Discovering Cultural Blind Spots:
Ethnography for Risk Analysis and Quality Assurance

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Good morning. It will come as news to no one here that we are living in tumultuous times. Within the past year, the political institutions in both America and Europe have been destabilized. Members of particular religions and ethnic groups have become the target of repression. To many people, the future seems quite uncertain. Amid these changes, business leaders wonder how they can safely navigate their organizations through troubled waters and reliably distribute their products and services. Consumers wonder who will protect them from harm.

One strategy businesses have adopted is to increase their focus upon risk analysis and quality assurance. In this presentation, I will describe the techniques and processes of risk analysis and quality assurance, and then discuss ways in which ethnographic principles and methods can strengthen both those functions. Rather than focusing on a research study done for a specific client, I will explore the more general topic of how our expertise can be applied in a new domain.

˝ System failure

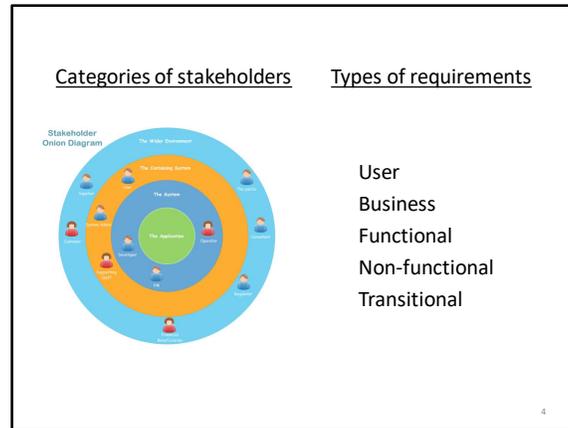˝ Cyberattack

˝ Regulatory compliance
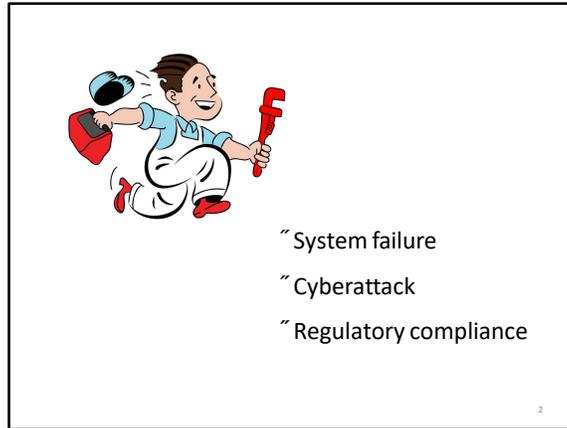
Some background information: I have been engaged in risk analysis and quality assurance since the early days of the digital era. I conduct user, customer, and stakeholder research in my role as a manager of innovative and transformative technology projects within large organizations. Clients usually call me when they have a problem to solve or a mess to clean up. For example, recently my projects have included the development of products and services in response to a system failure, a cyberattack, and a legal requirement to comply with stricter government regulation. In other words, much of my work has been reactive, especially during times of political and economic crisis. However, that pattern has begun to change. Increasingly, risk analysis and quality assurance work is becoming proactive: it happens earlier in the design phase of new products and services with the goal of minimizing unpleasant surprises for both producers and consumers.
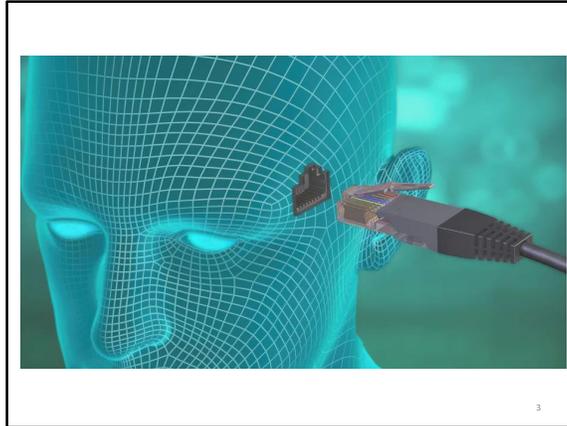
There is an axiom in engineering that says, "Behind every technical problem is a people problem." A failure, that is, of human behavior, communication, or understanding. The key questions for risk analysis and quality assurance are "Which people?" and "Why?" and "What do they want?" These questions will no doubt be familiar to user experience researchers who employ them to develop design personas. Risk analysis and quality assurance do include the end-users' experience, yet broaden the field of research to encompass a more systemic perspective.

