User-centered approach to Product Development

Industry view
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What will be covered

• User-centered product development approach
• Building empathy for our customers and why user research and usability testing matters
• Get cross functional teams on the same page when applied to product development process
• Examples from industry - few examples and tips
Everyday experiences

• What if you could know how to build great services - so our customers won’t have the
  • Trader Joe experience (new chip cards)
  or
  • DMV experience (multiple visits because documentation was incomplete)

• What if you knew ahead of time why you are building/developing what you are building
Age of the customer

Figure 1 We Have Entered The Age Of The Customer

1900  Manufacturing  1960 Distribution  1990 Information  2010 Customer

- Ford
- Boeing
- GE
- Walmart
- Toyota
- UPS
- Google
- Comcast
- Capital One
- Amazon
- USAA
- Facebook
Age of the customer

Then and now...

anonymous consumers

user + service provider
“CUSTOMER EXPERIENCE IS THE NEW BATTLEFIELD”*

89% of companies expect to compete mostly on the basis of customer experience by 2016 – vs. 36% four years ago.
*Gartner Research, 2015

Poor customer experiences result in an estimated $83 Billion loss by US enterprises each year because of defections and abandoned purchases.
*Forbes, 2013

Customer power has grown, as 73% of firms trust recommendations from friends and family, while only 19% trust direct communication.

86% of consumers will pay more for a better customer experience.
*RightNow Customer Experience Impact Report, 2011

Customer Journey Mapping & CX Research
UI20, Boston  @MrStickdorn
Customer Experience Design: why now?

In 2015 Uber, the world’s largest taxi company owns no vehicles, Facebook the world’s most popular media owner creates no content, Alibaba, the most valuable retailer has no inventory and Airbnb the world’s largest accommodation provider owns no real estate.
Product or Service = User Experience

Analytics

Competitive analysis

Value exchange

Business Needs

Customer Needs

UX

Effort: Benefit

VOC

Behaviors

Motivation

Pain-points
Product or Service = User Experience

- KPI
- ROI
- NPS
- Conversion
- Bottom line
- Service blueprint
- Market segment
- Competitive analysis
- Analytics
- Features
- Outcomes
- Loyalty
- Value exchange
- Effort: Benefit
- VOC
- Behaviors
- Motivation
- Pain-points
- Business Needs
- Customer Needs
- UX
Product or Service = User Experience

KPI
ROI
Conversion
Bottom line
Market segment
Competitive analysis

Analytics
NPS
Outcomes
Features
Service blueprint
Loyalty

User Experience
User research
Usability
Ease of use
VOC
Delight
Behaviors
Motivation
Pain-points

Effort: Benefit

Value exchange

User Journey
Persona
User stories

User Experience

Business Needs
Customer Needs
UX
User-centered approach

Any product/service or design effort is ultimately judged by how successfully it meets the needs of both the product user and the organization that wants to make it.

To be successful we need:

1. Detailed knowledge of the user you are designing/developing for

2. The constraints of the problem

3. The business or organizational goals driving these activities
"User experience" encompasses all aspects of the end-user's interaction with the company, its services, and its products.

_Nielsen Norman Group_

"User Experience (UX) refers to a person's emotions and attitudes about using a particular product, system or service. User experience includes the practical, experiential, affective, meaningful and valuable aspects of human–computer interaction and product ownership”

_Wikipedia_
User-centered product development
User-centered product development

Co-define  Co-design  Co-develop
User-centered product development

Co-define  Co-design  Co-develop
User-centered product development

Co-define  Co-design  Co-develop

Informing what we build through user empathy
User-centered product development

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Informing what we build through user empathy
User-centered approach
Modeling the USER
if we look at the user needs

Alessandro’s goals
• Go fast
• Have fun

Marge’s goals
• Be safe
• Be comfortable

Dale’s goals
• Haul big loads
• Be reliable

Reference: About Face- the essentials of interaction design. Alan Cooper, Reimann, and Cronin; Wiley
Modeling the USER

If we try to meet everyone’s need, the outcome is this!
The purpose is to identify different groups (segments) of customers within a market so that it is possible to target particular products, services or marketing messages.

