
The Internal Consultancy Model for Strategic UXD Relevance

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Abstract

Experts in the field of HCI have spoken at length about how to increase the strategic influence of User Experience Design (UXD) teams in industry [3]. Some have offered courses in HCI management [1]. Others have presented recommendations on how to prove a return on investment for usability-related activities [2]. Nielsen [5] has described the usability maturity model, presenting implicit management challenges and structures at different phases.

Few though have discussed the value and process for an embedded UXD Group functioning as an internal consultancy to different product teams within their organizations, and how this model can increase the strategic relevance of UXD in their companies.

The Cisco UXD Group evolved through several funding and organizational models (central funding, client-funding, distributed teams), and now follows an internal consultancy model. This paper describes the experiences that led to this model and how it has helped increase the strategic influence of UXD within Cisco.

Keywords

User Experience Design, Organizational development, User Experience Teams, Management.

ACM Classification Keywords

D.2.9 Management D.2.10 Design H.5.2 User Interfaces K.6.1 Project and People Management

Introduction

The Cisco User Experience Design (UXD) Group has grown from a single person to 20, and then to almost 60 people. As this group evolved, it employed several traditional funding models and organizational structures. These models, and their benefits and challenges, include:

- **Centralized funding model**, with a large budget from one centralized organization. In this model, one senior leader can manage the entire organization, which permits consistency of practice and process, as well as flexibility of UXD resources across the organization. The major challenge is that a central organization becomes a target for reduction or elimination, because it is such a large cost center. Also, in a highly decentralized organization (such as Cisco), leaders in each division may request that UXD resources working on their project report directly to them.
- **Client-funded model**, where individual business units fund a central team that provides UXD resources to their teams, and one central UXD organization manages these people. The benefits of this model are similar to the central model. In addition, the central organization does not become a cost center because other divisions pay for UXD resources. However,

managers in each division may feel that UXD practitioners who are not part of their organization are not core or central to their business—and they can decline to pay for the individuals at any point. This challenge becomes more likely when managers need to reduce headcount and do not want to eliminate the individuals whom they “own” (who report to them).

- **Distributed model**, where there is no central UXD group, but UXD practitioners (and smaller groups) report directly to the divisions for the products on which they work. One benefit of this model is that such people are viewed more as “insiders,” as part of the team. While an increasing number of companies are using this model, it poses many challenges for the UXD groups and their influence. There is often no explicit sharing of resources or processes across UXD groups, and destructive competition can arise. Unless each UXD group is large enough, practitioners can end up reporting to a manager who does not understand the value of the UXD function. In addition, without a central UXD group, there is no team responsible for UXD process, standards, or infrastructure.

The ROI of Traditional Models

At Cisco, all the models described above had some success. Indeed, one group within the centralized model was able to show a consistent ROI of more than 10x, or \$50 Million annually. However, \$50 Million in a company that grew as quickly as Cisco did from the late 1990s through 2006 (from \$4 Billion to >\$30 Billion in revenue) was barely noticed.

Cisco was investing in what it called “Advanced Technologies.” These are new technologies (such as Voice over IP) that change markets and generate

billions of dollars. The company was technology-led, rather than being driven by user needs. If Cisco was on the leading edge of the technology revolution, was growing so rapidly, and sold its complex products mostly to highly technical users, how could we show the value of User Experience Design?

Top executives in technology-led companies want to achieve radical increases in revenue and market share. They must improve their company's competitive advantage by creating new products that change the way users and customers function in a domain. They need to differentiate themselves by introducing disruptive technologies faster than their competitors. Therefore, these executives want to invest in groups that can drive radical differentiation. They may also invest in groups that incrementally increase revenue or decrease costs (such as prior Cisco usability teams), but they are likely to invest the most in groups who prove that they can stimulate disruptive innovation [5].

Attempting to improve the usability, usefulness, and desirability of too many products at one time diminished the Cisco UXD group's ability to gain the sustained support of senior executives. The Cisco UXD group needed a different model, so it could increase revenue geometrically instead of incrementally. To influence a complex-systems company [5] such as Cisco, the UXD Group needed an ROI of 100x to 1000x.

