

**fresh tilled soil**



**HARVARD UNIVERSITY**  
Information Technology

# Initial Findings

# Research Review

Initial analysis of **site analytics**, followed by...

19

in-depth **interviews**

*qualitative feedback and issue prioritization*

10

moderated **card-sorting** sessions

*quantitative and qualitative understanding of mental models and IA challenges*

114

unmoderated IA **tree-testing** sessions

*contextual feedback and evaluation of initial solution hypothesis*

**Participants included:**

faculty

faculty liaison

academic staff

administrative staff

IT providers at schools

HUIT staff

students

# Site Analytics Findings

Review of site analytics, inbound traffic, and on-site search from 7/20/2015 – 7/20/2016

## Search is dominant

63% of traffic comes from organic search (mostly Google), only 28% direct and 9% referral. Most common search terms are “software”, “vpn”, and various specific software programs.

Search Term	Total Unique Searches
software	260
vpn	248
endnote	244
microsoft office	232
matlab	192
stata	183
accellion	181
spss	173
service now	150
papercut	132

Searches for “vpn” appear to spike several times during the year: Dec 20th-25th, Feb 7th-13th, and May 22nd-28th. These may be associated with times that students, faculty and staff expect to be leaving campus for vacation, and are thus researching how to set up VPN access in order to continue work.

# Interview Findings

19

## in-depth interviews

*Hour-long interviews with 19 members of the Harvard community, including IT, administrative, and academic staff.*

### Issue #1:

Site is overwhelming, lacks focus

### Issue #2:

Site doesn't connect users to the right resources as well as it could

### Issue #3:

Navigability is challenging, leading users to rely on Google searches or personal connections

## Issue #1:

# Site is overwhelming, lacks focus

### Interview responses:

“There’s a lot of use of pull-downs. Things are buried. There’s just **so much information**, there’s a tendency for things to get buried.”

“Trying to service both internal and external users might be part of the weakness today. Are you HUIT staff? A department administrator? Or just faculty or staff looking for help with email? If the site knew this, it would make it much easier than just **throwing everything at them at the same time.**”

“It’s **such a huge group**, you could spend your whole time not knowing that Harvard Phone is part of HUIT. If you’re having issues with one area, you want to know where you can go. I know this today just by asking people.”

## Issue #2:

# Site doesn't connect users to the right resources as well as it could

### Interview responses:

“I don't think website is horrible, there's a lot of good things there. Everything they support should be able to be found on their website, and that's not the case today, like with wikis and WebEx information. **It just needs to be more connected** with the other HUIT websites, and have more information on it.”

“My ideal vision is that we have One Harvard where we are effectively using resources for IT, not being redundant, keeping in mind that the HUIT website should really focus on this One Harvard idea. **Keeping the voices of other schools and partners in mind.**”

## Issue #3:

# Navigability is challenging, leading users to rely on Google searches or personal connections

## Interview responses:

“We use hard links for the website for things we need, and I’ll Google a lot. I bookmark things because **if I went to the site, it would take a long time for me to find it.**”

“It comes down to **who you know** rather than what you know.”

“**I find it easier just to Google** and when I talk to IT, they’re Googling too. Even the IT people tell me to Google. There’s so many branches of IT and you never know who to go to for what, and they’re always reorganizing IT.”

“You have to be on certain [email] lists and if you’re new **how do you know to be on a certain list**, like to tell you if VPN isn’t working.”

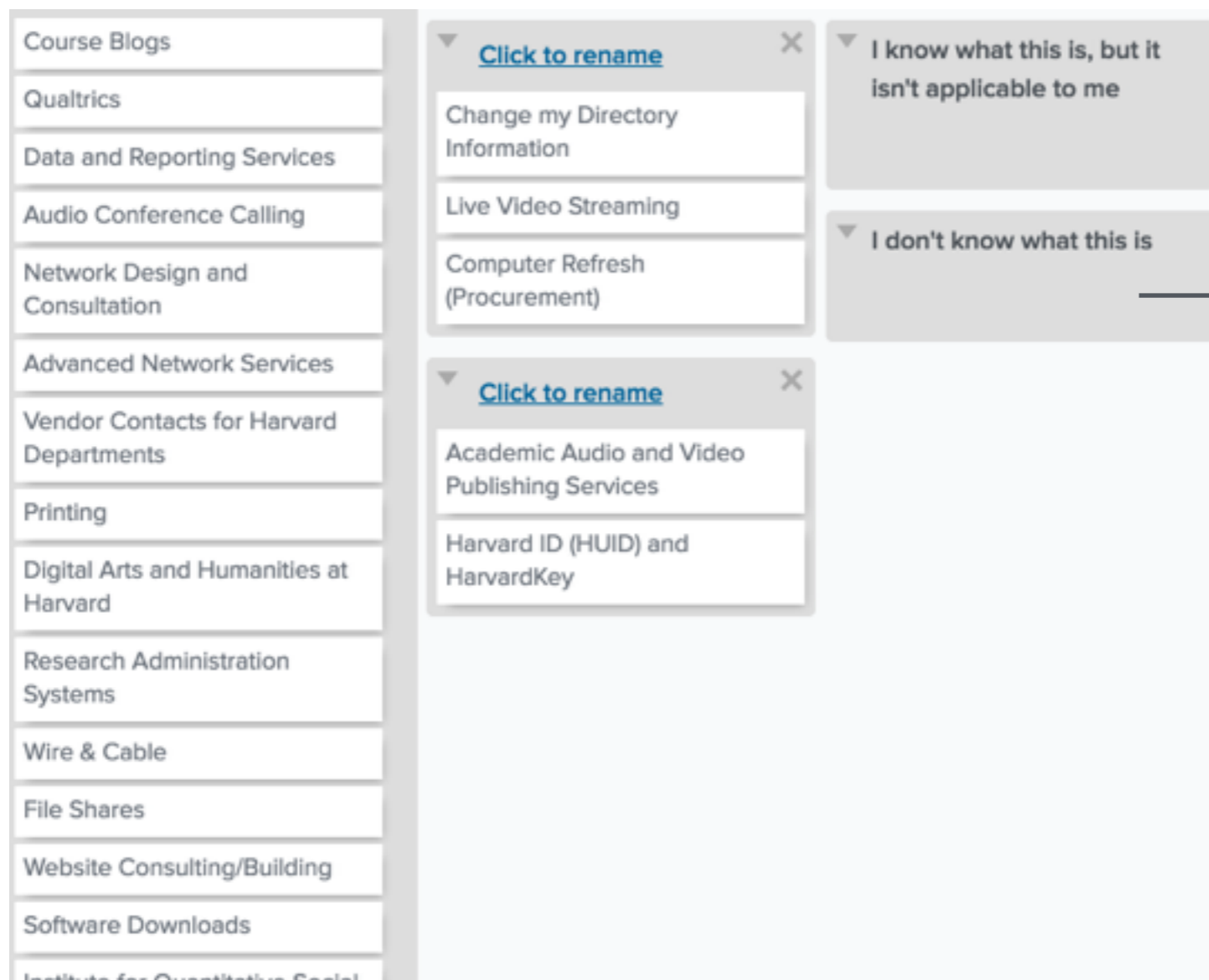


# Card Sort Findings

10

moderated **card-sorting** sessions

*Hour-long tool-assisted interviews with 10 members of the Harvard community, including IT providers, administrative, and academic staff, and a faculty liaison.*



*Working with a moderator, users dragged content blocks from the list on the left into self-defined categories. If the user didn't understand what the content meant, or felt it was not applicable, the content was sent to the relevant pre-defined category (the gray boxes on the right)*

# Common User-Generated Categories

- Login and Identity Management
- Email & Calendars
- Information Security
- Academic Web Sites & Web Publishing
- WiFi & Networking
  - WiFi
  - Networking Services
- Phone/Telecom
- Software Tools & Services for:
  - Students
  - Faculty
  - Staff/Admin
- Purchasing Hardware
  - IT Procurement
  - Buy/Lease Computers
- Library, Data and Research Services
  - Library Services
  - Data Services
  - Digital Media
  - Research Computing
- Administrative, Personnel & Finance Systems
- IT Infrastructure
- IT Training & Learning
- IT News & Events
- Business Applications & Services

**TAKEAWAY:** Users generally categorized site content the same way it is organized today, indicating that the current IA structure is relatively intuitive

# Commonly Excluded Content

## “I don’t know what this is”

- Administrative Systems Design and Implementation
- Collection Management Applications
- Network Load Balancing
- IMAP Configuration
- Gartner Research
- ICEMail
- Network Strategic Lifecycle Planning

## “This doesn’t apply to me”

- Security Vulnerability Assessment, Penetration Testing, and Code Analysis
- Digital Arts and Humanities at Harvard
- Consulting and Planning on Library Technology
- Managed Hosting Services
- Network Design and Consultation
- FAS Research Computing
- SharePoint for Harvard

**TAKEAWAY:** Users indicated that more technical IT resources were not understood or not relevant, suggesting that this content might not be useful for this audience

