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# From Snake-Oil to Science: Measuring UX Maturity

**Jeff Sauro, PhD**

Founding Principal  
MeasuringU  
Denver, CO 80206, USA  
[jeff@measuringu.com](mailto:jeff@measuringu.com)

**Kristin Johnson, PhD**

Associate Researcher  
MeasuringU  
Denver, CO 80206, USA  
[kristin@measuringu.com](mailto:kristin@measuringu.com)

**Chelsea Meenan, PhD**

Associate Researcher  
MeasuringU  
Denver, CO 80206, USA  
[chelsea@measuringu.com](mailto:chelsea@measuringu.com)

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**Abstract**

A growing number of organizations want to better understand how to properly grow and implement a User Experience practice. While there is a general sentiment that a more mature UX practice leads to organizational success, there is surprisingly little data about what constitutes UX maturity. This case study describes the first steps into an empirically derived maturity model and describes what we've learned from interviewing seasoned UX professionals and surveying practitioners from dozens of organizations. Preliminary results indicate that our empirically-based approach is understandable and flexible enough to be applied across a broad range of organizations and industries. Ultimately, our objective is to move the practice of assessing UX maturity from snake-oil to science. To do so, we aim to identify the variables that differentiate immature from mature UX practices and establish a link between UX maturity and company success.

**Author Keywords**

UX maturity; maturity model; User Experience

### ACM Classification Keywords

H.5.2 User Interfaces: Evaluation/methodology

### Introduction

As the field of user experience (UX) has evolved and has been embraced by more organizations, inevitable questions have emerged about how to properly implement and support UX (and all that falls under this broad umbrella, Hassenzahl & Tractinsky, 2006; Bargas-Avila, J. & Hornbæk, 2011).

There is an implied sentiment that more mature UX leads to organizational success, yet there is surprisingly little data about where the field currently stands, what factors are necessary for “mature” UX, and how UX maturity (or lack thereof) affects an organization. Gathering this data is central to understanding which organizational practices and characteristics lead to a more mature UX organization, as well as linking maturity to product and organizational success metrics in a way that helps organizations see the value in understanding their user experience.

There are a number of models that attempt to categorize and define UX maturity (e.g., Carraro, 2014; Nielsen, 2006; Schafer, 2004). While there are some differences in the names and breakdowns given to these models, in general they consist of 5-7 levels that progress from “unrecognized” to “institutionalized,” in a pattern similar to Jonathan Earthy’s pioneering “Organisational Human-Centredness Scale” (1998):

1. Unrecognized
2. Recognized
3. Considered
4. Implemented
5. Integrated
6. Institutionalized

Within these categories, there is some consensus about global indicators of maturity, such as budgets or resources, research methods, when and how user-centered processes are involved, and company culture and attitude toward UX (Nielsen, 2006; Feijo, 2010; Plewes, 2015; Schaffer, 2004). While there are broad similarities across models, they offer few details about what characterizes mature UX. For example, what are the right methods, the “best” ratio of UX designers to developers and should teams be centralized or distributed—or does any of this matter? Further, there is little clarity as to the development of existing maturity models, so practitioners are left to assume that authors have largely derived them through their own professional experience rather than empirical measures.

Existing models have been useful in that they have inspired organizations to evolve and provided guidelines for increasing focus on the user, but given their ad-hoc development, it is unclear whether they reflect how UX is actually represented. Unsurprisingly, some practitioners have become skeptical of the validity of UX maturity models or even worse, see them as simply a sales gimmick. Yet the diversity of UX across organizations has brought about a need for strategies and tools to evaluate the current state of UX

as well as the relationship between UX maturity and corporate success.

To truly understand the characteristics of and value derived by UX maturity, it is necessary to take a more objective approach. The goals of the current research are threefold. First, we aim to empirically assess the current state of UX maturity across a diverse group of individuals and organizations. Second, we seek to identify measures of UX maturity that are systematically related to measures of organizational success. Finally, we will identify key practices that help move organizations into more advanced stages of UX maturity. This case study represents the first steps in an ambitious research project by describing what we've learned from interviewing seasoned UX professionals and surveying the broader UX field. Ultimately, our objective is to move the practice of assessing UX maturity from snake-oil to science.

### **Assessment Tool Design**

The first phase of the measurement tool development consisted of the creation of survey items based on interviews with senior managers and seasoned UX professionals at several companies including IBM, Autodesk, Capital One and United Healthcare. Several of these professionals had previously been involved in assessments of organizational UX maturity, though one admitted that their approach was "a little bit like snake oil" with little consistency in measurement and reporting.

The interviewees expressed excitement about our undertaking and provided valuable insights that contributed to the development of our tool. In particular, their integration in organizations at various levels of UX helped us refine our terminology and question wording to be understandable to our respondent pool. Our interviews also highlighted the need to assess product and organizational success in addition to UX maturity, as the aspiration of most organizations is not to be "mature" but to be successful.