Increased Impact as an Internal Consultancy

The search for a sustainable UXD model required the Cisco UXD Group to investigate new organizational models. Instead of assigning one UI designer to one or even multiple projects, the Cisco UXD Group now assembles highly focused teams of cross-functional

experts to support speedy innovation on carefully selected products. Typically, these Cisco UXD Focus Teams include:

- Project manager
- Generative user researcher(s)
- UI Architect
- Interaction designer(s)
- Visual designer
- Industrial designer
- Developer (the UXD team develops some applications)
- Evaluative researcher (usability testing)

This Focus Team model is not new. Many design firms in industry follow this model, though they use different names for their team structure [4].

One benefit of no longer trying to support every development team across the company is that these UXD Focus Teams can choose the most valuable five or six projects to work on at any one time. They can dedicate the necessary resources to assure that these projects succeed and achieve the maximum ROI.

For the Internal Consultancy Model to work, UXD management must:

1. Only choose worthwhile projects where measurable opportunity exists for demonstrable impact, and where management is willing to give credit to the UXD Focus Team.

2. Merge each UXD Focus Team into the Product Development Team with clearly delineated roles.
3. Adhere to best practices by following a clearly defined process, with well-defined entry and exit criteria.
4. Choose Focus Team members carefully.
5. Follow through to demonstrate impact.

Since converting to the Focus Team model, senior leaders recognize that the UXD Group's contribution to revenue increased from \$50 Million to almost \$3 Billion! Such impact has been difficult to ignore; one result is that Cisco's new motto is "Lead the Experience." Cisco executives now recognize that the experience itself is the next "advanced technology."

Choosing Worthwhile Projects

While it is a shame to forego UXD on smaller projects, the point is to dedicate resources where they will have the most effect—we must pick our battles wisely. To take this metaphor a bit farther, a classic military strategy is to focus overwhelming resources on a single target. Then, when success has been achieved, move to the next target. This model can apply to UXD efforts: Shouldn't any UXD manager make sure that critical projects are fully resourced, even if it means neglecting other projects? The alternative is to be spread desperately thin, resulting in average improvements on most projects, rather than disruptive innovation [5] on a few projects.

Choosing the right projects also includes:

1. **Conducting an Opportunity Review** before agreeing to commit resources, to ensure that the product team is receptive and executives recognize the problem. The product team must agree that their success requires a UXD Focus Team.
2. **Generate a Project Brief**, a statement of work that describes:
 - Statement of value (summary)
 - Challenges (such as competition)
 - Solution (typically broken into multiple phases)
 - Deliverables to be provided
 - Resources (people) required on UXD team
 - Detailed schedule
 - Costs
 - Assumptions and risks
3. **Concept and Execution Commitments**, in which managers from the different organizations agree to supply people and money
4. **The UXD Focus Team is embedded** and integrated with the product development team.
5. **The project has clear start and stop points**, with clear exit criteria, and is not open-ended.
6. **Focus team members have great collaboration.**

When UXD Group leaders decide which projects to accept, they consider the following factors:

- **Product team receptivity.** The product development team itself has requested support from UXD, rather than had it “pushed” upon them by management. If a product team is ambivalent, the UXD group disengages.
- **Potential revenue or cost savings.** The UXD group seeks projects on which they anticipate a minimum revenue increase of \$25 Million in the first year.
- **Advanced technology**—a new technology that has not yet been introduced to the market, so the UXD Group can make a larger impact than on legacy products (preferable, but not required).
- **Leveraging the Cisco UE Standards** (UI guidelines and tools). If a product team does not intend to adopt the UE Standards, the UXD Group will not assign resources. These standards include component libraries to help engineers quickly create code that is accessible, usable, internationalized, and branded.
- **High visibility.** If a project is a “pet project” of a cross-functional or highly visible organization within the company, the UXD Group is more willing to accept it.
- **Point in the product lifecycle.** If design has already begun, it is often too late to impact a product’s overall experience at a fundamental level. There are times when the UXD group agrees to work on a project through multiple iterations, starting late in one cycle to impact a subsequent release.
- **Realistic time-to-market demands.** The Cisco UXD Group delivers value rapidly. However, if project

schedules make delivering a high-quality user experience impossible, the UXD group is less likely to accept the project.

