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
Figure 1: We have entered the age of the customer.

- **1900**: Manufacturing
  - Ford
  - Boeing
  - GE

- **1960**: Distribution
  - Walmart
  - Toyota
  - UPS

- **1990**: Information
  - Google
  - Comcast
  - Capital One

- **2010**: Customer
  - 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 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

Value exchange

Business Needs

Customer Needs

Effort: Benefit
Product or Service = User Experience

Value exchange

Effort: Benefit

Business Needs

Customer Needs

UX
Product or Service = User Experience

- User Experience
- UX Journey
- User stories
- Persona
- Delight
- Ease of use
- Usability
- Conversion
- ROI
- KPI
- NPS
- Outcomes
- Service blueprint
- Loyalty
- Bottom line
- Market segment
- Value exchange
- Effort: Benefit

Business Needs
Customer Needs
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
What is User Experience?

**Empathy toward target users**

"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_

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

Co-define  Co-design  Co-develop
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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

Discover
- Observing customers in their workplace
- Listening to problems and suggestions
- Learning what is meaningful

Design
- Reflecting on customer needs
- Brainstorming new ideas
- Sketching design concepts

Evaluate
- Testing concepts with customers
- Measuring the results
- Improving designs

Our Customer
Modeling the USER
Market segmentation

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
User centered design

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Yet they are different - so to create value for each of them requires understanding their individual service experience and their disparate mindsets.
Usability research/ testing

• 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 - 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
Optimize!

Magellan GPS device - day and night map color optimization
Optimize!

StubHub:
Outcomes/ KPIs - navigation, conversion, reduce customer calls
Small things matter - labels

Another example

YP Post-sale Scan status labels
Usability Testing sample

Template top choice

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)
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
Cultural context matters

- Case of the pebble shaped black phone for Asian market
- Stocks and stop lights
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.
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 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?”
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: 3.3%
- Marketing: 37.2%
- UX: 22.1%
- Product: 32.8%
- I'm not sure: 25.3%

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%
- Smart homes: 31.5%
- Multi-device interaction (smartwatch to phone or...): 60.3%
- 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%
- Card sorting: 33.3%
- Diary studies: 9.1%
- Eye tracking: 11.7%
- Surveys: 57.3%
- Interviews: 48.0%
- Focus groups: 26.2%
- Field studies: 26.0%
- Usability testing: 71.8%
- Other (please specify): 26.8%

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

- Ask for change: 52%
- Increase or decrease in profits: 13%
- Change in attitude towards usability testing: 21%
- Other: 6%

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

- 0%: 13.5%
- 1-25%: 62.7%
- 26-50%: 14.8%
- 51-75%: 5.3%
- 76-100%: 3.9%

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

- 0%: 23.3%
- 1-25%: 36.8%
- 26-50%: 15.3%
- 51-75%: 10.9%
- 76-100%: 11.7%
UX research trends - UserTesting 2015 survey

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

- Professional recruiting service: 18.1%
- Usability testing services: 32.2%
- Social media: 24.6%
- hallway/guerilla testing (soliciting in public areas): 18.3%
- Existing users: 57.9%
- Job boards (Craigslist, etc.): 14.7%
- Panel agency: 15.5%
- Other (please specify): 11.4%

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

- 1-5: 37.6%
- 6-10: 26.7%
- 11-20: 14.9%
- 21-50: 7.5%
- 51-100: 6.2%
- 101-200: 1.8%
- 201-500: 1.4%
- > 500: 1.3%

15) How frequently does your company run usability tests?

- Annually: 1.7%
- Bi-annually (twice a year): 4.7%
- Quarterly: 15.0%
- Monthly: 23.2%
- Weekly: 19.8%
- Daily: 5.2%
- As needed: 16.6%

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

- In-the-wild testing: 11.5%
- Email: 11.5%
- Omni-channel: 9.9%
- Websites: 32.4%
- Software: 11.7%
- Social media accounts: 13.1%
- Tablet sites: 13.1%
- Tablet games: 24.0%
- Tablet apps: 23.3%
- Mobile sites: 43.3%
- Mobile games: 43.3%
- Mobile apps: 42.8%
- Marketing campaigns: 24.7%
- Competitors: 29.7%
- 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
(data science, engineering, UX, and more)

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