Based mainly on quantitative research

- Demographics (gender, age, income, tech savvy etc.)
- Purchase Behaviors/Buying
- Preferences and Patterns
- Affiliations

*Market segments are based on demographics, distribution channels, and purchasing behavior.*
beyond statistics…
Putting customer at the center requires genuine understanding of the customer

Statistics can be misleading
For example, take two people - both born in 1948 in UK, married, successful, 2 kids, love dogs and the Alps
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User centered design

**beyond statistics...**
Putting customer at the center requires genuine understanding of the customer

**Statistics can be misleading**
For example, take two people - both born in 1948 in UK, married, successful, 2 kids, love dogs and the Alps

Yet they are different - so to create value for each of them requires understanding their **individual service experience** and their **disparate mindsets**
Usability Research – **Objective measure of what you do**

- Answers the question: Does the product fit the intended user? Can people use it and make sense of it?
- Given a concrete task people respond with – great! Loved it!
- Identifies errors and where they occur
- Measures objective performance
- Measures behaviors using a concrete tasks – how did you do?
- We are looking for patterns of behaviors – what they are using is driving their behavior that you are seeing?
- What is your success criteria
Market research

Market Research– has to do with **what you think or how you feel**

- Answers the question: Is the concept something that customers will like, want and buy? How much will they pay for it? How do you feel?
- Market analysis & market intelligence
- Demographics (Age, gender, income, cohort, tech savvy etc.)
- Trends
- Measures affective responses (feelings)
- Asks to predict future behaviors (iffy data)
- Acceptability, price point
Why user testing?

• Confirm design decisions (validate assumptions developers build into designs)
• Identify user errors & problems areas
• To see if the product works with customers in the same way the design team envisioned
• To avoid “surprises” when you’re finished
• Because you (the Designer) are not the user!
• You are too close to your work so you cannot be objective
• Compare multiple design options (version 1.0 vs version 2.0); compare with competition
Additional reasons for user testing

- As a performance baseline for future versions (MVP).
- It takes argument out of the realm of personal opinion and discussion – it is hard to argue with people who pay your bills.
- Political reasons:
  - Gain project support & funding
  - Stop a project so you don’t waste $$$
  - Win industry reviews
- In some applications the ramifications of errors could be fatal – Return to Salute - hatch example
Usability testing - Data is your friend

• One point of data - get under the hood (the C level executive)
• Taking argument out of the conversation
• Senior executives always want to see numbers
• They also like external validation

Get out of the lab - talk to real users
  • Self referential design (you acting as a user)
Usability also defined as - Effort:Benefit

It's a ratio, it is subjective, and it changes over time.

effort:benefit = value

Reference: Tim Shea
Usability defined as - Effort:Benefit

Examples:

- Weight loss
- Credit card - Amazon
- Benefit should be immediate or transparent (even when in the future)
- Hard to learn - Efficient to use

Reference: Tim Shea
Focus on core problems

- Featuritis - you can get distracted
- Including marginal use cases and outliers
  - It can make things difficult to use
  - The 95-5 rule - points of interest example
- Prioritize the key problems you want to tackle (MVP)

Example:

**Challenges:**
- Fix Return rate (34%)
- Move to new Platform
- ID cycle time (many SKUs)
- Development time
- Can’t change UX logic
- Need for competitive offering

**Tactical solution:**
- Analyze CS Calls
- Fixed top 5 UX issues
- Return rate down to 4%
- Modified logic (targeted)
- Graphical refresh
- New ID
StubHub (Design - before)
Optimize!

StubHub:
Outcomes/ KPIs - navigation, conversion, reduce customer calls, NPS (net promoter score)
YP - Sales experience- user testing

KPIs: Reduce time at prep and visit, Navigation, Conversion (contract), Reduced CS calls (post visit)

Shopping Cart – user research feedback

Suggested label change:
- Rename to ‘Proposal’ or ‘Marketing Solutions’

Discount code icon:
- Some sales reps were not aware of the icon they could click to enter discount codes
- Ability to hide discounts by default – Sales reps are only interested in showing ‘Net price’
- Need some discretionary flexibility in discounts
- Don’t show discount so ROI is not red off the bat

Proposals:
- Proposals prepped in office are not being saved

Create multiple proposals:
- Suggested ability to create and save multiple proposals before time of meeting customer
- Show Low-Medium-High (3) options
- Ability to email and print proposals

Account review:
- Some sales reps did not open this to show explanation to customers in lieu of a contract documents
- Would like to see performance of existing products
- Current traffic reporting very helpful for sale (must be local region to be meaningful)

“Shopping Cart kind of has a negative connotation of loss, of debt... you put something in your shopping cart and have to really think, ‘Do I like this? Do I want this?’”
Usability Testing Sample

Top Choice

Why testers picked this design:
- Simple, clean, warm, friendly, clutter-free design
- All the important information regarding the business (such as logo, name, phone number, address, hours of operation etc.) is visible right away and is in one place
- Additional information about overview, services etc. can be accessed easily by expanding topics.
- However, they wanted to see if insurance info can be included (priority over payment type). Users did not like text heavy templates.
- They liked the photo (on top) that they can relate to - gives a warm/fuzzy/friendly feeling and feeling of trust (they suggested a family photo, since this design was for family dentistry services)
- Many liked access to ‘Request info’ next to ‘Call now’ (but also many didn’t think they would use ‘request info’). They liked the placement of call button at the bottom
- Some suggested/expected directions (or map upon clicking address)
Section 3: Detailed evaluation