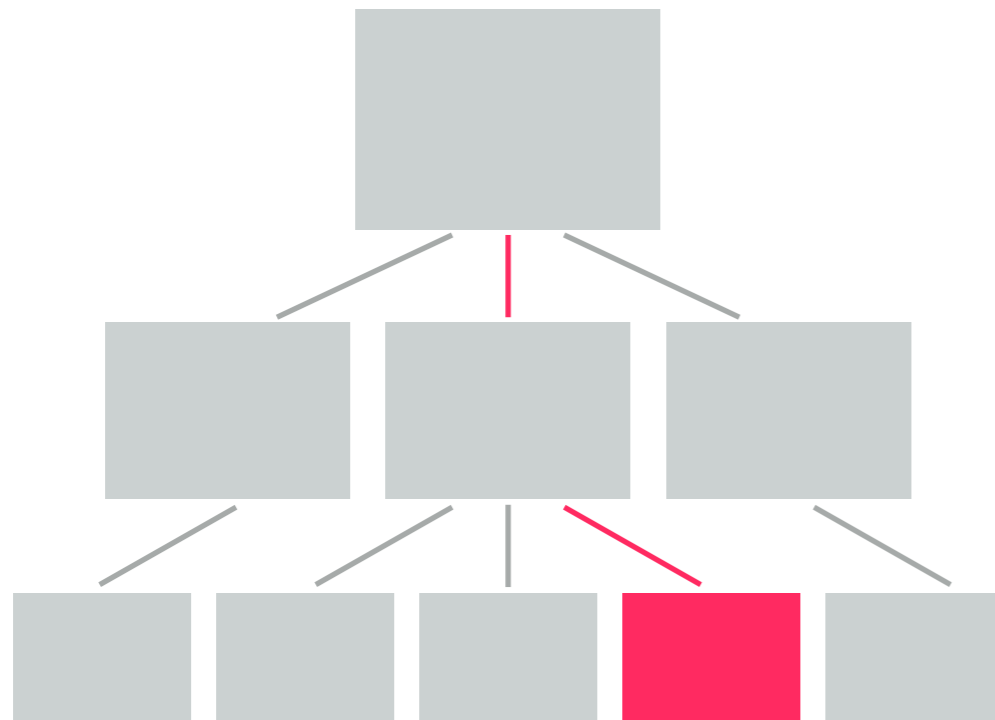
# IA Hypothesis

If the **current site structure** is close to the way that users intuitively organize this information,

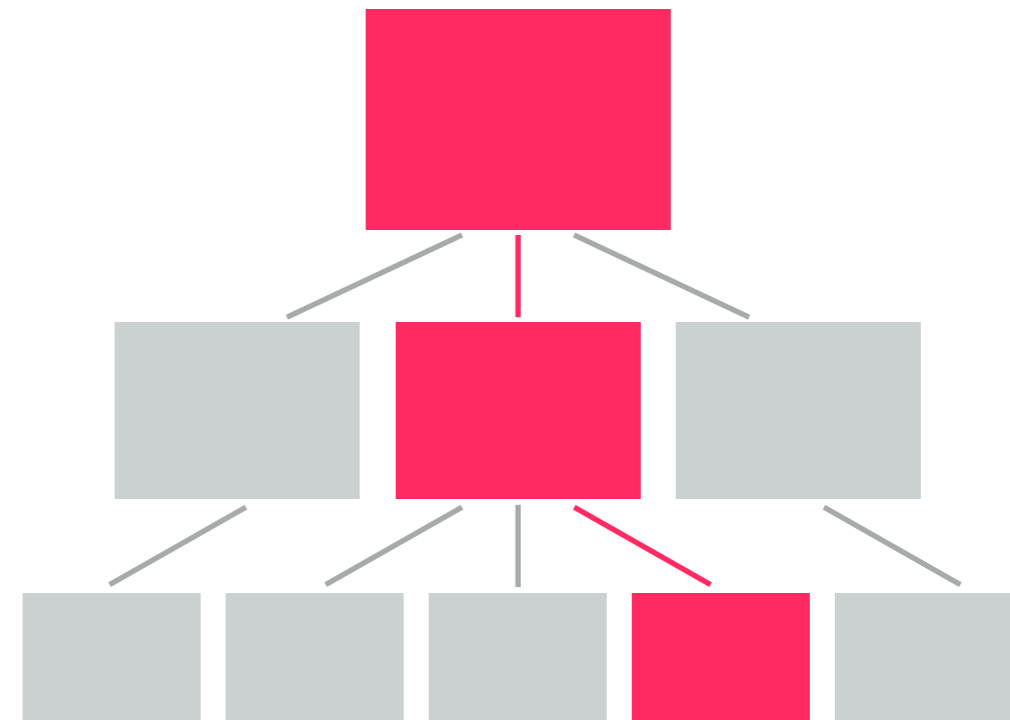
***why do people still find the site hard to use?***

HYPOTHESIS:

It's not a **structure** problem, it's a **flow** problem.



The service hierarchy does a good job of showing the full breadth of services, but gets overwhelming when someone is trying to **accomplish a specific, focused task**; they must imagine a conceptual path through to the end, rather than being guided. Even if the path coincides with their intuition, it is still **mentally taxing**.

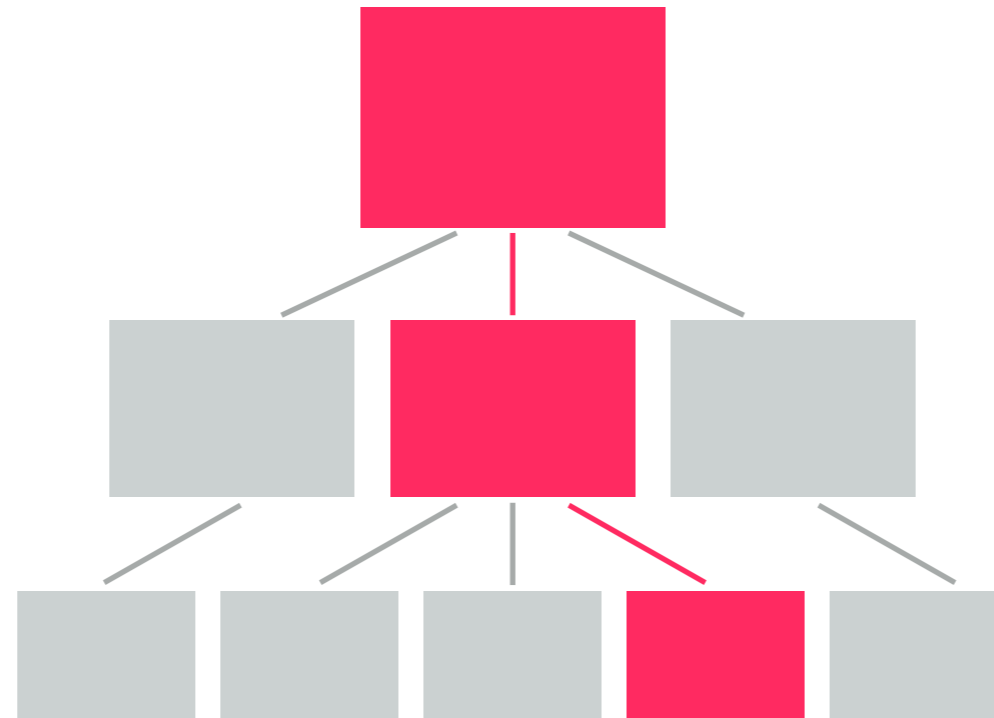


Including a more **task-oriented path** through the site with user-centered language will help guide people to the solutions to their self-service problems. The beginnings of this structure exist in “**Resources for...**” and “**I want to...**” modules, but these are not visually promoted.

# Experimental Results

HYPOTHESIS:

It's not a **structure** problem, it's a **flow** problem.



**Result:** The evidence does **not** confirm this hypothesis.

Although we saw increased completion rates on many tasks, the failure rate and time-on-task remained high, suggesting a **different or more fundamental problem is the root cause of navigation issues.**



# Tree Testing

114

unmoderated IA **tree-testing** sessions

*self-guided, task-driven navigation through the existing and proposed IA by members of the Harvard community, including IT providers, faculty members, a faculty liaison, students, a student liaison, and academic, administrative, and HUIT staff*

Task 1 of 12

[Skip this task](#)

You are unable to get on the Harvard wireless network. Where do you look for help?

huit.harvard.edu

▼ Resources For...

Resources for Students

Resources for Faculty

Resources for Staff

Resources for IT Service Providers

Users were given specific tasks, and asked to navigate through the current and proposed information architecture to find the specified content.

## RESULTS:

**Despite an 18% improvement in overall task completion rates, neither time-to-find nor directness of route improved, indicating continued issues with the navigational model**

### Existing IA

#### Overall

##### Success



##### Directness



##### Time Taken



### Proposed IA

#### Overall

Still a problem!

##### Success



##### Directness



##### Time Taken



The tasks that saw the most improvement were those where users were asked to get help with a **specific problem**, where they tended to use the task-focused “**get help with a problem**” path to find the correct result. (see *Appendix for details on selected tasks*)

If an improved hierarchy and task-driven flows don't fully address the navigability problems,

***what could be the  
root cause?***

## FINDING #1:

**For the quantity of content we have, many users are uncomfortable navigating a tree structure **at all**, even one that corresponds well with their intuitions.**

### Post-Test Feedback:

**Too many layers** to find what you're looking for. HUIT website needs to be rebranded and rebooted. Colleagues and staff just don't have the time to do the research and instead they call for help. Simplify the website, make it a more flat organization structure. Key to a good website is to find something in 30 seconds or less.