Worldwide, the evolution of telecommunications and information technology has made this adjustment necessary. As humans have expanded our relationships with digital devices, it has become rarer for a product or a service to stay disconnected from cyberspace. The end-users' journey may include membership in an on-line group, websites for maintenance and support, plus ongoing promotional texts, tweets, and e-mails. Whereas the production of anything by a business has always involved a system, nowadays the experience of consumption draws the end-user into that business system.

Categories of stakeholders   Types of requirements

Stakeholder Onion Diagram

User
Business
Functional
Non-functional
Transitional

On the left is an onion diagram of stakeholders showing some typical categories of people whose ideas and behaviors matter for risk analysis and quality assurance. On the right is a classification of types of requirements a project team considers during the creation of a product or service. The first three types determine the user experience. Non-functional requirements tend to be invisible to the user but essential for implementation – legal and regulatory compliance, data privacy, security, maintainability, etc. The transitional requirements supply a checklist for moving the stakeholders from whatever state they are in before the delivery of the product or service to their new state afterward.

Discovery techniques

- Affinity grouping
- Archive review
- Brainstorming session
- Card sorting
- Collaging
- Data analytics
- Delphi discussion
- Demo
- Diary study
- Focus group
- Information network analysis
- Literature review
- Location mapping
- Mind mapping
- Model building
- Movement mapping
- Observation
- Participant observation
- Questionnaire
- Shadowing
- Social network analysis
- Structured interview
- Survey
- Task analysis
- Unstructured interview
- Usability test
- Vendor review
- Walkthrough

For UX researchers and other practitioners of applied anthropology, the development of a new product or service typically inspires an optimistic mood. Eliciting requirements from stakeholders may begin with a question such as "How could this [whatever] give you pleasure or improve your life?" This slide lists common techniques for gathering and documenting the information.

However, risk analysis and quality assurance begin with a negative question: "How could this [whatever] cause you trouble or mess up your life?" Many of the same techniques are applicable, but not all are as effective. Stakeholders may resist following the researcher down into the dark pit of pessimism. They may not wish to discuss their fears because in doing so they might appear weak. They may suspect that their loyalty or support are being tested.

Under such circumstances, three discovery techniques often prove worthwhile. A review of the business archives where data on problems is stored is a good starting point to frame questions based upon verifiable evidence. The Delphi survey is an anonymized digital conversation among subject matter experts who would fear reprisal if their identities were disclosed. A confidential diary study enables stakeholders to record their thoughts privately over time, and researchers may obtain important insights by reading between the lines.

To demonstrate the similarities and differences between ethnographic research for risk analysis and quality assurance and ethnographic research for other varieties of applied anthropology projects in a business environment, let's look at the procedures and tools.

As understood by speakers in everyday discourse, the word "risk" has negative connotations. This is not true for professional risk managers. The term "risk" is neutral and means only an uncertain event or condition in the future. Negative risks are called threats and positive risks are called opportunities. In practice risk managers direct most of their effort toward analyzing threats, and so shall we.

Sources of threat

Safety
Health
Finances
Reputation
Family
Identity

Asking a stakeholder to identify threats associated with a product or service inevitably prompts the person to imagine the most sensitive, cherished, and vulnerable aspects of his or her life. The degree of discomfort experienced by the stakeholder depends upon the type of deliverable as well as the upon the person's cultural identity and trust in the researcher.

Risk Register - identification

ID	Cause	Risk Uncertainty	Effect	Project Consequences for Budget, Schedule, Scope, Resources, Quality, etc.	O / -T	Trigger	Source
2	Climate change forecasts predict more damaging storms and flooding in the Hades area	The minimum standards of stability and strength for boat docks might change in the future	Boaters, maritime associations, and environmental groups may object to the design of the boat docks	If the client feels that pressure from climate change mount to changing groups is strong enough to warrant changes in the specifications, then additional efforts, resources, and materials will be required. It will be the client's responsibility to purchase appropriate insurance.	T	DEP review of proposed design and materials for boat docks	President, Hades Waterfront Association

Everyone's worries are recorded on a Risk Register – the background situation, the uncertainty it creates, the possible threat or opportunity, the impact on the organization, the evidence that would prove the threat is becoming a reality, and the person who identified the matter. The example on the slide shows a risk associated with a project to develop a new waterfront park.

As a group, the key stakeholders prioritize the risks based upon their estimates of the likelihood it will occur and the extent of the damage if it does. Once the list of important risks has been agreed upon, the stakeholders must decide what to do about them by developing a response strategy.

Proactive responses

What can we do to decrease the chances it will happen?