- User is barely in the App and it is asking an action they can’t perform because it is unclear whether I have to ask my friend for their code or do I look for the code somewhere (it is unclear if there are multiple codes).
- I understand there are different codes for different charities. In that case two filters are needed — choose which friend and choose their charity.
- Grey bar was almost imperceptible
- Need larger font
- Bring bar up in the middle
- Change the background color to something that contrasts with blue background — I also used shadow to make it pop
- Need to say ‘Characters’
- See proposed solution in section 3
Section 4: Suggested changes and recommendations

- Grey bar was almost imperceptible
- Need larger font
- Bring bar up in the middle
- Change the background color to something that contrasts with blue background – I also used shadow to make it pop
- Need to say ‘Characters’
- Use this design for hamburger menu – Industry standard and allows for much larger and clear space for lists and easy way to go back
- Icon is too small to discern and to click
Small delights create huge impact

Magellan GPS device - ‘One Touch’ feature

Apple examples

• integrated apps and
• creating seamless experiences
• meeting user expectations - swipe (under 300 milliseconds)
Meeting user expectations - benchmarks

API

**Swipe(el)**
Create a swipe object for `el`. This should be a container element that wraps a list of several items. View `/example.html` for a working example.

**.threshold(n)**
Set the swipe threshold to `n`.
This is the factor required for swipe to detect when a slide has passed the given threshold, and may display the next or previous slide. For example the default of `.5` means that the user must swipe beyond half of the side width.

**.fastThreshold(ms)**
Set the "fast" swipe threshold to `ms`.
This is the amount of time in milliseconds which determines if a swipe was "fast" or not. When the swipe's duration is less than `ms` only 1/10th of the slide's width must be exceeded to display the previous or next slide.

**.duration(ms)**
Set the transition duration, defaults to 300ms.

**.interval(ms)**
Set the cycle interval, defaults to 5000ms.

Reference: [https://github.com/component/swipe](https://github.com/component/swipe)
Cultural context matters

- Case of the pebble shaped black phone for Asian market
- Stocks and stop lights
Some tips - how many to test

Quantitative Tests
- 20+ users per condition
- Careful experimental design essential
- Reliability and validity

Qualitative
5-7 users will allow you to capture upwards of 85% of the problems
sometimes 10-13 (if user base is broad)

Interviews:
- Tell users they are being recorded - have them sign a waiver
- It is Ok to tell them that you are using a script for the interview
to have consistency in results
- Always ask why they didn't like other options - not just what they
  liked
- Magic wand question
Some tips

Who to Test?

- People who represent your target users!
- A representative sample—NOT anyone who’s handy!
- Test major subgroups separately
- Identify likely users (“but we want everyone to use our site!”)
- Prioritize
- Find out who Marketing is primarily targeting

Recruiting Participants

Customer lists

- Market research firm ($50-$200)
- Temp firms, help-wanted ads
- Internal studies: management chain

Avoid super-users
Research helps us understand the gap between the promise and the actual delivery of the service.

Helen's Journey
“Why can’t anyone help me?”
When usability is not enough

What Usability Can’t Do

• Substitute for good UI design
• Create an elegant UI design
• Make-up for not understanding your customers
• Compensate for targeting the wrong users of your product

Example:
Lotus software - product was fine tuned after extensive and iterative usability testing
- the best usability testing can’t compensate for fundamentally misunderstanding your customers’ needs. This is an example of a well designed product that no one wanted.
Have you ever wondered why people are bouncing from your nearly-frictionless onboarding flow? Why the same change can result in a lift on one page and cause drop-off on another? Or why people who find you via search bounce away after a few moments?

Learnings

1. Every element on the page adds or subtracts emotional energy
2. Inspiring users is as important as reducing friction

A secret of the top growth experts in tech is to think about every UX interaction as an emotional event. But far from being random or beyond our control, emotion-driven interactions can be broken down into components, optimized at each step and replicated to get better results for onboarding and conversion.
Industry trends
The Basics of Micro-Moments

Want to develop a strategy to shape your consumer’s decisions? Start by understanding the key micro-moments in their journey.

**micro-moment** | mīkrō-mōmənt

**NOUN**
An intent-rich moment when a person turns to a device to act on a need—to know, go, do, or buy.
There are 4 game-changing moments that really matter.

**I-want-to-know moments:**
When someone is exploring or researching, but is not necessarily in purchase mode.

**I-want-to-go moments:**
When someone is looking for a local business or is considering buying a product at a nearby store.

**I-want-to-do moments:**
When someone wants help completing a task or trying something new.

**I-want-to-buy moments:**
When someone is ready to make a purchase and may need help deciding what to buy or how to buy it.