For me having a robust search engine on the site works best. I find that the category titles aren't always good indicators of the sub categories. **If you have to go more than a couple of levels down into a site it becomes a tedious effort.**

### Hints from initial interviews:

“There’s a lot of use of pull-downs. Things are buried. There’s just **so much information**, there’s a tendency for things to get buried.”

“Trying to service both internal and external users might be part of the weakness today. Are you HUIT staff? A department administrator? Or just faculty or staff looking for help with email? If the site knew this, it would make it much easier than just **throwing everything at them at the same time.**”

“It’s **such a huge group**, you could spend your whole time not knowing that Harvard Phone is part of HUIT. If you’re having issues with one area, you want to know where you can go. I know this today just by asking people.”

## FINDING #2:

# Users **really** want to use search as a primary method of interaction and discovery.

## Post-Test Feedback:

For several tasks, such as how to setup/access VPN, **I would have started by searching "VPN" as opposed to clicking around the website.** Sometimes I get confused by where I used to find information and where it is now. For example, I used to go to the NOC for VPN access information, but that doesn't seem to be the case anymore. I also sometimes get confused by what parts of the HUIT site are for HUIT staff versus the entire University.

Ugh. That was difficult and didn't get easier (for the most part) with familiarity. I had to do way, way too much clicking around. This exercise has reinforced for me that what I currently do is best. **I google for the information I'm looking for.** If I can't find it, I call the Service Desk.

For several of these tasks, **I would absolutely start with a Google search instead.** I also think it is interesting that for several of the tasks I'd expect to have a direct link from the home page -- and that is actually true right now for half of the tasks. I recommend that the most important tasks are highlighted on the home page to keep navigation to a minimum.

**I tend to use search fields heavily** rather than try to guess the hierarchy/content strategy of a website.

**I use the search function to find most everything** and that is my issue with the site. Example - what may exist on security.harvard.edu may not be found on huit.harvard.edu. You need to know it exists there. Vastly improve searching algorithms.

Rather than a tree of choices, the entire website should be well indexed by something like Google site search, and **i would rather have a search box prominent** on an "I need help" page.

For me **having a robust search engine on the site works best.** I find that the category titles aren't always good indicators of the sub categories. Also if you have to go more than a couple of levels down into a site it becomes tedious

This was a painful survey. I don't think this is how people use the internet. I access the HUIT website, but entirely through google. I hit the org chart frequently, but I don't go to the site, I search google for "huit org chart" and grab the first hit. **Clicking through menus is horribly inefficient.** All resources should be reachable through a reasonably simple google search. If it's not, you should worry more about SEO -- it may be super-buzz-wordy at the moment, but it is for a reason -- that's how people use the internet.

## FINDING #3:

**Some of the site content **distracts from users' core expectations** of finding service and support.**

### Post-Test Feedback:

Putting news at the top of that menu is **very self-centered**. Chances are that's not what most people are coming to the website for.

For several tasks, such as how to setup/access VPN, I would have started by searching "VPN" as opposed to clicking around the website. Sometimes I get confused by where I used to find information and where it is now. For example, I used to go to the NOC for VPN access information, but that doesn't seem to be the case anymore. **I also sometimes get confused by what parts of the HUIT site are for HUIT staff versus the entire University.**

# Recommendations

# Recommendations Summary

Recommendation	Goal	Recommended Approach
Audience focus	Reduce overall per-audience content load to aid navigation	Break the HUIT website up into multiple audience-focused sub-sites
Improved search	Quickly drive users toward the right content when they search	Make search more prominent and provide curated results for common queries
Visual clean-up	Once users have found the right page, allow them to easily scan and consume the content	Reduce visual clutter, navigation and sub-modules across the board
Smart shortcuts	Reduce search and navigation needs for most common tasks	Add and improve homepage shortcuts to common services and user needs
Self-serve path	Create an easy and quick alternative to the help desk for getting questions answered	Provide self service options (if possible) before creating a support ticket



RECOMMENDATION #1:

**Audience focus.** Pull out the HUIT “meta-site” into its own strategically-focused property, and provide sub-sites focused on help and professional IT resources.

Sub-site	HUIT	IT Professional Resources	IT Helpdesk	Services & Tools
Audience	HUIT staff, university stakeholders, job seekers	IT professionals at Harvard	Staff, students, faculty	Staff, students, faculty, IT professionals
Goals	Communicate IT strategy, roadmaps, and initiatives	Provide guidance and resources	Solve IT problems	Provide audience-relevant services and tools as needed
Example content	About HUIT, IT Community, CIO Council, IT Strategic Plan, HUIT News	IT infrastructure, load balancing, ASDI, IT Academy	Two-step verification, WiFi setup, service dashboard, application-specific help	Canvas, HarvardKey, Office365, downloads, data services

The core organizing principle should be around **audiences**. A user-focused content model will greatly increase content relevance and discoverability.

*In phase 2, depending on further audience and task analysis, we may find that there is a need to break out additional categories (e.g. Digital Publishing, IT Security) to their own sub-sites.*

## RECOMMENDATION #2:

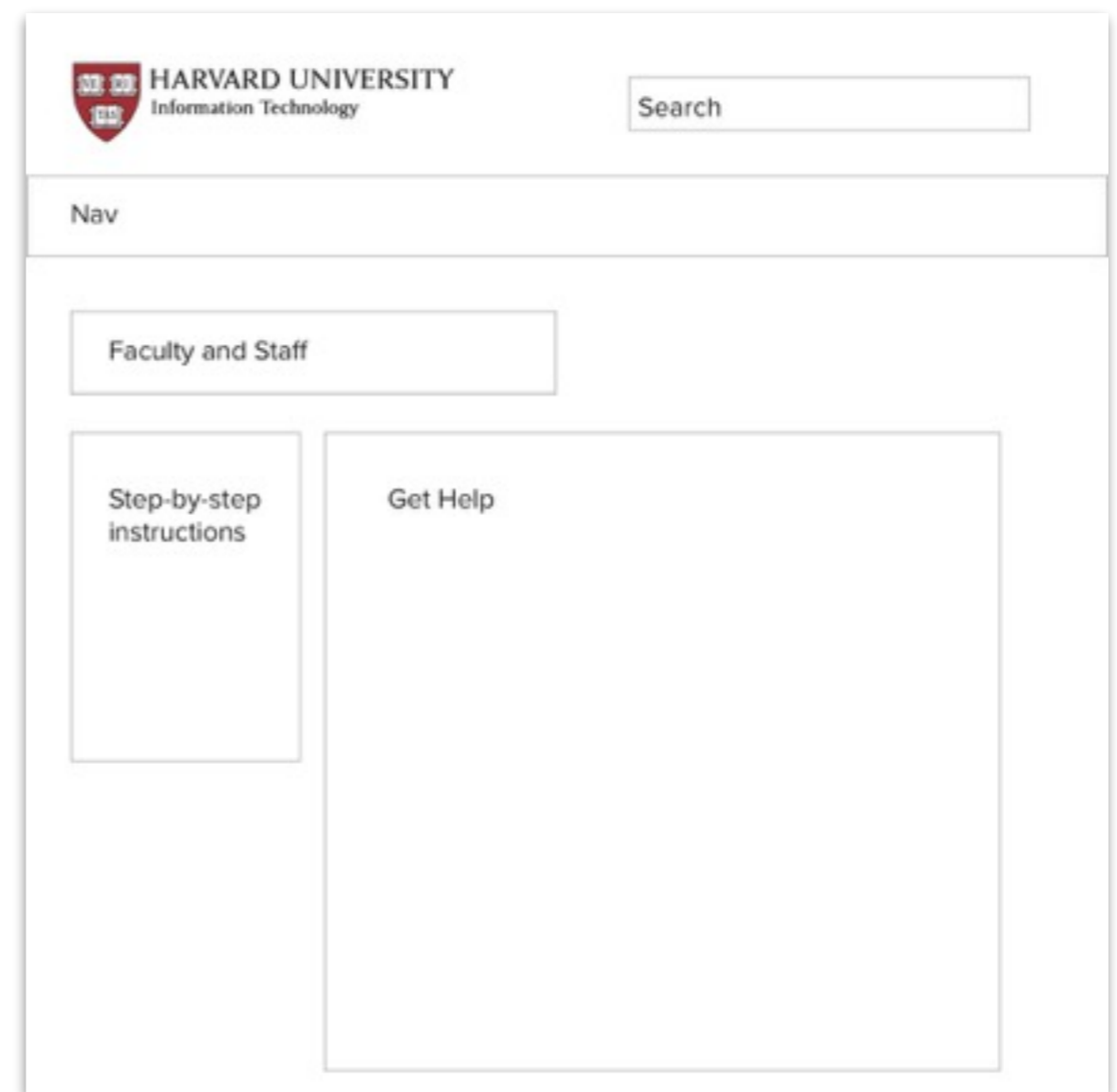
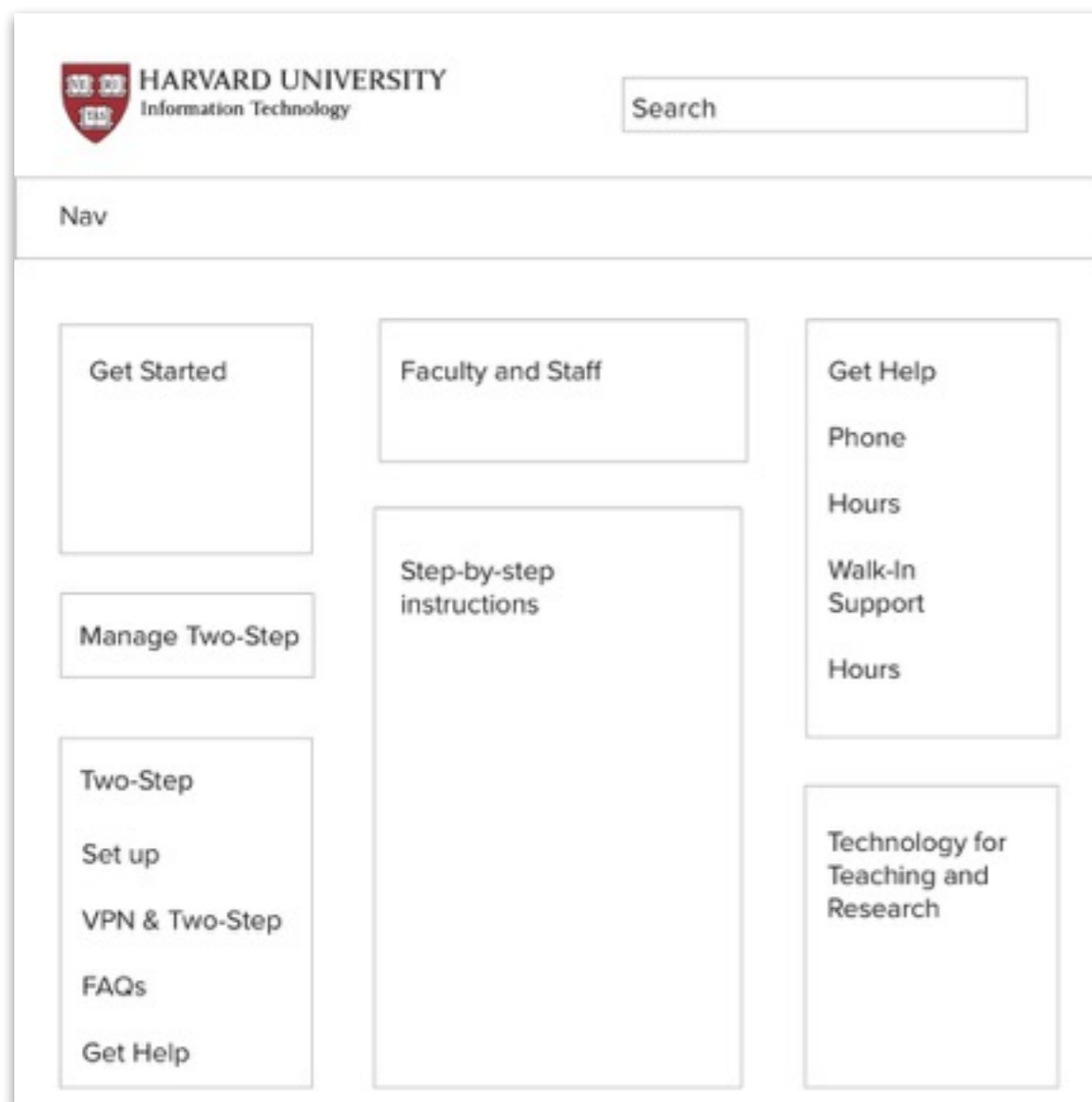
**Improved search.** Emphasize site search functionality and manually curate results for common queries.