In addition to interviews with UX experts, we utilized domains and items from other surveys and theoretical models on the state of UX to build our assessment tool, as well as collaborative discussion among our research team. Ultimately, this resulted in an assessment tool consisting of a survey measuring 11 specific domains: Individual Characteristics, Organization Characteristics, UX Staffing, UX Research Methods, Leadership and Culture, UX Integration, UX Training and Skills, Product Success Metrics, Organization Success Metrics, UX Budget/Resources, and UX Challenges and Future Directions (Figure 1).

The validity and reliability of this assessment tool will be continually refined as we test and build our sample. Towards this objective, we released the survey to a non-probability sample of UX Professionals using social media and snow-ball sampling.

**Respondents**

*Individual Characteristics*

The data set collect so far included 70 complete responses as well as partial data from 40 additional individuals. The majority of respondents classified themselves as Researchers (41%) or UX Generalists (25%), with smaller numbers of Manager/Directors (16%) and Interaction Designers (6%), as well as a few Visual Designers, Marketers, Developers, Information architects, and Executives (all < 5%). Respondents tended to be fairly experienced in UX (Figure 2), and represented a range of employment levels, from entry-level to executive.

*Organizational Characteristics*

The vast majority (85%) of organizations represented were for-profit corporations across a range of industries, including Software (28%), Financial Services (14%), and Retail (12%) among others.

The size of the organizations represented was extraordinarily varied, ranging from a handful of employees to 50,000+, and the majority of respondents classified their organizations as Mature (44%) or Growing (31%).

Figure 1. Maturity Assessment Tool Research Development Process

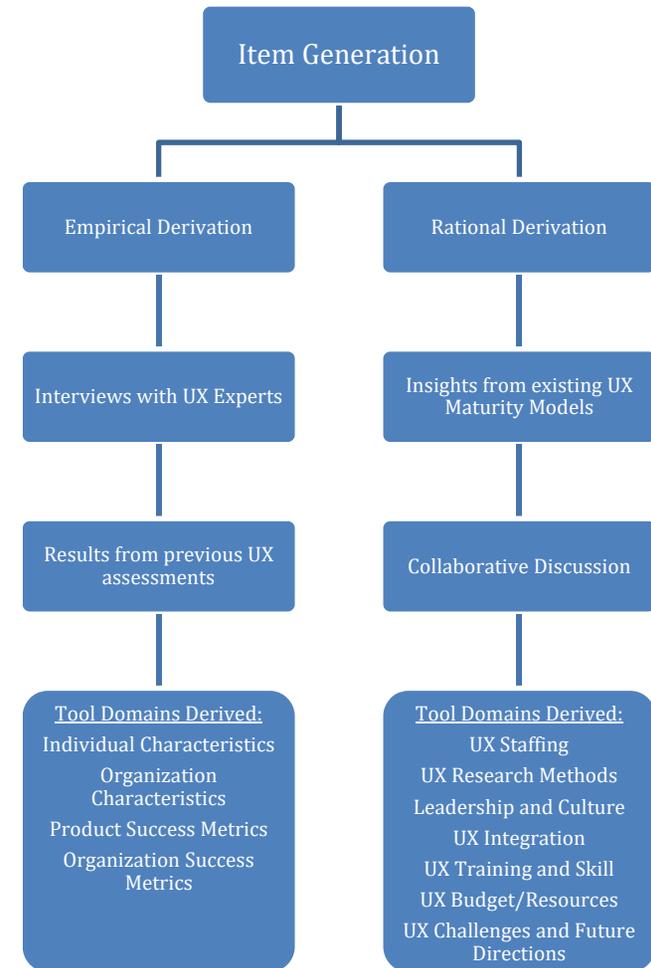


Figure 2. Respondent UX Experience

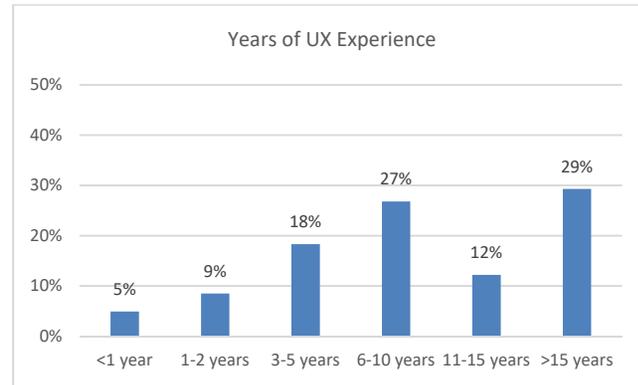
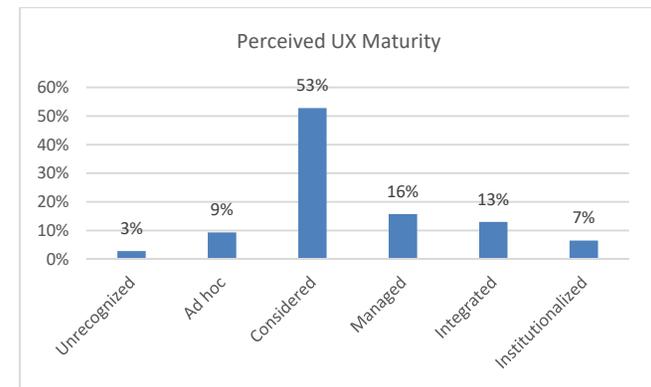