In these moments, consumers want what they want, when they want it—and they’re drawn to brands that **deliver on their needs.**
Micro Moments

Be there:
Anticipate the micro-moments for your target audience, and commit to being there to help when those moments occur.

Be useful:
Provide a digital experience that's relevant to consumers' needs in the moment, and quickly connect people to the answers they're looking for.

Be accountable:
Create a seamless customer experience across all screens and channels, and measure the collective impact across them, too.

For more insights, recommendations, and case studies, read our complete guide to micro-moments:
thinkwithgoogle.com/micromoments-guide


http://microinteractions.com/what-is-a-microinteraction/
New frameworks

It is a systematic way to detect and improve the way an experience affects user emotional energy, which we call “psych”.

The Psych Framework

http://andrewchen.co/psychd-funnel-conversion/
UX research trends - 2016 Google I/O

25% of apps aren’t used more than once

34% of apps aren’t opened more than 11 times

Localytics, June, 2015
UX research trends - UserTesting 2015 survey

1) Which of these choices best describes your role?
- In-house: 56.4%
- Independent consultant / freelance: 20.3%
- Consultant at an agency: 13.1%
- Business owner: 10.2%

2) Which team in your company finds the most value in UX research?
- Engineering: 6.7%
- Other: 7.3%
- Marketing: 17.2%
- UX: 22.5%
- Product: 21.9%
- I'm not sure: 23.3%

3) What do you think will be the most important online trends affecting UX research in the next 5 years? (Select all that apply)

- Omni-channel experiences: 35.2%
- Wearable tech: 40.2%
- Voice interaction: 35.2%
- Touch interfaces: 35.2%
- Smarthomes: 31.5%
- Multi-device interaction (smartwatch to phone or...): 60.2%
- Gesture-based interaction: 27.1%
- Global UX design (designing for emerging...): 39.5%
- Other (please specify): 5.2%
UX research trends - UserTesting 2015 survey

6) Out of the budget you just indicated, which of the following methodologies do you invest in? (Select all that apply.)

- Longitudinal studies: 6.3%
- Preference testing: 18.0%
- First click testing: 18.8%
- Tree testing: 11.1%
- Card sorting: 22.8%
- Diary studies: 8.1%
- Eye tracking: 11.7%
- Surveys: 17.3%
- Interviews: 40.8%
- Focus groups: 29.3%
- Field studies: 28.0%
- Usability testing: 71.8%
- Other (please specify): 20.6%

8) What was the reason for the change in your company’s UX research budget?

- No change: 52%
- Increase or decrease in projects: 32%
- Change in attitude towards usability testing: 27%
- Other: 8%

9) What percent of your time is spent conducting usability tests?

- 0%: 15.5%
- 1-25%: 14.8%
- 26-50%: 5.0%
- 51-75%: 1.9%

10) What percentage of your company’s usability testing is done in-person?

- 0%: 23.3%
- 1-25%: 31.8%
- 26-50%: 15.3%
- 51-75%: 10.9%
- 76-100%: 13.7%
UX research trends - UserTesting 2015 survey

13) How does your company recruit participants for your usability testing? (Select all that apply)

- Professional recruiting service: 38.1%
- Usability testing services: 32.3%
- Social media: 24.6%
- Mall/airport testing (soliciting in public areas): 16.5%
- Existing users: 15.9%
- Job boards (Craigslist, etc.): 14.7%
- Panel agency: 15.3%
- Other (please specify): 13.4%

14) On average, how many users does your company recruit per usability study?

- 1-5: 37.6%
- 6-10: 30.7%
- 11-20: 14.9%
- 21-50: 7.5%
- 51-100: 6.2%
- 101-200: 3.4%
- 201-500: 1.4%
- > 500: 1.9%

15) How frequently does your company run usability tests?

- Annually: 1.3%
- Bi-annually (twice a year): 4.7%
- Quarterly: 15.0%
- Monthly: 23.2%
- Weekly: 9.8%
- Daily: 5.2%
- As needed: 36.0%

22) What does your company currently run usability testing on? (Select all that apply)

- In-the-wild testing: 11.5%
- Email: 8.3%
- Omni-channel Websites: 25.4%
- Software: 42.4%
- Social media accounts: 13.1%
- Tablet sites: 24.0%
- Tablet games: 23.8%
- Tablet apps: 43.3%
- Mobile sites: 26.7%
- Mobile apps: 42.8%
- Marketing campaigns: 26.1%
- Competitors: 19.7%
- Other (please specify): 7.1%
Some useful resources

UsabilityTesting.com
UserZoom.com
UsabilityHub.com
https://www.hotjar.com/
https://github.com/components
YP.com does have internships - recently got bought by Dex Media (data science, engineering, UX, and more)

Samsung as well

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