The screenshot shows the Harvard University Information Technology website's search results for the query 'VPN'. The page features a search bar at the top with the query 'VPN' entered. Below the search bar, there are navigation links: 'Get Started', 'Resources For...', 'Services', 'IT Community', 'News & Events', and 'About'. The main content area is titled 'Search' and displays a list of search results. The first result is 'VPN Client Upgrade' dated July 7, 2014. Other results include 'How do I connect to VPN?', 'VPN - Virtual Private Network', 'Solving VPN Connection Issues Thursday August 7, 2014', 'Two-step verification is required to access VPN', and 'RSA tokens have now expired—activate two-step verification to maintain VPN access'. A sidebar on the right provides filtering options: 'CURRENT SEARCH' (Search found 56 items), 'SORT BY' (Relevancy, Title, Type, Author, Date), 'FILTER BY POST DATE' (2013 (15), 2014 (10), 2015 (2), 2016 (29)), 'FILTER BY POST TYPE' (Page (38), News (10), FAQ (8)), 'FILTER BY OTHER SITES' (Harvard University Information Technology (56)), and 'FILTER BY TAXONOMY' (Audience type: Staff (15), Faculty (11), IT Service Providers (10), FAS (9), Students (8), Central Administration (7), Individual Schools (3), HDS (2)).

The wireframe shows a simplified version of the search results page. It features the Harvard University Information Technology logo at the top left. Below the logo is a 'Nav' section. The main content area is divided into three sections: 'Search', 'Suggested Searches', and 'Results'. A 'Submit a Ticket' button is located at the bottom right of the page.

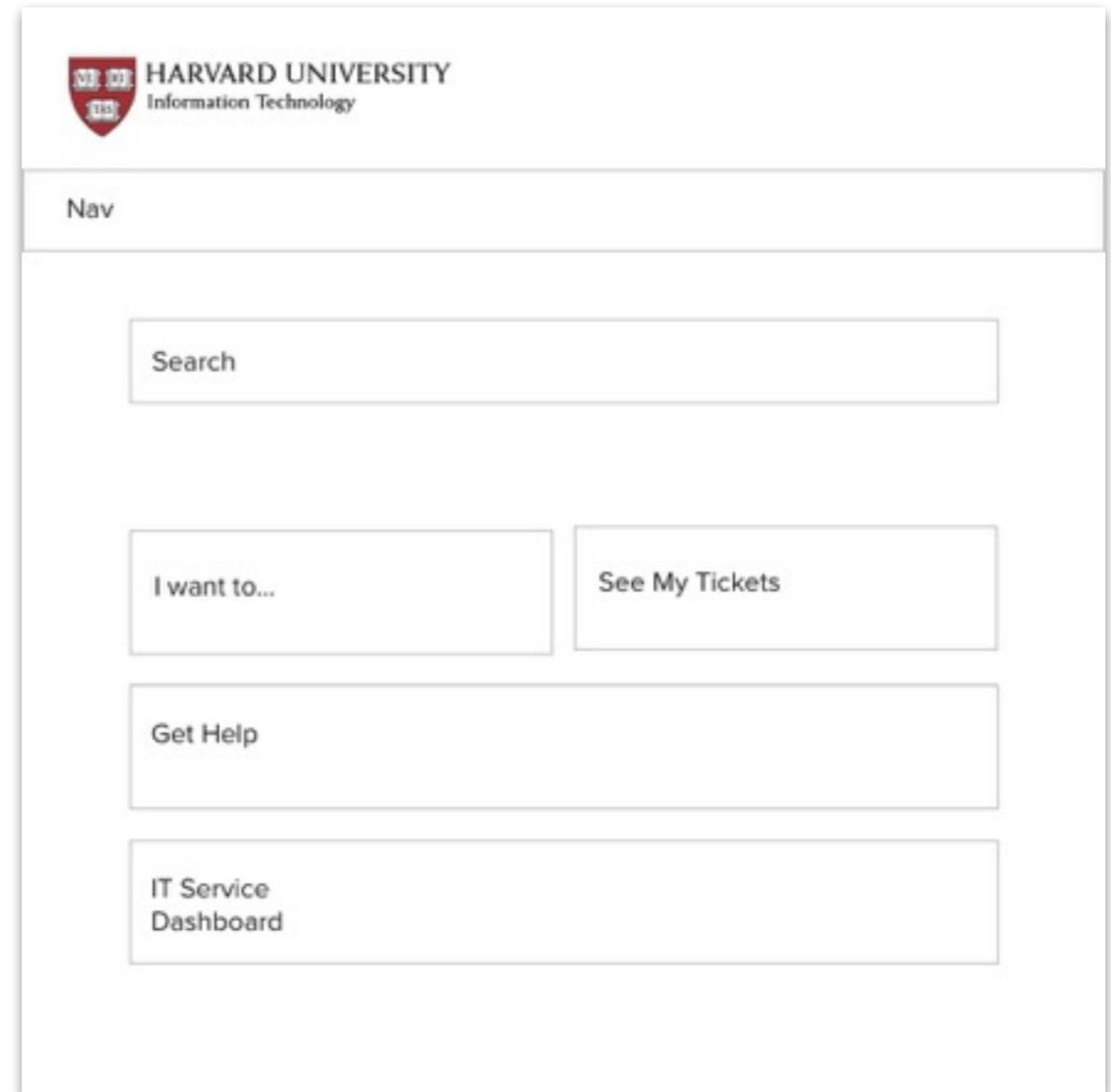
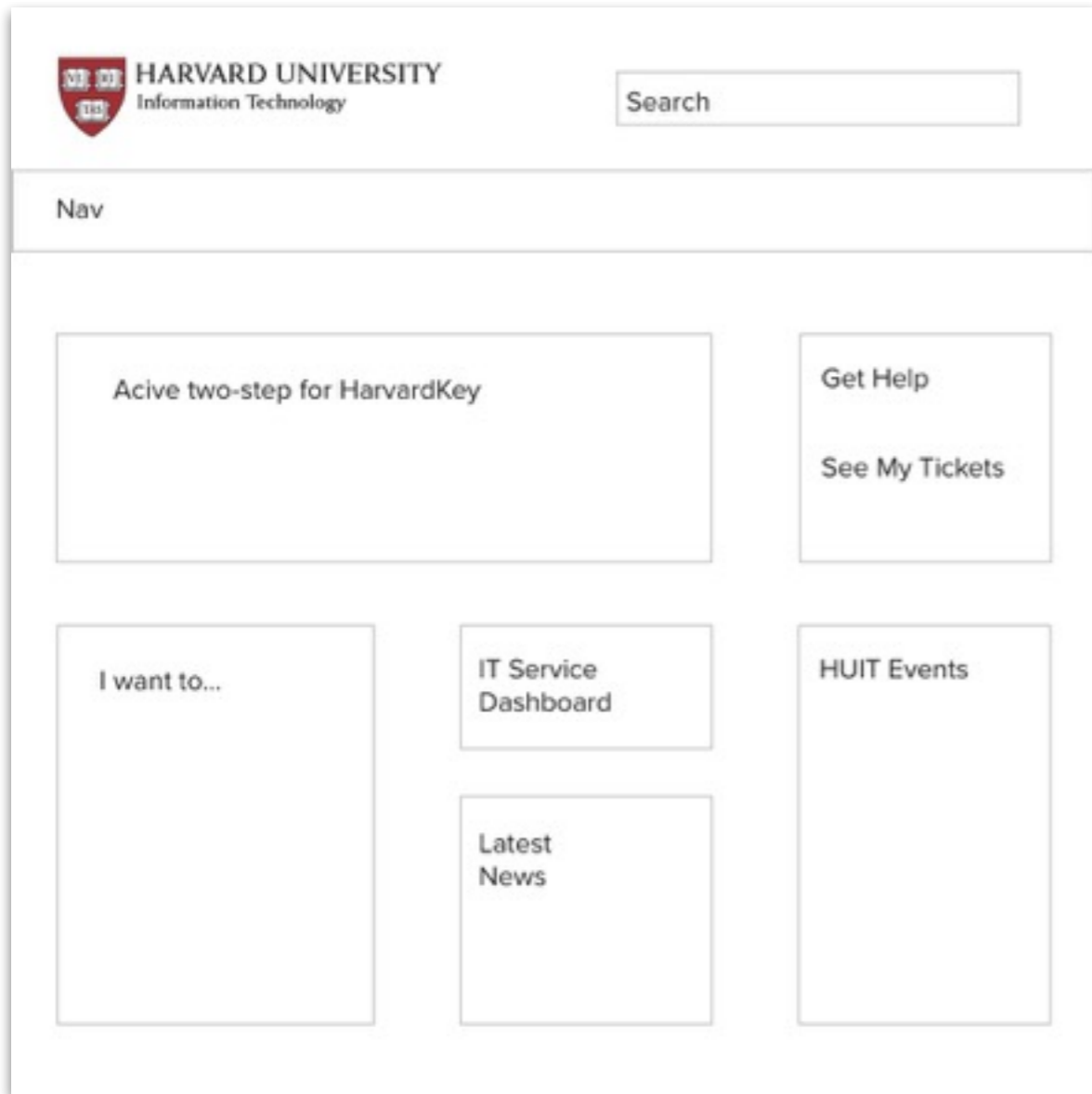
RECOMMENDATION #3:

**Visual clean-up.** Greatly reduce visual clutter (including sidebars, subnavs, etc.) to allow users to focus on the most important and relevant page content.



RECOMMENDATION #4:

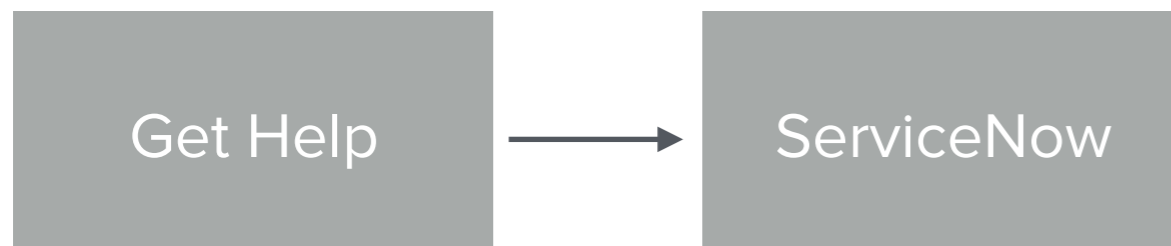
**Smart shortcuts.** Highlight most common tasks on the homepage (similar to today, but with more visual emphasis)



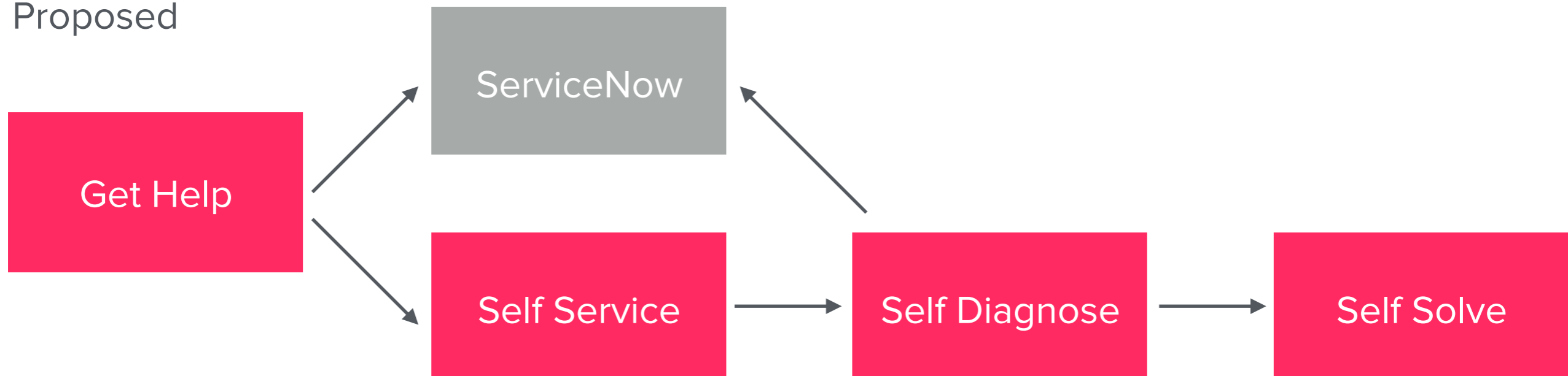
RECOMMENDATION #5:

**Self-serve path.** Provide a last-chance self-service option before contacting the help desk.

Current



Proposed



# What's next?

## NOW

- Decide on shifting overall HUIT content strategy toward an audience-focused model (see *Recommendation #1*).
- Determine KPIs and targets for new content strategy.
- Analyze impact to existing properties, structure future audience-focused content, and identify areas where content does not yet exist to support user needs.

## NEXT

- Analyze current technology platform(s) and editorial processes for ability to support new content strategy and search functionality.
- Improve search functionality (see *Recommendation #2*).
- Implement recommendations #3, #4, and #5 to improve short-term usability within the current content model.
- Create necessary audience-focused content (especially around help desk self-service solutions) — *ongoing process*

