

Special Section: Ethnography in NPD Research How "applied ethnography" can improve your NPD research process

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As more and more companies use "applied ethnography," questions have multiplied about the best way to apply this research technique in NPD. Liz Sanders gives us an overview of the fundamentals of "applied ethnography," as well as some examples of corporations that have used this technique successfully in their new product development process.



Elizabeth Sanders

Applied ethnography is gaining widespread acceptance as a research technique. But many companies are still puzzled by it, or do not know how to use it effectively - especially in the new product development process. This article will explain the fundamentals of this technique, and give some examples of how it has been used effectively in the NPD process by companies in recent years - and perhaps help you decide if applied ethnography is right for your latest project.

Basic definition

Fundamentally, the term "ethnography" involves the description and study of human cultures. Social scientists use it to understand other ways of life from the native's point of view. Ethnography originates from anthropology where anthropologists spend significant periods of time with local people making detailed observations of their practices. Traditionally, ethnographers such as Margaret Mead focused on the study of cultures thought to be primitive. But today ethnographers study more familiar groups and cultures such as do-it-yourselfers, teenagers, retail shoppers, mobile phone users, etc. Ethnography is recognized today as a new form of consumer research that is useful in uncovering and identifying emerging and unmet customer needs. Although it is not really a new scientific technique, the application of ethnography to the new product development (NPD) process is relatively recent.

Because it draws from a range of research methods, ethnography is more of an approach than a defined research method. The overall term and technique includes observations, interviews and the documentation of "traces" that people leave as they go about their everyday lives. An example of traces from our own culture would be Post-It notes. Ethnography comprises a very in-depth form of qualitative research, which is also referred to as ethnographic field work.

Ethnographic field work includes elements of other types of research such as contextual inquiry, observational research and participant observation. Contextual inquiry is a form of ethnography that is specifically focused on asking questions. It is contextual, in that the asking of questions takes place in the natural environment of use. Observational research entails simply watching users in their environments, without asking questions about why or how things are being done. Participant observation is a more intensive form of observational research that focuses on the researchers joining the culture being studied in order to better understand that culture.

Defining applied ethnography

Applied ethnography may be defined as ethnographic field work done to bring the consumer's or customer's point of view to the design and development of a new product. Applied ethnography can also be used to improve existing products.

Both traditional and applied ethnography can be described by a number of characteristics. For instance, this type of research:

- Takes place in natural surroundings;
- Is open to change and refinement throughout the process as new learning shapes future observations;
- Combines a range of research methods, including observation and open-ended forms of inquiry;
- Has a goal which is more likely to be exploratory rather than evaluative; and
- Aims at discovering the local person or "native's" point of view, wherein the native may be a consumer or an end-user.

Traditional ethnographies are often done by an individual and may take several months to years to complete. Margaret Mead, for instance, spent much of her adult life in such locations as New Guinea, Samoa, Bali, and many other places, conducting ethnographic research on people as they grew from children into adults. In the NPD process, especially in today's economic climate, most researchers do not have this type of time period available. They may, however, be able to use applied ethnographic techniques. These research techniques are generally done within a much shorter period of time ranging from a few days to months.

From the viewpoint of NPD practitioners, some advantages of applied ethnography over traditional ethnography include the fact that it is quicker, it is less expensive, and it can be less intrusive into the lives of those being studied.

Even so, applied ethnography can be expensive and time consuming when compared to other qualitative research methods such as focus groups. However, it can achieve a deeper level of insight about customers' emerging and unmet needs than other techniques.

Where ethnography fits in

Applied ethnography can be useful throughout the new product development process. But it is probably most useful in the earliest stages of the NPD process, especially the Fuzzy Front End. It can be used to explore emerging and unmet needs for a particular target group. It can also be used to understand how people live with existing products or services that a company currently provides. The use of this in-depth and open-ended approach can help researchers see what is really important to people. This understanding can help alleviate the risk involved when going after a new market or bringing to market a totally new product. Applied ethnography can also be used iteratively throughout the development process.

Comparison to other research techniques

Applied ethnography is not better than all other types of research at all points in the development process. But it is superior to many techniques such as focus groups for the Fuzzy Front End of the NPD process.

Traditional focus groups rely primarily on "What people say." But this data is limiting. There are many reasons why people say what they say, and why they don't say other things. And there are many thoughts and feelings people are not able to put into words. These thoughts include tacit or inexpressible information which does not have a chance of being expressed when using research methods that rely solely on what people say. Even the new computeraided, language context analysis tools such as the use of [CALCAT](#), described in the October 2001 issue of Visions, are limited to what people are able to put into words.

Applied ethnography, on the other hand, draws simultaneously from a number of different research methods. It listens to what people say, while at the same time watching what people do and what they use. Applied ethnography is the best way to discover the difference between what people say they do and what they really do in their daily lives. Since it allows the use of multiple converging perspectives - what people say, do, and use, it will always reveal more and provide greater insight than will the single perspective of "What people say." This deeper level of understanding is what is needed in order to drive real innovation from the customer's point of view during the Fuzzy Front End of the NPD process.

The Xerox Palo Alto Research Center

Xerox was one of the first companies to use applied ethnography. The company hired Lucy Suchman, an anthropologist, at the Xerox Palo Alto Research Center (PARC) in 1979. Suchman conducted ethnographic field work in the workplace and summarized her findings in a film showing office workers struggling to do a copying job on a Xerox machine. After viewing the film, Xerox engineers began to think about designing Xerox machines differently. Suchman's work led to the large green button we see on most copiers today that lets us walk up to the machine and easily make a copy.

In the early 1980s several of the larger industrial design firms hired anthropologists or psychologists to bring the human-centered perspective into their NPD process. Today there are a number of social science-based research consultancies and many individuals who offer a psychological and/or anthropological perspective to product development teams.

Today many large consumer-based organizations such as Microsoft, Motorola and Intel have anthropologists on staff within their organizations. These social scientists either conduct the field work or oversee the work of other field workers. For instance, Intel has applied social scientists who conduct ethnographic field work on a continuing basis. Those researchers were very helpful in expanding Intel's involvement in the healthcare field. In a large ethnographic study of health care providers conducted by these in-house researchers, it was discovered that many doctors have time constraints which prevent them from accessing the people, information, and/or resources needed to provide patients with quality health care. The result was the development of Allscripts Healthcare Solutions - wireless Intel devices that automate physician tasks such as prescribing medication and capturing billing information.

At Motorola, ethnographers found that Chinese businessmen working in rural areas with no telephone service had developed an elaborate system of using pagers to send coded messages. That discovery led Motorola to develop a twoway pager for the Chinese market.

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Special Section: Ethnography in NPD Research How "applied ethnography" can improve your NPD research process (Part 2)

How to do ethnographic research

In ethnographic field work, there are many ways to observe and document what people do and use, from direct observation with note-taking, to the use of photography or video-taping and even self-documentation. But there is a tradeoff between the richness of the documentation and the level of intrusiveness we impose on the participants. For example, we can make notes of our observations and conversations, but we will get far better documentation if we audiotape the entire event. And if we are able to videotape, we can look back and observe people's body language as well. Exhibit 1 shows some of the ways that ethnographers make observations and document what they hear and see.

Exhibit 1: Three Main Ethnographic Approaches

	What people say	What people do	What people use
LISTEN			
Make notes	Conversations		
Audio-record	Interviews		
OBSERVE			
Watch		Behavior	Behavioral traces
Make notes		Mapping patterns of behavior	Wear and tear on objects, pathways, etc.
Sketch or diagram		Relationships between people	Product usage
Photograph		Time-lapse photography	Photos of product use
Videotape		Videos of daily living	Videos of activities
Digital technology		Web-cameras	Web-cameras

Videotaping is certainly the most complete documentation method from the research point of view. New technologies like digital cameras have greatly increased the reach of the ethnographer. By putting such tools on the web, the researcher can record activities almost in real time over large distances and across time zones. This can greatly reduce the time and costs involved in conducting global applied ethnographic research. But videotaping may cause the participants being observed to feel uncomfortable, and sometimes people simply refuse to be videotaped. In that case, it is not a good recording medium - and you have to find an alternative approach.

Variations on applied ethnography

In applied ethnography, alternative methods of documentation are continually being explored. The product development process does not slow down to wait for the results of the field work to come in. Faster and less expensive methods and tools may be the only way to introduce ethnographic methods into the NPD process when a company is just beginning to explore its use.

Self-guided reporting by participants

One alternative to having a researcher do all the field work is to have participants engage in "guided self-reporting." This approach has emerged recently in response to the need for more cost- and time-effective ethnographic methods. Exhibit 2 shows how this technique compares to traditional ethnographic methods.

Exhibit 2: Comparing Two Different Field work Methods

	Ethnographic field work	Self-reporting by participants
LISTEN		
Make notes	Conversations	Diary entries

Audio-record	Interviews	Beeper studies
OBSERVE		
Watch	Behavioral traces	Self-observations
Make notes	Mapping patterns of behavior	Daily logs
Sketch or diagram	Relationships between people	Cognitive maps show relationships between people
Photograph	Photos of people, places, events, stuff, etc.	Disposable and Polaroid cameras are used
Videotape	Videotaping	Self-initiated videotaping
Digital technology	Web-cameras	Web-cameras

In the self-reporting approach, the ethnographer does not go into the "field" to collect the data. Instead, the research person prepares tools that will guide the participants in understanding how to collect the data themselves. A good way to structure the self-reporting activity is to prepare a workbook that guides the participants in making and documenting their own observations. Self-documentation allows people to take photos of places and activities that they might not want you to see first hand. Of course, at the same time there is a potential for bias by the participants. For example, they may clean up the house before taking pictures there. This factor must be taken into account when analyzing the data.

