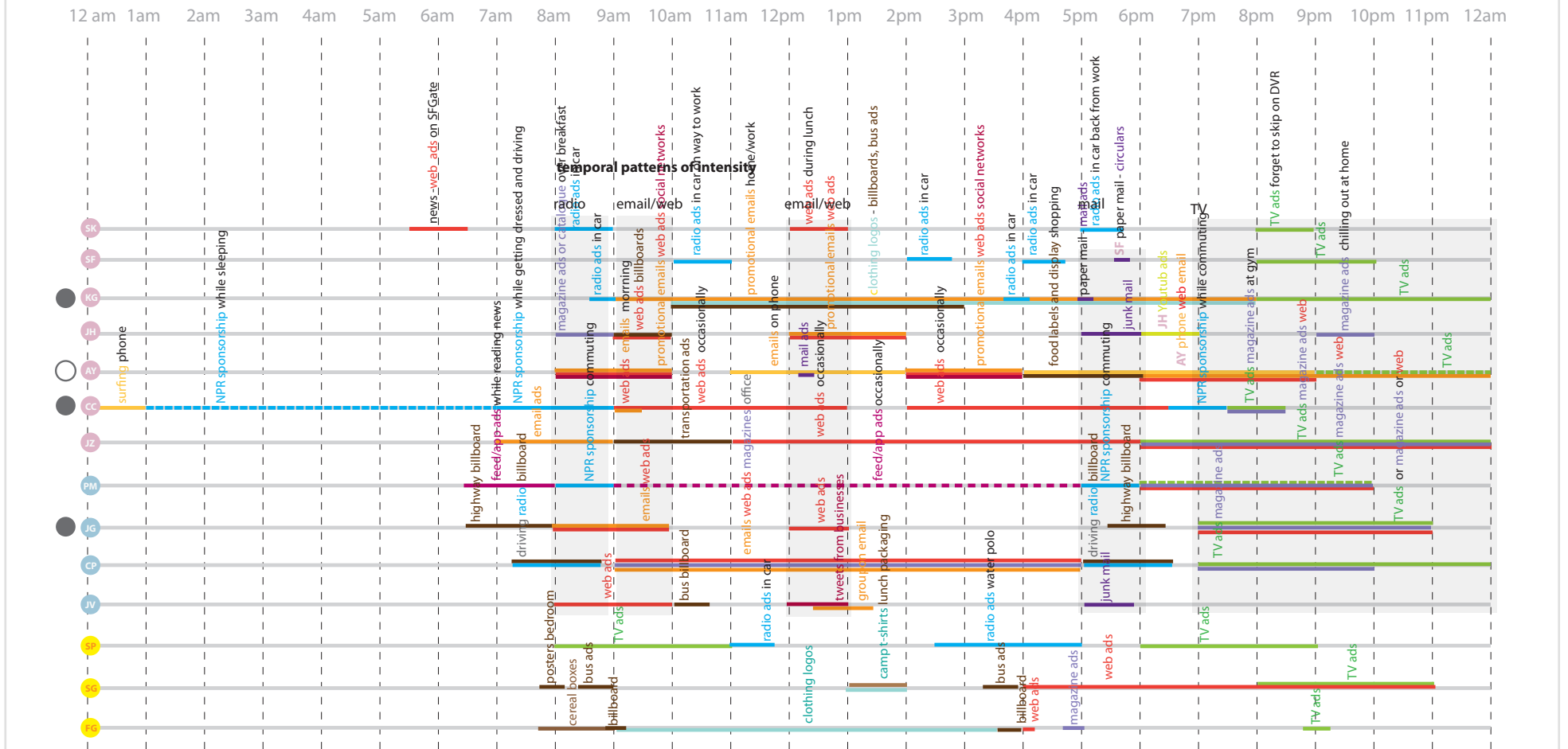- web ads
- social network ads
- feeds/app ads
- emails
- phone
- television
- Youtube/Hulu
- magazine or catalogue
- mail

Timeline: 12 am, 1am, 2am, 3am, 4am, 5am, 6am, 7am, 8am, 9am, 10am, 11am, 12pm, 1pm, 2pm, 3pm, 4pm, 5pm, 6pm, 7pm, 8pm, 9pm, 10pm, 11pm, 12am

Temporal patterns of intensity

SK: news - web ads on SFGate; magazine ads or catalogue over breakfast; radio ads in car; email/web; radio; radio ads in car on way to work; promotional emails web ads/social networks; email/web; web ads during lunch; web ads; radio ads in car; web ads social networks; radio ads in car; paper mail - circulars; TV; TV ads forget to skip on DVR; TV ads

SF: NPR sponsorship while sleeping; NPR sponsorship while getting dressed and driving; morning; web ads billboards; promotional emails web ads social networks; radio ads in car; food labels and display shopping; paper mail; junk mail; radio ads in car back from work; TV ads chilling out at home; TV ads