## LATER

- Implement new audience-focused content model and launch sub-sites

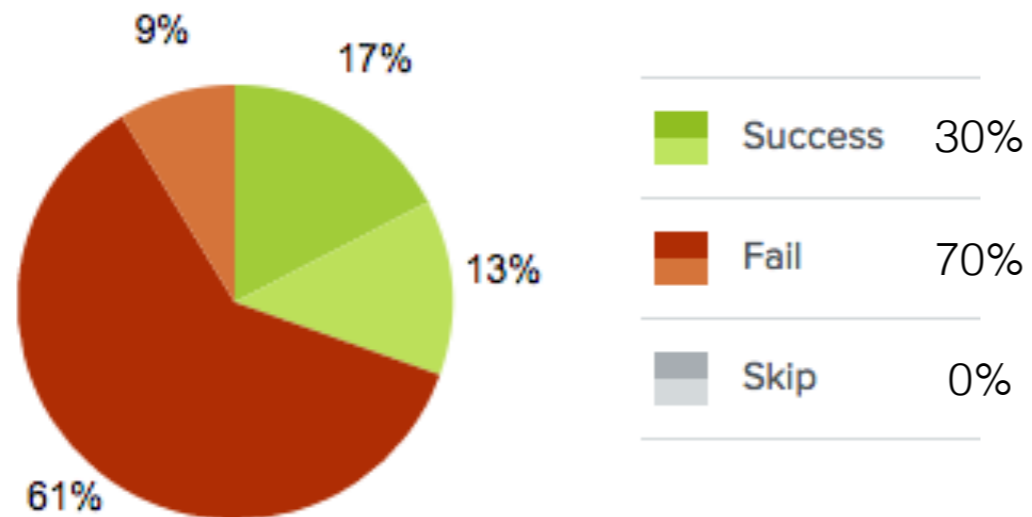
# **Appendix**

Detailed tree testing results

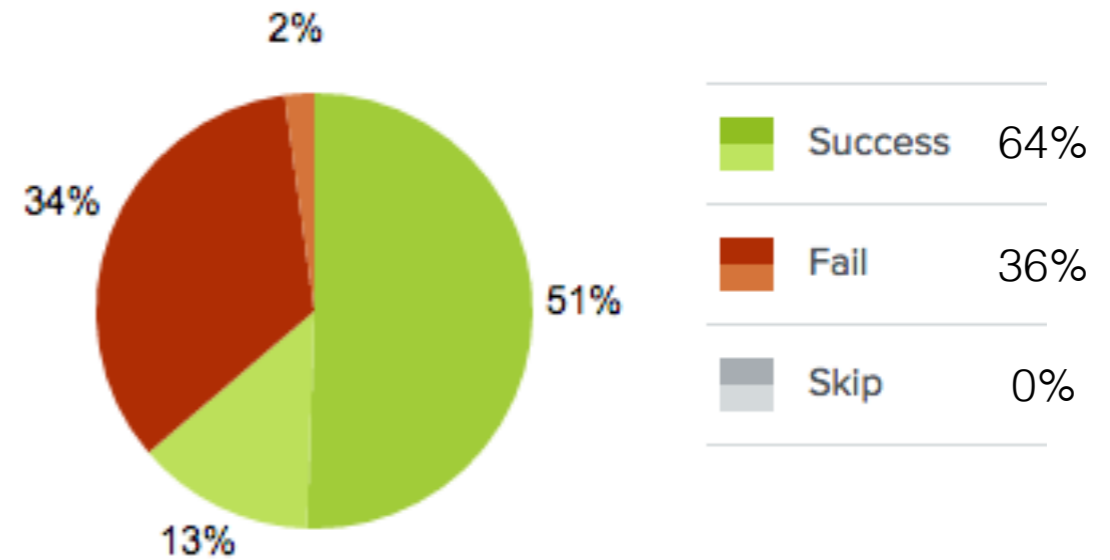
## TASK #1

**You are unable to get on the Harvard wireless network.  
Where do you look for help?**

Before:



After:

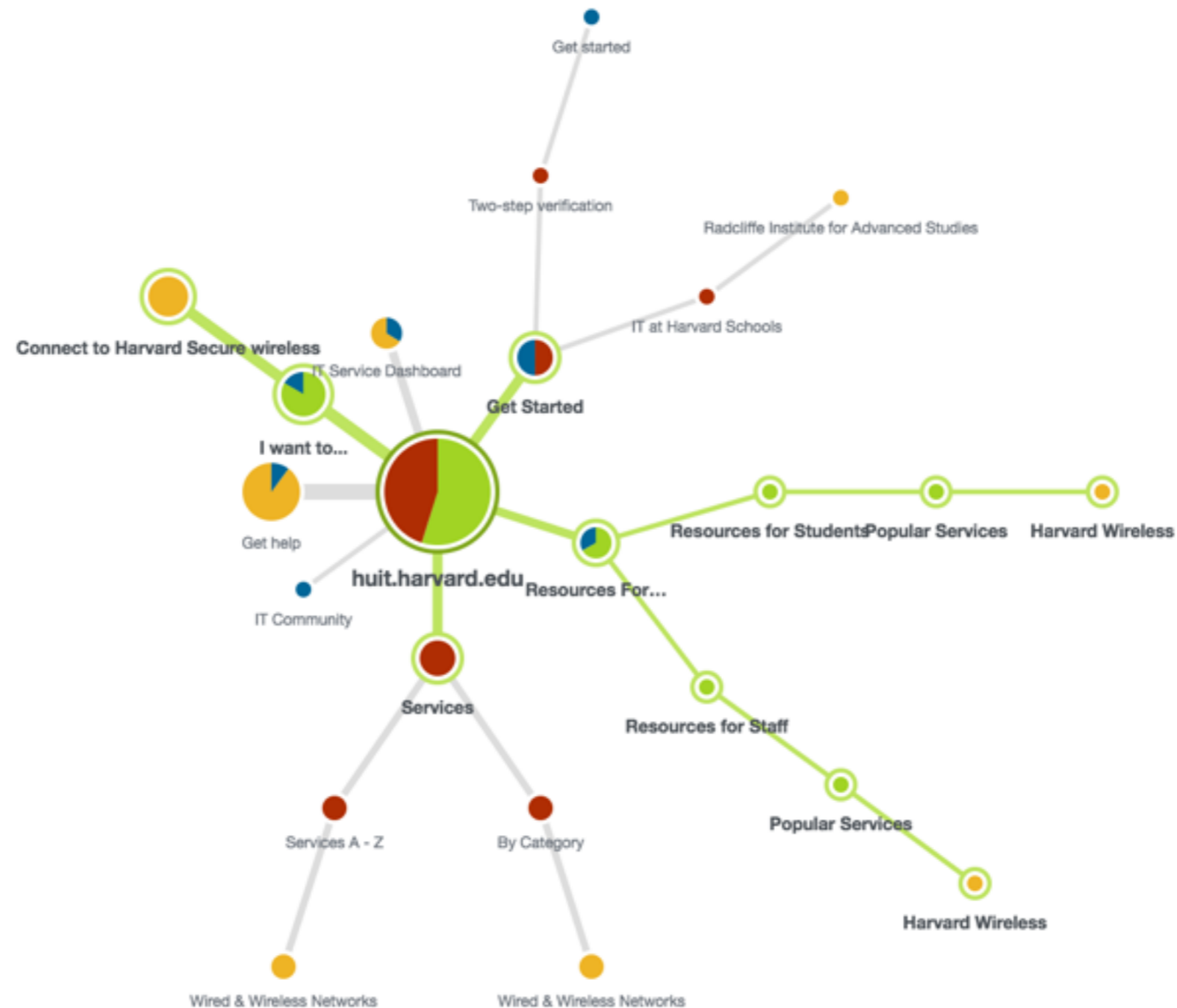




## TASK #1

**You are unable to get on the Harvard wireless network.  
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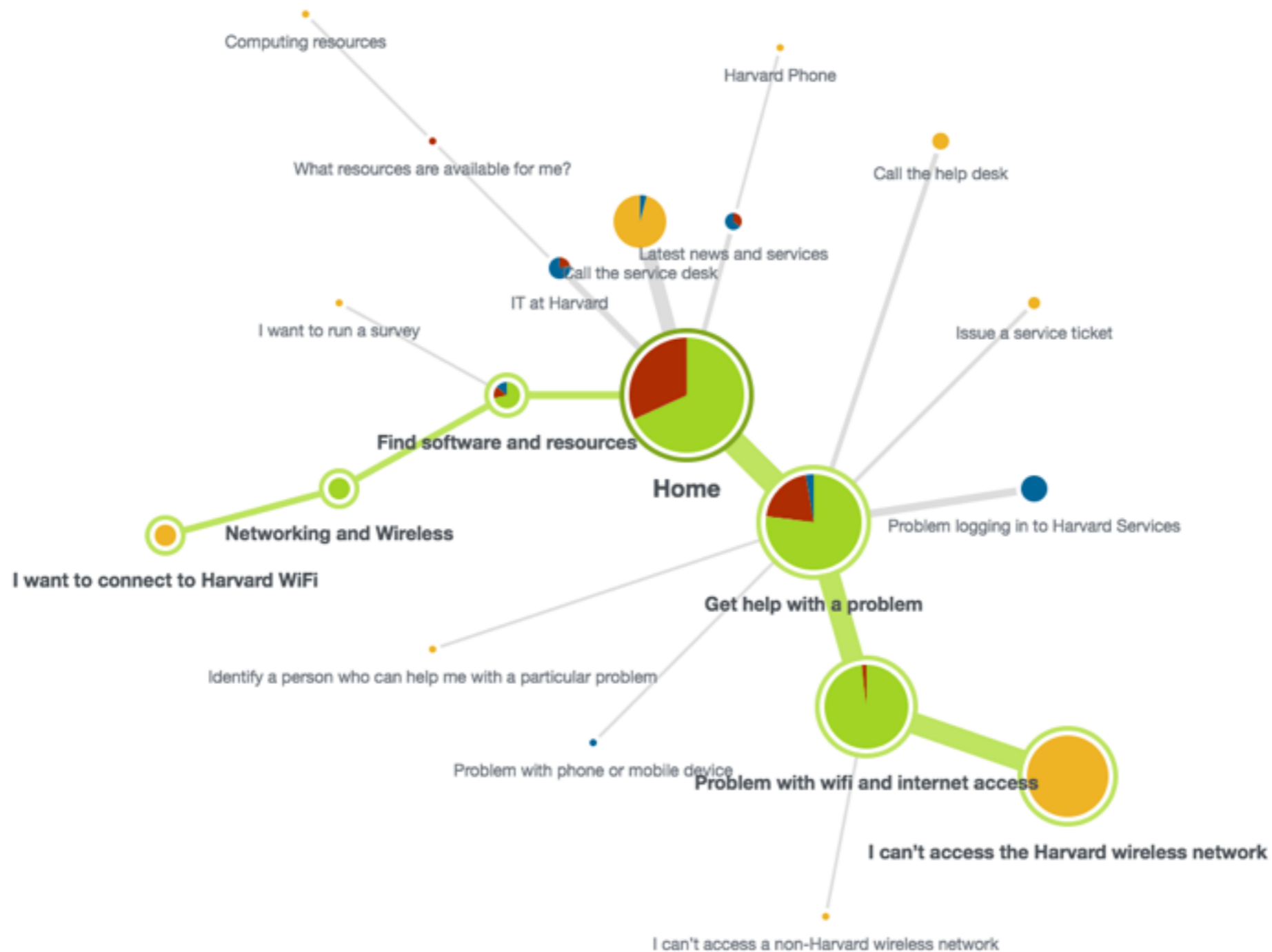
Before:



## TASK #1

# You are unable to get on the Harvard wireless network. Where do you look for help?

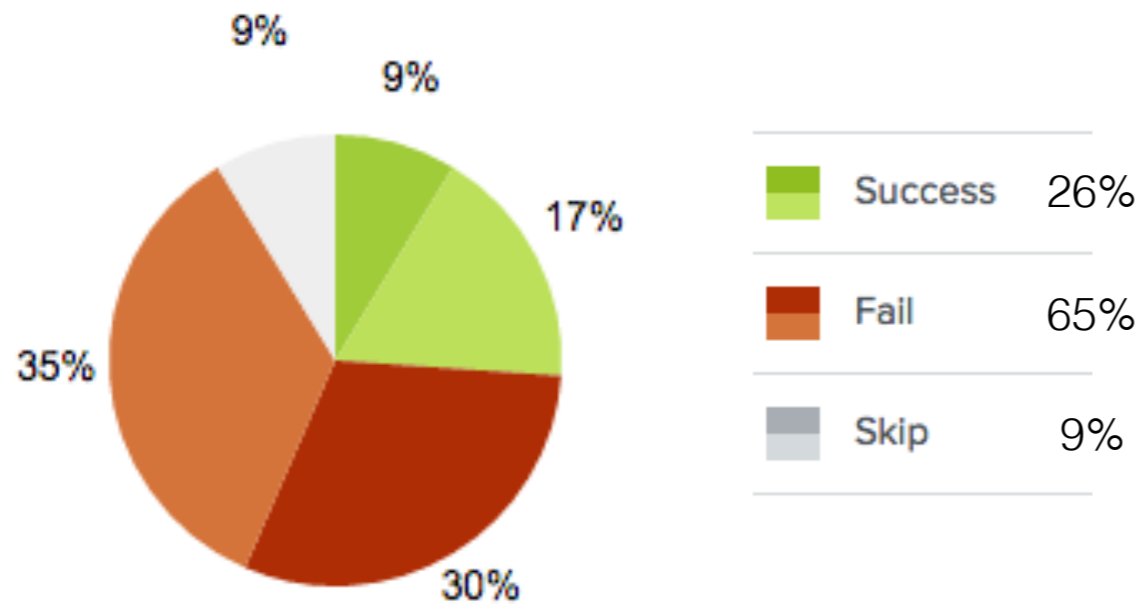
After:



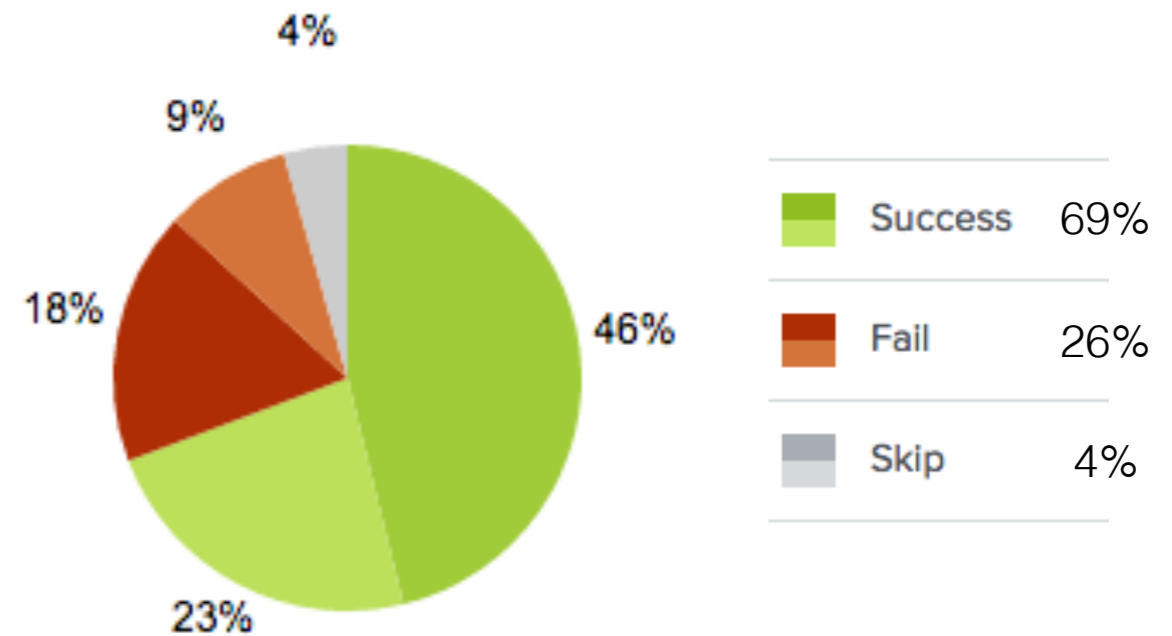
## TASK #6

**You need to place a computer equipment order for your office. Where do you go to do so?**

**Before:**



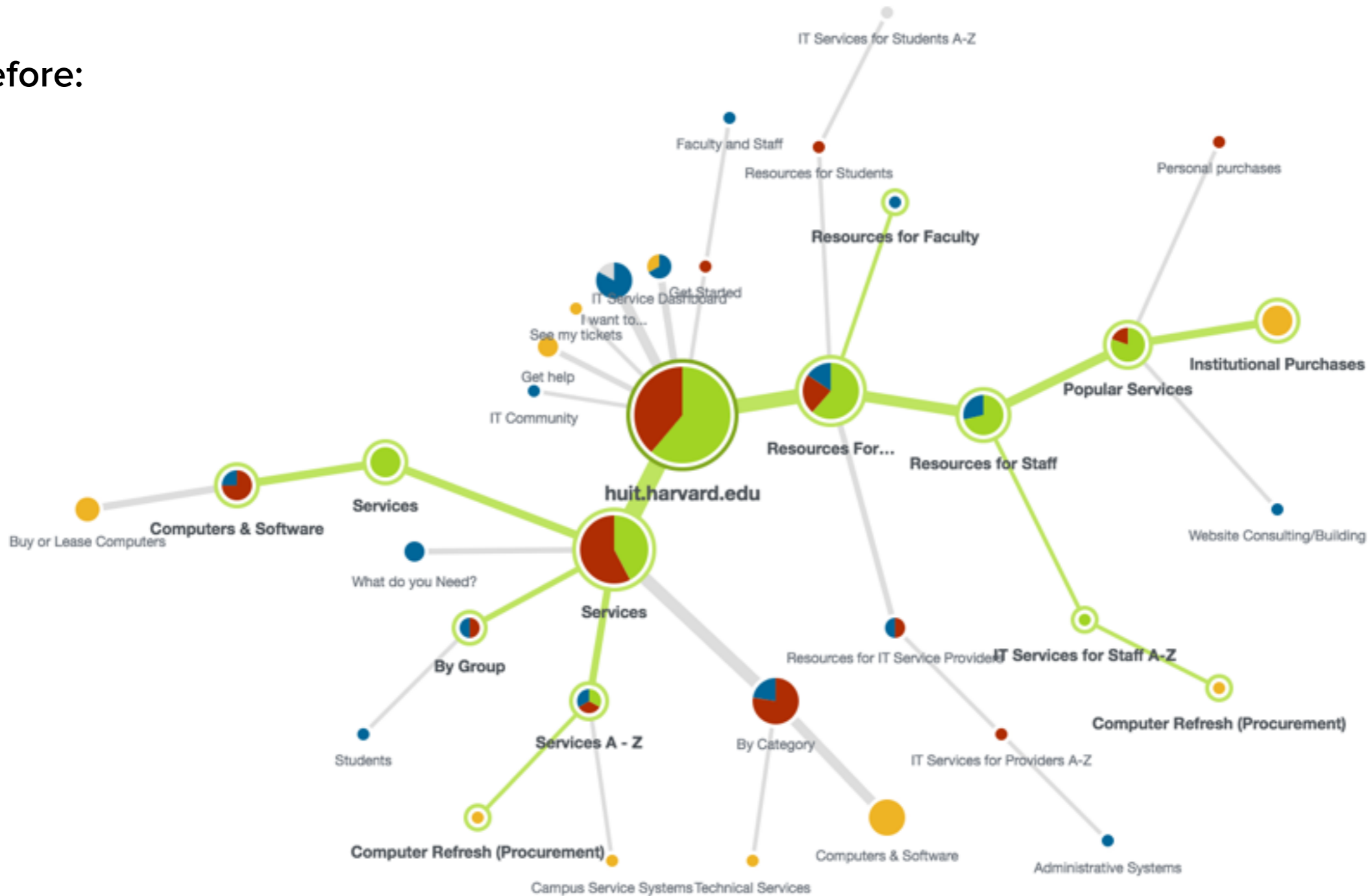
**After:**



## TASK #6

You need to place a computer equipment order for your office. Where do you go to do so?