Figure 3. Respondent Estimations of Organizational UX Maturity



**Item Responses and Relations to UX Maturity**

*Estimated Maturity*

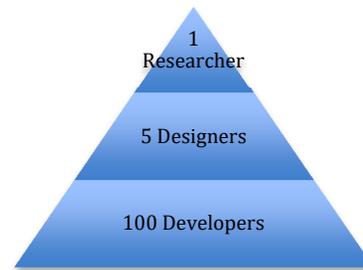
While most respondents classified their organizations as Mature, the same cannot be said for their ratings of their organization’s maturity in UX; 53% of respondents estimated that their organization was in the “Considered” phase of UX maturity, a phase defined by the recent hiring of dedicated UX staff and inconsistent application of UX across projects (Figure 3). This modal representation of Considered organizations does match with previous assessments of UX professionals (User Experience Professionals Association, 2015).

*Staffing*

There was a fairly bell-shaped distribution for how long a full-time UX role had existed across companies, with the majority of respondents indicating 2-5 years. This is a somewhat shorter time period than Nielsen’s (2006) model, which estimated that companies spend 2-3 years at each stage of maturity with a median length of 4 years.

*Ratio of researchers to designers, designers to developers*

Figure 4. Most Frequent Ratio of Researchers to Developers to Designers



Developers were better represented than either designers or researchers across companies (Figure 4). 21% of respondents indicated a ratio of approximately 1 designer to 11-20 developers, and 20% reporting 1 to every 6-10. There was even more consensus when comparing designers to researchers, with 41% of respondents indicating a ratio of 1 researcher to every 5 or fewer designers.

*Budgets*

Respondents were nearly evenly split on whether their UX budget was dedicated and where funding came from. Approximately 44% indicated having an available but not dedicated budget, and 45% reporting having a dedicated budget. Fewer participants reported having no UX budget, at 7%. The majority of funding comes from individual business units (48%) meaning that UX is funded by separate organizations or projects within a company, but a large percentage also comes from a single organization (42%) indicating a centralized budget for UX. Surprisingly, this suggests that having a

dedicated budget might not be an important differentiator of perceived maturity.

*UX Integration and Maturity*

One of the key indicators of an organization's level of UX maturity is the level of integration UX has within the organization. In the current study, respondents who reported their estimation of UX maturity higher, also reported a higher perceived value of UX by other individuals in the organization ( $r = .64$ ,  $p < .01$ ), demonstrating that buy-in throughout the organization is strongly linked to maturity.

Beyond attitudes, the level of UX maturity also has implications on the UX practices within the organization. Respondents who rated their organizations as more mature also reported that they evaluate UX at more stages: concept generation ( $r = .54$ ); initial design and development; ( $r = .60$ ); prototyping and advanced design ( $r = .56$ ). End-users are also involved at each of these stages at higher rates when organizations are more mature (all  $p$ 's  $< .01$ )

**Implications, Limitations and Future Directions**

At the onset of this research undertaking, we identified 3 primary goals: 1) Establish the current state of UX maturity across a diverse group of individuals and organizations through an empirical assessment of organizational characteristics and practices. 2) Identify measures of UX maturity that can be systematically related to measures of organizational success 3) Identify key practices that help move organizations into more advanced stages of UX maturity.

The findings from the current case study represent the first steps in achieving these goals. We designed a new measure to empirically assess key components of UX maturity using both qualitative input from seasoned UX professionals, as well as insights from existing analytic models of maturity. While the current case study represents a relatively small sample that limits generalizability, preliminary impressions support the face validity of the factors included in the assessment tool, and suggest that respondents are willing and able to provide thoughtful answers to complex constructs.

We have also taken the first steps toward assessing how important variables are manifested across a wide range of organizations. Results in the current study are aggregated across respondents from diverse backgrounds and organizations due to the small sample size, which limits our ability to currently assess how components of UX maturity may manifest differently across organizations. However, the diversity of the current sample is encouraging as we continue to build our sample size and database of respondents. This diversity is also a fundamental key to our second research goal: linking measures of UX maturity to measures of organizational success.

Our ultimate research goal is to identify the practices and characteristics that are most useful in propelling organizations into advanced UX maturity. In pursuit of

this goal, we plan to incorporate qualitative feedback with quantitative metrics obtained across a larger sample. By identifying the categories that differentiate the most mature models from those that are less mature, we will be able to refine our assessment tool, focusing on the key components that contribute to UX maturity. Ultimately, this tool can be used by organizations to assess their own UX maturity, creating benchmarks that allow them to see how they are improving year over year.

Continued research and refinement of this assessment tool has implications that are applicable to both industry professionals and academic audiences. Organizations can assess their efforts against industry benchmarks and these practices can in-turn inform theories of how changes in staffing, methods and practices can or cannot improve UX and the product and company success.

To our knowledge, this is the first empirical assessment of UX maturity across a diverse group of individuals and organizations. By going beyond generalizations offered by other models, we hope ultimately to provide evidence for how UX maturity may contribute to the growth and success of a company.

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