KG: radio ads in car; promotional emails; emails on phone; promotional emails; web ads occasionally; paper mail; JH YJutub ads; AY phone web email; magazine ads web; magazine ads web chilling out at home; TV ads

JH: while reading news; NPR sponsorship commuting; web ads emails web ads billboards; mail ads occasionally; web ads occasionally; promotional emails web ads social networks; food labels and display shopping; junk mail; TV ads at gym; TV ads magazine ads web

AY: phone; NPR sponsorship commuting; transportation ads; web ads occasionally; mail ads occasionally; web ads; promotional emails; NPR sponsorship commuting; TV ads; magazine ads; magazine ads web; magazine ads or web; TV ads

CC: surfing phone; email ads; web ads; office; web ads occasionally; web ads; NPR sponsorship commuting; TV ads magazine ads web

JZ: highway billboard; feed/app ads; billboard; emails; NPR sponsorship commuting; web ads magazines; web ads; feed/app ads occasionally; billboard; NPR sponsorship; highway billboard; TV ads magazine ad; TV ads; TV ads or magazine ads web

PM: driving radio; billboard; emails/web ads; emails web ads magazines; web ads; feed/app ads occasionally; driving radio; highway billboard; TV ads magazine ad; TV ads; TV ads or magazine ads web

JG: driving radio; emails web ads businesses; driving radio; TV ads magazine ad; TV ads

CP: web ads; bus billboard; tweets from group email; lunch packaging; radio ads water polo; junk mail; TV ads

JV: posters bedroom; TV ads; radio ads in car; camp t-shirts; radio ads in car; junk mail; TV ads

SP: TV ads; clothing logos; camp t-shirts; bus ads; web ads; TV ads

SG: posters bedroom; cereal boxes; bus ads; billboard; clothing logos; bus ads; magazine ads; web ads; TV ads; TV ads

FG: cereal boxes; billboard; clothing logos; billboard; web ads; magazine ads; web ads; TV ads

clothing logos - billboards, bus ads

Common stages in activities or processes

Example: Designing Acela

Creating [a comfortable] environment began by studying how travelers use their time. Building on Amtrak's market research, the design team used human factors experts to **shadow a broad range of travelers disabled, young, old**. Those experts also **toured stations and interviewed Amtrak constituents** ranging from senior managers to station operators.
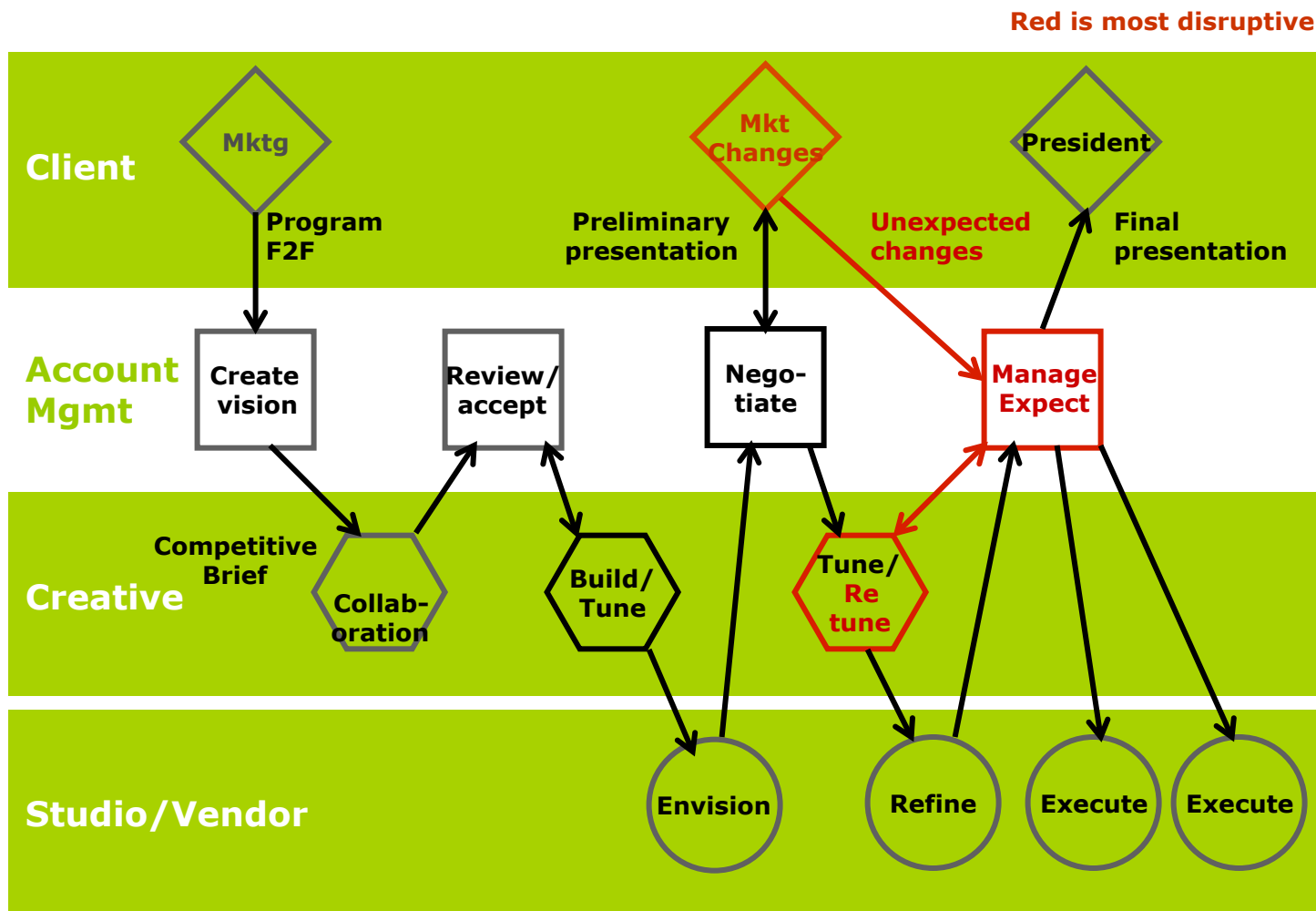
Their findings helped define a vision that outlined **the 10 steps in a typical passenger trip: 1. learning (about routes, timetables, etc.), 2. planning, 3. starting, 4. entering, 5. ticketing, 6. waiting, 7. boarding, 8. riding, 9. arriving and 10. continuing (their journey).** Those points of customer contact identified design opportunities.