Some risks are best handled proactively, by doing something to decrease the probability of occurrence.

Reactive responses

What can we do to lessen the damage if it does happen?

Other risks are best handled reactively, by figuring out how to limit or repair the damage after they have occurred.

Either proactively or reactively, response strategies fall into four broad categories. The organization can avoid the risk by eliminating specifications or tasks they previously accepted. They can transfer the risk by outsourcing the work to an external supplier. They can mitigate the threat by adding new specifications or tasks, such as using stronger materials, performing additional tests, or buying insurance. If they cannot decide upon a plan, or if they want to wait and see how bad the consequences will be, they could create a contingency reserve.

Risk Register – response strategy

Owner	Proactive Response Strategy	Proactive Response	Reactive Response Strategy	Reactive Response
Env onmental Eng nee	M t gate	C eate an alte nat ve des gn w th mo e obust mate als	T ansfe	C ty of Hades w ll pu chase nsu ance to ebu ld the boat docks n the event they a e dest oyed by a lood.

The Risk Register document is complete when all these data elements have been incorporated. But it is not a one-time exercise. As the work progresses, the stakeholders perform a periodic governance ritual to review it and make updates.

Now let's turn to the subject of quality. Like "risk", quality is a word which people use all the time in everyday discourse based upon an assumed mutual understanding of the concept. For quality management professionals, the definition needs to be more precise. Here are four definitions from four famous quality theorists: fitness for use, conformance to requirements, value to people, and uniformity around a target value.

Sources of complaints

Errors
Defects
Unreliability
Fragility
Inconsistency
Complexity
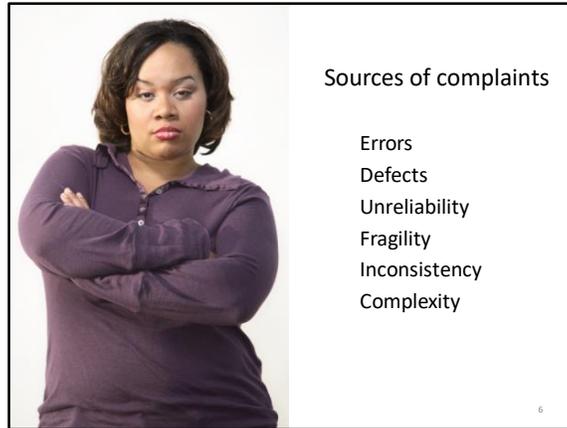
As Abraham Lincoln once said, "You can never please all of the people all of the time." Effective quality assurance depends upon helping stakeholders identify and document what is important to them, and aligning the characteristics of the product or service with the organization's business strategy.
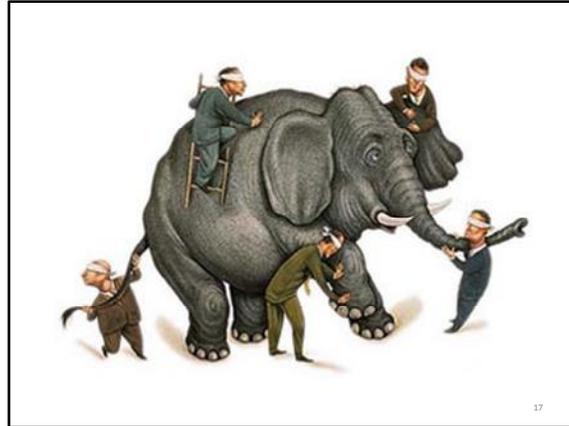
The process of establishing quality standards begins with assembling the stakeholder representatives from across the system. The members of this group will include some of the same members from the risk analysis group, but there will be others. Using the risks from the Risk Register as prompts to encourage a humorous discussion about what people *don't* want, the stakeholders then answer the question: what would you want from an ideal solution in a perfect world?

Critical to Quality list

Requirements for Waterfront Park	
Safe park and neighborhood	5
Clean environment	5
Attractive landscape	5
Well-maintained facilities	4
Convenient access	4
Interesting family programs	4
Friendly staff	3
Wide range of sports	3
Accomodating all ages	3
State-of-the-art marina	2
Variety of food at concessions	2
Free wi-fi	2

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Collectively the stakeholders evaluate the criteria and come to a consensus prioritizing the attributes of the product or service as a whole.