While there are other factors, this list represents the most salient ingredients used in deciding to work on a project.

Merging the UXD Focus Teams into Product Teams with Clearly Delineated Roles

UXD Focus Teams must integrate completely with the product development team during a project. They cannot function as the “icing on the product team’s cake.” In the centralized and client-funded models, product teams can more easily treat UXD team members like outsiders. In the focus team model, management and product team members have all committed to a stellar user experience.

UXD Focus Teams need to be viewed as true partners with product teams, and they must treat each product team like the paying customer it actually is. The roles of the UXD Focus Team must be specifically defined, just as the roles of the product team members are. Cisco’s UXD management created a role grid that explicitly defines UXD roles and skills. The UXD Focus Team functions as the architect who provides the blueprint for the elements of the product that define the user experience, and the developers function as the carpenters who deliver to the specifications. If the product team does not agree in advance to these roles, the UXD group does not accept the project.

Choosing Focus Team Members Carefully

To win the trust and respect of product teams, members of the UXD Group must demonstrate world-

class user experience design skills. Of equal importance, UXD practitioners must have the business, teamwork, technical, communication, and advocacy skills to ensure that product teams will choose to work with the UXD Focus Team.

Also, despite their underlying focus on business goals, corporate executives need to trust you to understand their requirements, to trust that you can help them succeed. Personal trust and accountability can be more important than ROI. UXD Focus Team members must be able to build this credibility.

Following Through to Demonstrate Impact

As any consultancy would do, it is essential to make all successes visible. Future business requires such demonstrable impact. No one would engage a consultancy without a fine reputation and portfolio, and the same rules apply to internal consultancies.

To achieve this visibility, the Cisco UXD Group tracks impact and records case studies on its website, as you would find on the websites of design firms in industry. The stories in this portfolio describe:

1. The Problem
2. Our Solution
3. The Impact

If the UXD Group cannot calculate the financial impact and managers do not provide a quote attesting to the value of the UXD Group activities, that project does not appear on the portfolio website. Other managers can refer to these examples of impact and trust that the group can deliver the same value for them.

Extending UXD with a Partner Ecosystem

Because Cisco's UXD Group now behaves much like an internal consultancy, it was able to increase its influence by subcontracting to external consultants. To the customers of the UXD Group (Cisco's product teams), there is little difference.

The UXD Group soon realized it needed an ecosystem of partners who could both augment staff and drive entire projects. The Cisco UXD Group now has many such partners, because each brings different assets and characteristics. Using external consultants has become a natural extension of the group's engagement model. The UXD partner ecosystem includes different types of design firms for the following specific tasks:

- **Body shops:** Vendors who supply individuals upon request and who can pay individual consultants if we identify them.
- **Individual consultants** who possess expertise in a specialization that we need intermittently, such as industrial design of mobile devices.
- **Design firms who can join an existing team.** When the Cisco UXD Group identifies a project, defines the scope, and stakes its reputation on the product's success, the external design firm must use the Cisco UXD Group brand, not its own brand. External design firms must function as integrated members of the Cisco UXD Group.
- **Organizations who will take projects that do not meet the UXD Group's criteria,** either because the projects are not sufficiently strategic, or because they are simply too complex for the UXD Group to staff and manage. The UXD Group's reputation is of paramount importance, and if we cannot accept or

succeed on a project, we must be honest and give it to a firm that can deliver success.

- **Organizations who will perform infrastructure tasks.** Examples include facilitating a visual language definition project for UI standards and helping to build our initial UE Standards website and governance model in weeks.
- **Vendors available on a retainer basis.** Because projects sometimes come to the Cisco UXD Group with little advance notice, the group's funding model includes a quarterly budget to keep vendors on retainer. If Focus Team projects do not arise, the partner helps with business development or infrastructure tasks. Trust and cooperation therefore become fundamental requirements for vendors.