"We wanted to create a seamless journey. **Riding on the train was actually the eighth step**," says Richard Eisermann, who was IDEO's project leader on Acela. **"Everything prior to the ride was something that Amtrak never connected with the experience."**

Flowcharts: Swimlane diagrams

Red is most disruptive

Client

Mktg

Program F2F

Mkt Changes

Preliminary presentation

Unexpected changes

President

Final presentation

Account Mgmt

Create vision

Review/ accept

Nego- tiate

Manage Expect

Competitive Brief

Creative

Collab- oration

Build/ Tune

Tune/ Re tune

Studio/Vendor

Envision

Refine

Execute

Execute

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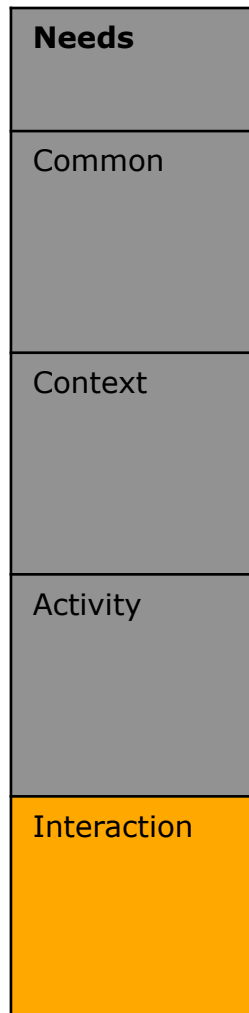# Example themes: shopping

Finding the right thing

Outings and rituals

Solving the problem efficiently

Framing needs

Needs	Needs Characterization	Means of Learning about Need	Solution Characterization
Common	Cultural **value** shared by many	Generally implicit. Found through eliciting stories and literature reviews	Making things better
Context	Situational **trigger** mediating consumer action	Often found by watching and listening in many places, including diary studies	
Activity	Directed **solution**: fixing a problem or replacing what is missing	Found through observation of customer executing activity	
Interaction	Specific product **requirement** satisfying usability requirements	Interviews, usability tests, observation	Making better things

Adapted from Alice Agogino, Sara Beckmann, and Nathan Shedroff
Design for Sustainability presentation

Needs
Common
Context
Activity
Interaction

A ladder of needs

Ladder *up* by asking why?

Ladder *down* by asking how or what?

Another way to look at needs

Expressive
What does it
say about me/us?

| I'm cool | I've made it |

Emotional
How do I/we feel
about that?

| Freedom/ independence | Adventure/ excitement | Smart choice |

Purposive
What does it
do for me/us?

| Transportation | Comfortable ride | Speed | Better value |

Functional
What are the
material attributes
at stake?

Product (or service) attributes

| Two wheels | Frame | Padded seat | Chain/ pedal | Price | Availa- biliity |

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Adapted from EquiBrand Consulting