ID	Deliverable	Source	Requirement
1	Cleanup	GREENDAY General Counsel	High safety standards
2	Cleanup	Mayor	Effective publicity about Mayor's involvement
3	Cleanup	Hades Town Council District Rep	High safety standards
4	Park landscaping	Condo president	Greater amenities for property owners
5	Park infrastructure	Sanitation Commissioner	Clean park
6	Park infrastructure	Parks Commissioner	Park offers something for everyone
7	Recreatonal facilities	DEP Commissioner	Good ongoing water quality
8	Recreatonal facilities	Family advocate	High safety standards for children's areas
9	Recreatonal facilities	President Riverwalk Mal Dev. Corp.	Adequate supply of equipment for users
10	Recreatonal facilities	Police Chief	Safe park and surrounding neighborhood

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The product or service is divided into component deliverables. For each component, an appropriate group of stakeholders is assembled and asked to describe their ideal. The list of the deliverables, the stakeholders consulted, and their wishes is recorded in a Quality Control Register.

At this point, the requirements should still be quite vague and subjective. Words like "interesting", "friendly", "convenient", "comfortable", and "clean" are all appropriate.   The next step is asking each stakeholder to articulate what he or she means and provide examples in context. For the waterfront park scenario, a parent taking a toddler to the playground would naturally supply different criteria for the concept of "convenient" than a sanitation worker whose job was to empty the trash cans.

Many stakeholders need help from the researcher to translate their vision into SMART goals – criteria which are specific, measureable, attainable, relevant, and time-bound.

The QC Register documents and prioritizes all of the stakeholders' specifications for the various deliverables. The example on the screen shows that a single high-level subjective requirement could have multiple specifications from various sources.

As the product or service is created and then released, deployed, or implemented, the organization needs to confirm that the specifications are being met. Several types of bias can cause cultural blind spots in the inspection process, especially if the participation is confined to a special-purpose and overworked testing group.

QC Register –
validation methods and data reports

QC ID	4
Deliverable	Operational procedures
Source	Parks Dept. Maintenance Manager
Requirement	Low environmental impact for community events
Requirement ID	14
Category	O
Priority	2
Specification	Cleanup repairs and replanting after a community event shall cost less than $10 000 regardless of the number of participants
Activity	Count the number of people attending an event and calcula e the recovery cost
Method	IT staff take photos from security cameras at the beginning of an event and use image processing software to count people; Maintenance supervisors review maintenance logs worker timesheets inventory changes and purchase
Metrics	Total number of people total cost including hourly wages and chargebacks
Schedule	After each semi-monthly event
Assignment	Parks Dept. Assistant Maintenance Manager
Report	Scatter diagram X axis = Cost Y axis = Number of people

Transforming raw validation data into charts and graphs that tell a clear story and can be understood by different types of stakeholder audiences provides insight into anomalies and encourages collaborative discussions about adjustments before a problem becomes a crisis. The last row in this record specifies the form of data visualization to be used – pie chart, bar graph, heat map, scatter diagram, run chart, etc.
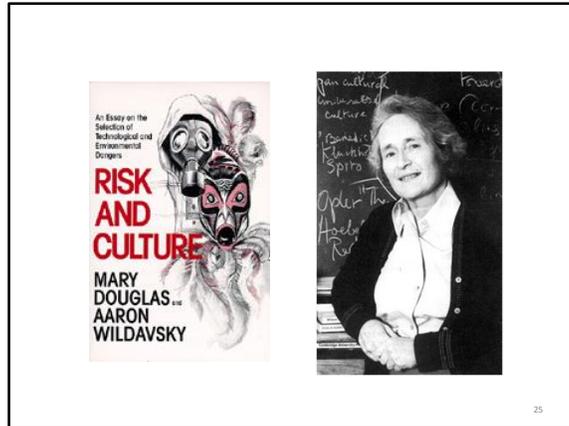
Now that we've reviewed the techniques and processes of risk analysis and quality assurance, let's talk about how ethnographic principles and methods improve the results.

One fundamental insight we can contribute is that the determination of risk and quality is essentially a social process. A community collectively decides what is worth worrying about and where to set the bar for a standard. As a consequence of groupthink, taboos, and social silences, people can be all but blind to the real risks they face. The anthropologist Mary Douglas provided a fine illustration of this concept in her 1982 book *Risk and Culture*. Describing the Lele people in Zaire she studied, she noted that among the serious threats to the people's well-being outsiders identified were gastroenteritis, pneumonia, tuberculosis, and leprosy. However, when the Lele themselves were asked about threats that concerned them, they usually mentioned barrenness and being struck by lightning.

An ethnographer's familiarity with etic and emic perspectives can raise a community's awareness of its own process of

collective decision-making.
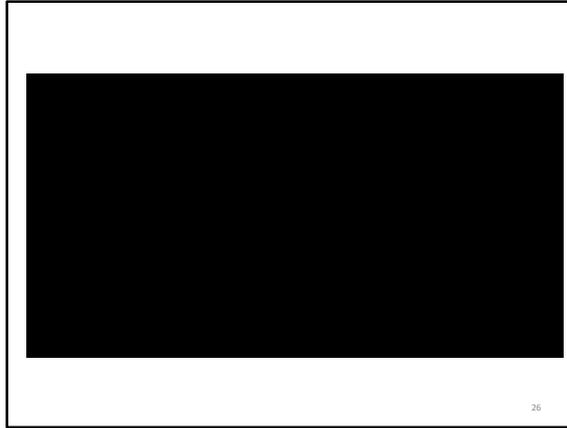
Within each category of stakeholder, there could be multiple cultural groups comprised of representatives from different countries, languages, ethnicities, classes, religions, tribes, occupations, and other affinities. For risk identification, risk response planning, quality standards definition, and inspections, it is important to involve as wide range as possible of perspectives. Ethnographers' understanding of concepts such as kinship relations, social network analysis, and snowball sampling can help ensure that the project team doesn't just "round up the usual suspects."
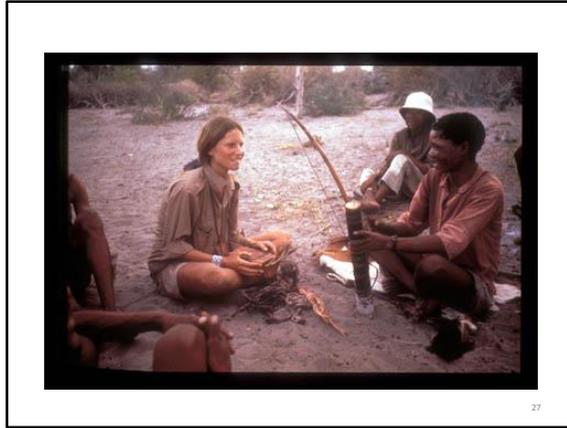
Making stakeholders feel comfortable talking about sensitive topics requires a relationship of trust. To disclose one's fears takes more courage than to describe one's hopes, wants, and needs. People's cultural values and customs often matter in defining SMART specifications for quality standards. Beyond our experience in the field learning to communicate with people unlike ourselves, ethnographers know how to focus on material artifacts, aspects of language, and evolutionary dynamics as important components of the research.

An ethnographer working within an organization inevitably finds himself or herself advocating on behalf of an approach, a methodology, a position, a group of people. Sometimes this entails a petition for more research in general, or for research that explores the influence of specific cultural factors on decisions. Often it involves explaining the value of engaging harder-to-reach stakeholders: populations who may be more remote, inaccessible, coerced, disadvantaged, inarticulate, vulnerable, or unhappy. Establishing relationships, cultivating trust, and conveying empathy for such participants takes longer than with other types of stakeholders who fit more conventional personas, and schedule delays are never welcome. Negotiation and compromise become necessary.

Yet as more products and services become embedded in digital systems, the investment improves risk analysis and quality assurance. Discovering cultural blind spots helps protect organizations during times of uncertainty and prevent the human failures that result in disastrous technical malfunctions. For this purpose applied anthropology can benefit business, and careers in the management of risk and quality can offer opportunities to ethnographers.

Bibliography

˜ Douglas, Mary and Aaron Wildavsky. 1982. *Risk and Culture: An Essay on the Selectin of Technological and Environmental* Dangers. Oakland, CA University of California Press.

˜ Goodman, Elizabeth and Mike Kuniavsky. 2012. *Observing the User Experience*, 2nd edition. Burlington, MA Morgan Kaufman.

˜ Kendrick, Tom. 2015. *Identifying and Managing Project Risk: Essential Tools for Failure-Proofing Your Project*, 3rd Edition. New York Amacom Books.

˜ Ladner, Sam. 2014. *Practical Ethnography: A Guide To Doing Ethnograpy in the Private Sector*. Abingdon, UK Routledge.

˜ *Practice Standard for Project Risk Management*. 2009. Newtown Square, PA Project Management Institute.

˜ Rose, Kenneth. 2014. *Project Quality Management: Why, What and How*, 2nd Edition. Plantation, FL J. Ross Publishing.

˜ Schultz, Jason. 2016. "The Internet of Things We Don't Own?" *Communications of the ACM* 59 5, pp. 36-38.