The Cisco UXD Group has about 10 key vendor partners at any given time. Companies—including design firms—all have personalities. If the personality of a vendor or design firm is not consistent with the personality of your UXD group, it is not worth investing in the relationship. Cisco requires that firms possess excellent skills in driving innovation and world-class design, plus integrity, compassion, and an innately collaborative slant to all interactions.

Hiring world-class resources is challenging for everyone—not only Cisco, but also its vendor partners. Therefore, the Cisco UXD Group interviews and meets with each person that a vendor provides for a project.

When more organizations within Cisco hear about the successes of other teams working with the Cisco UXD Group, these ecosystem partnerships permit flexibility

and expansion, with a core group of UXD professionals in the company providing continuity and cultural norms.

Benefits of Partnerships

In addition to helping the Cisco UXD Group increase the scale of its efforts, partners have helped on projects for which the Cisco UXD Group lacks the skills, and the UXD Group can learn new methods from them. Hiring partners helps keep the group's skills up-to-date.

The Cisco UXD Group teaches vendor partners about corporate cultural norms, expectations, and business models in complex-systems companies. On the other hand, partners have taught us how they succeed as consultancies. These lessons have been invaluable for us to form the right model for our corporate structure—the highly collaborative and interactive Focus Team model that we employ in our internal consultancy.

Choosing a UXD Organizational Model

The Focus Team model is not right for every company. Perhaps the most important factor in deciding what UXD structure to adopt for your group is management that understands what business model is appropriate for your company's unique environment. The Focus Team or Internal Consultancy model, is best when:

- The organization does not have enough UXD practitioners to support every project.
- Your team's survival or reputation depends on delivering excellence on every project you do perform.
- Product teams can "opt out" from working with you. If your company does not require every product team to follow UCD practices and work with a UXD

staff, then working only with motivated teams can optimize your resources.

- You can “opt out” of minor projects and focus on the highest-priority projects in the company. Trying to make small improvements on all (or most) products can dilute a UXD group’s impact.
- You are in a technology-led company and need to show deep credibility in order to convert them to an experience-led company.

Summary

Functioning as an internal consultancy within Cisco, using highly focused teams of cross-functional UXD experts, has resulted in a significantly greater impact per UX Designer than if the Cisco UXD Group had retained its traditional model. Moreover, this model is self-sustaining, and much more fun for members of the UXD group.

The new model has changed the perspectives of product teams, who previously tended to design products themselves, or hire external design firms themselves. The UXD group is now viewed as a trusted partner that is accountable and capable of solving business problems that product teams face.

As of this writing, senior management has approved this model. Over the past year, at least one story of UXD group success has been reported at each of the CEO’s quarterly Operations Reviews, which validates

the organizational structure of our group and its recognition at the highest levels within Cisco.

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Citations

- [1] Anderson, R.I. Managing User Experience Groups. Second Offering, UCSC Extension Silicon Valley Campus, Cupertino, CA (2006).
<http://www.well.com/user/riander/mguxgrps.html>
- [2] Bias, R.G. and Mayhew, D. J. *Cost-Justifying Usability*. Academic Press, INC., San Diego, CA, USA, 1994.
- [3] Innes, J. and Friedland, L. Re-positioning User Experience as a Strategic Process. CHI 2004 tutorial (2004).
- [4] Kelley, T. and Littman, J. *The Art of Innovation: Lessons in Creativity from IDEO, America’s Leading Design Firm*. DOUBLEDAY, New York, NY, USA, 2001.
- [5] Moore, G.A. *Dealing with Darwin: How Great Companies Innovate at Every Phase of Their Evolution*. Portfolio, New York, New York, USA, 2005.
- [6] Nielsen, J. Corporate Usability Maturity: Stages 1-4. Alertbox, April (2006).
<http://www.useit.com/alertbox/maturity.html>