Digital technologies have made electronic self-reporting possible. Participants can document their own activities and environments in electronic workbooks and send them to the research team electronically. The implications of electronically-enabled ethnography are very exciting. The new digital technologies also give the researcher an improved means of sharing the field data with others in the product development team.

Deciding on the right approach

A number of factors go into deciding which research method to use. These include: where you are in the development process; who are the participants being investigated; the time frame available; and, finally, the size of the research budget.

Ideally, an ethnographer does the field work over an extended period of time so that he or she can pursue themes and opportunities as they emerge. But it is rare that the ideal approach can be taken. A more practical approach is to use a blend of "pure" ethnography techniques, combined with guided self-observations from the participants.

Combining types of research

Applied ethnography of the self-reporting variety can work well together with traditional focus groups. This combination is, in fact, an effective and cost-effective approach. Participants must agree to do some homework prior to coming to the focus group. The homework consists of completing the self-observation workbook that is either sent or hand-delivered to the participants at least one week before the focus group.

Researchers used this combination in the early 1990s to develop the Zip drive and reposition the Iomega company. In the study, participants were sent disposable cameras and a workbook to fill out before joining the focus groups. They were asked to take pictures of all the places they worked. In the focus group, they introduced themselves by showing their photographs while they explained what they did at work. The photographs and the descriptions they gave of all the "stuff" they used at work were crucial for helping the design team to understand the relationships people had to their information - the main type of "stuff" that interested the research team. This understanding provided the content for the positioning taken by Iomega to introduce the new Zip product line with the line, *"Because it's your stuff."*

Greater use by companies

The interest and excitement surrounding the use of applied ethnography is leading to a rapid increase in the number of companies that claim to practice it. It is easy to see, however, that many of these firms are just traditional market research firms trying to sell something new. In reality, they have very little, if any, experience in ethnographic field work. Before hiring an individual or a company to do ethnographic field work for you, you must be sure to find out about their previous experience and check the references they provide.

If you are using applied ethnography for the first time in your own organization, it is advisable to seek guidance from a practitioner who has a number of years of experience to draw upon. Look for someone who not only conducts applied ethnography but who is also willing to teach your team to do the field work.

In addition, remember that ethnographic research has its own code of ethics. It should not be done in secret. You must tell the participants about the nature of your research. You must obtain their consent. Knowing that they are being observed

will, of course, change their behavior. But the skilled applied ethnographer will keep this in mind during the data analysis phase.

Finally, it is important to respect the people you are researching. Remember, they are the experts in their own lives and experiences. And, as researchers, we are there to learn from them, and then to use that information in the NPD process to design and develop more useful and desirable products.

How Microsoft Uses Applied Ethnography

Software developers naturally want to create features that are interesting to themselves. This is an inherent danger in software development. One of the main goals of our work as ethnographers at Microsoft is to understand our customers from their own perspectives instead of from the software company's perspective. That is why ethnographers have directly had impact in numerous divisions within Microsoft, including Mobile Products, MSN, and Windows.

Ethnographers experience the world of technology in the users' own environments, observing their activities that have personal, idiosyncratic meanings and a direct impact on their daily lives. Ethnographers translate what they see for Microsoft product teams and that input directly impacts on how features are designed so that they can be successfully used in the "real world." In essence, ethnographers bring the voices of real people to the software development process.

Good ethnography is a skill, and it is usually most successful when used by trained researchers. Recently, there was a round of email at Microsoft on the subject of the skills of anthropologists. The question was asked: "Can't anyone do good site visits?" The answer was, "Yes, but." One of our ethnographers responded with the following illustration:

A Microsoft product team member visits a man in his home. She wants to know how he uses his frying pan. The product team member asks the man a bunch of questions such as, "When did you buy this frying pan? Why did you buy a non-stick pan? Do you always spray your frying pan? Why did you buy a non-stick pan? Do you always spray your pan with Pam?" She asks for the man to tell her even more about the frying pan. First one hour, then two hours pass - the researcher asks many, many questions about the frying pan. The product team member totally missed the really interesting thing the man does with his blender.

The moral of the story was simple: There are many who can get the basics out of a site visit, but not everyone will get the most out of such a visit. What is most important, however, is to remember that ethnographers at Microsoft are only one part of a very large team of product planners, program managers, developers, product designers and usability engineers. Success of our work comes from integrating our findings (about both the frying pan and the blender) into the team as a whole.

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