Before:



## TASK #6

You need to place a computer equipment order for your office. Where do you go to do so?

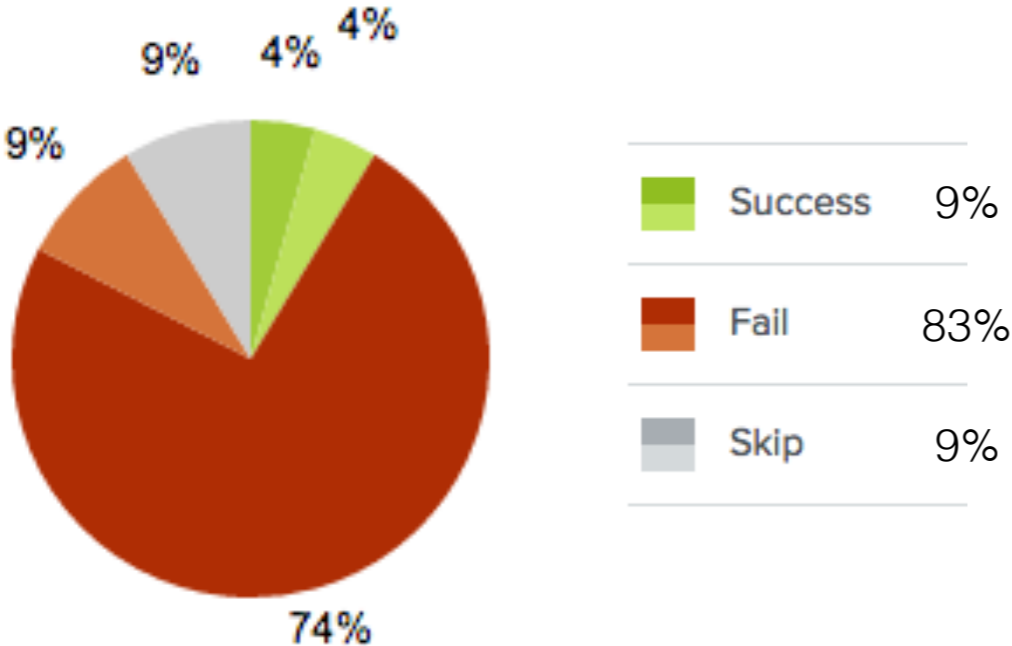
After:



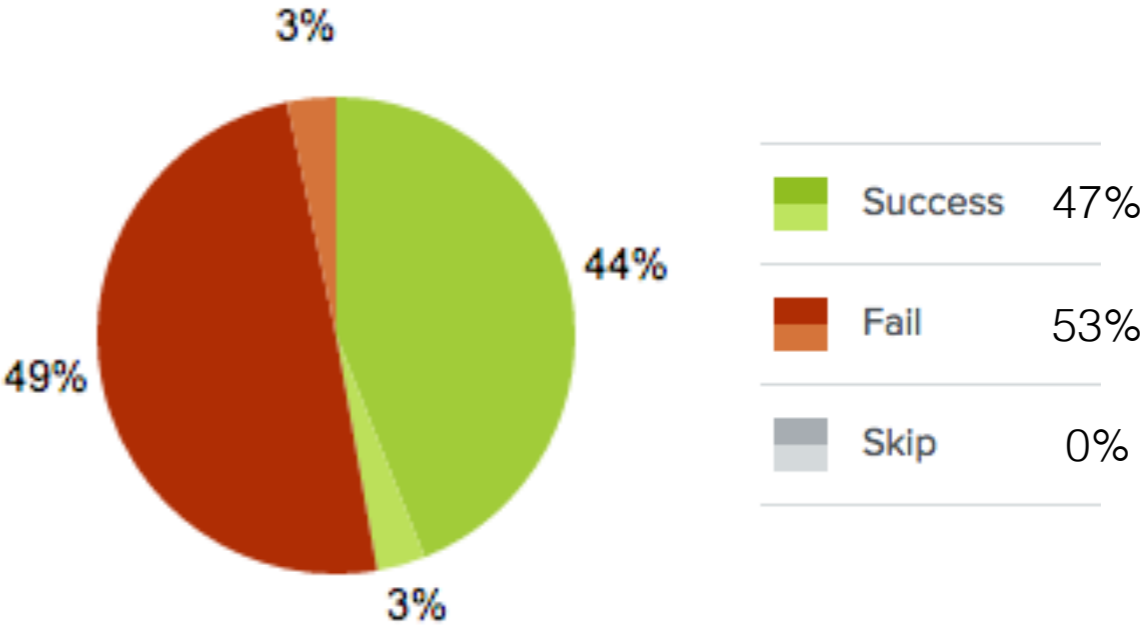
TASK #9

# Your office printer stopped working! Where do you go to get help?

Before:



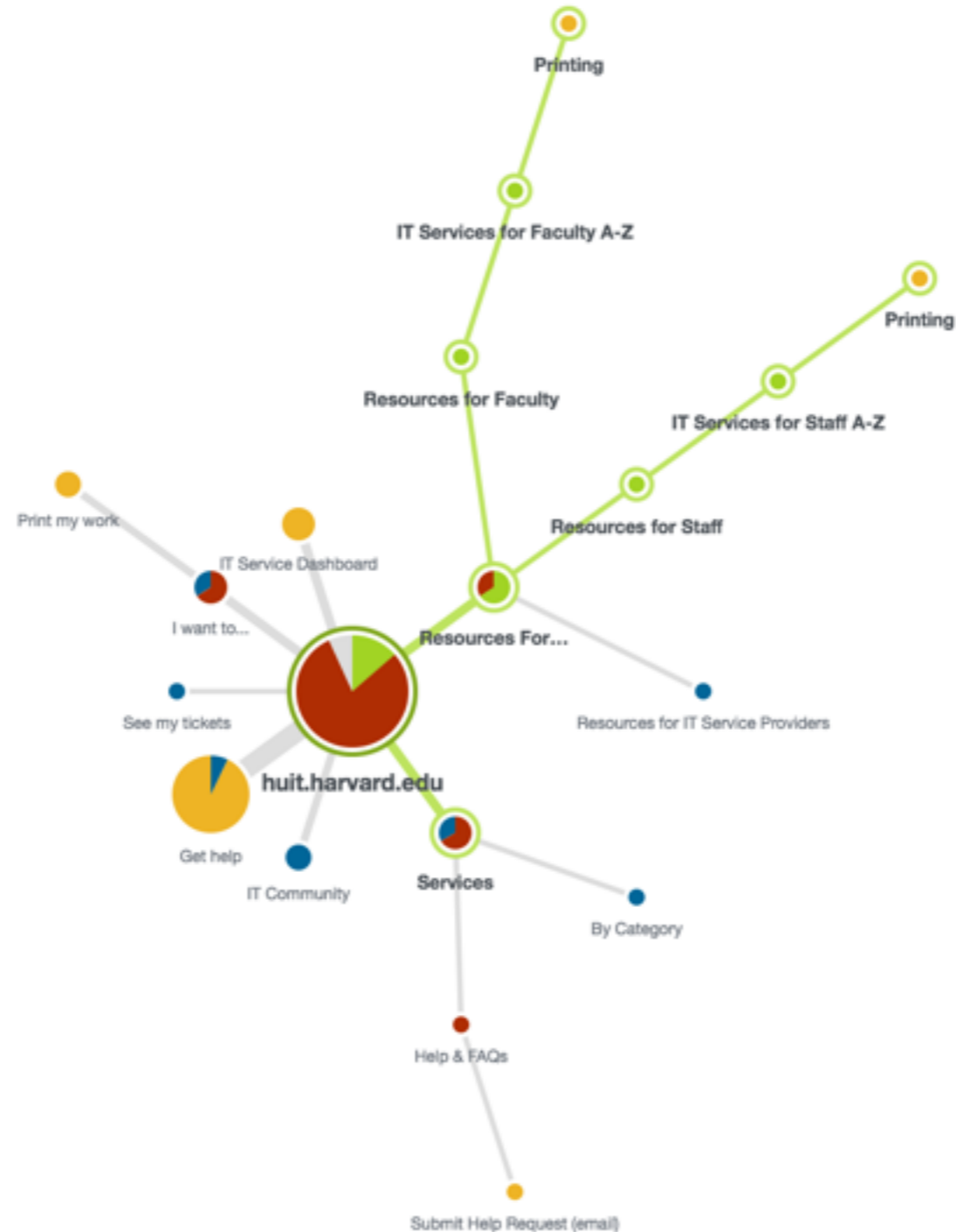
After:



## TASK #9

# Your office printer stopped working! Where do you go to get help?

Before:



## TASK #9

# Your office printer stopped working! Where do you go to get help?

After:

