

# Ethnographic-Based Approaches to Knowledge Capture

by

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## Abstract

Government and corporate organizations are losing an unprecedented number of knowledgeable professionals to downsizing, and retirement. The resulting loss in know-how, professional networks, skill sets, and corporate memory threatens organizational effectiveness. This loss of explicit and tacit knowledge and know-how leaves managers and employees alike with fewer options and erodes the values and sense of community that sustain organizational excellence.

Several approaches have been used to capture and codify knowledge in knowledge management systems; however, these are often IS-based and insufficient for uncovering the hidden or tacit knowledge that can help managers with decision-making and staff with performance. While the laboratory notebooks maintained by bench scientists and engineers contain important information, often times these same notebooks do not reflect the nuances of thinking, contextual variables, and other internalized elements that shape the experimental process and explain the results.

This paper describes ethnographic-based approaches to knowledge capture developed in partnership with the US Navy. Based on proven and successful data capture methods used by cultural anthropologists for decades, ethnographic approaches provide managers with powerful new ways to capture, retain, and use important tacit knowledge while not “freezing” the organization in less productive or obsolete strategies and operations, a variation on Lewin’s classic model of the cycles of change (1947).

## Introduction

Government and corporate organizations are losing an unprecedented number of knowledgeable professionals to downsizing and retirement. The

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resulting loss in skill sets, professional networks, and organizational memory threatens effectiveness. This loss of explicit and tacit knowledge -- sometimes called know-how -- leaves managers and employees alike with fewer options and erodes the continuity, values, and sense of community that foster and sustain organizational excellence.

While many managers are either unaware of the importance of tacit information or lack sufficient resources to devote to capture and preservation for future use, there is a growing appreciation about the roles that explicit and tacit information, or know-how, play in an organization's success. As a result various approaches to collection and codification of knowledge have emerged during the past decade (Beazley, Boenisch and Harden 2002, Den Hertog & Huizenga 2000).

One of the more important such approaches to emerge is Information Systems (IS). However, IS-based approaches to knowledge capture are insufficient for uncovering the hidden or tacit knowledge that the departing employees take with them. This can leave managers and employees alike without crucial contextual information needed for decision-making or measuring performance. When the departing employee is a research scientist or engineer, the laboratory notebooks remaining with the organization often do not contain or reflect the nuances of thinking, contextual variables, and other internalized elements that shaped the experimental process and explain the results.

In this paper we explore the benefits and drawbacks of the prevailing approaches to knowledge capture, the foundation of the larger endeavor known as knowledge management. We also introduce a viable alternative to current capture practices, an ethnography-based method, which is currently in development in a public-private partnership between a consulting firm and the US Navy. The goal of the partnership is to ascertain the extent to which ethnographic methods can provide managers with more powerful ways to capture, retain, and use important tacit knowledge that can strengthen organizational operations and productivity. Used in the context of 'system knowledge,' this methodological approach will be used to identify and retain critical knowledge that situates operational tasks, for example, within important broader organizational contexts. Additionally we believe that ethnographic data capture approaches will enable managers to achieve higher quality and productivity by helping them to avoid "freezing" an organization in less productive or obsolete strategies and operations.<sup>2</sup>

### **When Knowledge Goes Out the Door**

In industry sectors where knowledge and know-how is not a highly valued commodity the departure of an employee to a new job in another organization or

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<sup>2</sup> See Lewin's (1947) classic model of cycles of organizational change.

to retirement is an unremarkable event. But as the pace of competition accelerates, as markets internationalize, as the product-to-market time line compresses, and as organizations adopt information-intensive operations and processes, know-how or tacit knowledge assume higher and higher value.

When provisions are lacking for the capture of know-how, individual employees become extremely valuable and organizations become vulnerable. Some individuals become adept at using personal expertise and tacit knowledge related to research directions, social and expert networks, and how to attract funding, for example, to negotiate better, higher paying jobs in a succession of different organizations. When those organizations are competitors in a fast-growing industry, as happened in the 1990s in the information technology sector, organizations sometimes take extraordinary measures to retain knowledgeable employees. While the appearance of in-house day care facilities, gyms with fitness classes, and corporate concierges are all designed to make an organization attractive to new hires, such perks also serve to retain valuable employees who may be highly sought after by competitor companies. At best, expenditures of enormous resource help retain such employees and the tacit knowledge they possess. At worst, these individuals leave, taking everything with them, perhaps to a competitor in cases where the departure is acrimonious.

### **Traditional Approaches<sup>3</sup>**

As the perceived value of know how has increased, more formal attempts to capture and pass tacit knowledge to a replacement employee have emerged. Common approaches to knowledge capture are (1) rely on the departing employee to train informally his or her known replacement, or (2) hire the individual back as a private contractor/consultant, rather than as a company or government employee. In this way, the expertise remains available to the group, but whether at a lower or higher price is arguable.

Examples include devoting a period of time, say a few weeks or months prior to the departure date, for the replacement person to shadow the departee thereby observing how things are done, learning the ropes, and glimpsing some of the tricks of the trade, or know-how, that can facilitate the job. In Medieval times, newcomers to a craft profession or guild served for a period of years as apprentices, then more years as journeymen before being recognized as master craftsmen. Today, of course, even in skilled professions, apprenticeships are of much shorter duration if not absent in the formal sense. In most organizational settings, the new replacement may have one or two weeks to spend with the retiree or departing employee. And that is under the best circumstances!

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<sup>3</sup> Tradition, from the Latin *tradition*, "the act or action of handing over" beliefs, values, attitudes, and information.

More likely, if there is time, the departing employee will have a set of organized print and electronic files for the replacement to browse through at leisure (which may mean late at night or on the weekend – off the clock). In some cases, a formal "debrief" is held, wherein the departing individual 'instructs' the replacement for an hour or two prior to the departure. Such one-way communication offers limited utility at best. The limited experience of the replacement restricts the numbers and kinds of questions that can be asked to flesh out his or her knowledge of extraordinary situations or important contextual elements. Typically it is not until the replacement has been on the job for a period of time that he or she knows what questions should have been asked during the original de-briefing. Those questions often focus on tacit knowledge.

In the case of manufacturing processes or military-related operations, machine or process-specific knowledge may be recorded routinely in step-by-step detail for the specific tasks to be performed, tools to be used, and other discrete procedures and then institutionalized in the form of operations manuals, maintenance repair cards, or other formats. New hires and replacement personnel undergo formal classroom training to ensure that the official or authorized procedures are understood and followed. Deviations from the formal process, even when the changes show superior results to those mandated in the manual, are generally not tolerated or sanctioned and are relegated to the "informal" or "unauthorized" mode of performance. In some cases, employees found to deviate from accepted procedures may be disciplined. It is not surprising that, in some situations, the know-how and tacit expertise that employees develop by experience is used secretly so as to avoid the negative consequences of discovery.

The benefits of these approaches are that the replacement person at least gets a sense of what the job will require and is left with sets of archived materials to rely on as he or she begins the job. They also leave the individual with a sense of freedom to "make the job her own" rather than be forced to adhere to a system that is counter to her way of thinking. The drawback, of course, is that while archived information in the form of letters, memos, meeting notes, other documents and lists are helpful, the official record rarely if ever references tacit knowledge (how we *really* do things here). Instead they provide a record of explicit knowledge that is "how people say things are done." No helpful hints or inside information are included in archived materials, primarily because most staff are unaware of the amount of know-how that has been assembled over the years, or it does not occur to anyone that it should be written down, or as in the example above, to leave a report of tacit knowledge is to admit that "proper" procedures were not followed.

Another traditional approach to retention of tacit knowledge and know-how used for years by private and government organization is through consultation. In this case an employee who is retiring simply sets up shop as an independent consultant who can then be "re-hired" by the organization to do the same job he

once did as an employee. Advantages to the government are that the employee is no longer on the government payroll and that program managers can show policy makers that they have achieved successful downsizing. The principal disadvantage, however, is that again no attempt is made to formally capture the know-how of the individual. Rather, program managers rely on that individual's continued presence and availability to solve problems and apply tacit knowledge and expertise to project activities. So the inevitable knowledge loss is merely postponed unless active efforts to capture and somehow codify the know-how are made while it is still available to the projects and program office.

### **Tra-digital Approaches**

During the past few years, efforts to develop new ways to capture tacit knowledge and know-how have emerged. We call these *tra-digital* approaches because of their reliance on new information technologies and systems (IT/IS) to as tools "to hand over" organizational knowledge – from capture, codification, storage, to transmission. Tra-digital approaches to knowledge capture take several forms, including:

- Web-based knowledge management databases
- Multi-media presentations, and
- Web-based "Communities of Practice."

The following sections briefly describe these approaches and present advantages and drawbacks for each, however, it should be noted that these approaches generally focus more on the *codification, storage, or access* than on the capture of tacit knowledge and know-how to be used in the database.

#### *Web-based knowledge management databases*

Possibly the most widely adopted approach to knowledge capture utilizes the power of electronic databases to assemble data for retrieval by employees. These databases comprise large systems of archived written materials, including reports, memos, news items, letters, and so forth which can be accessed through a set of protocols. They have become synonymous with the term "knowledge management" (or KM), and KM systems have proliferated widely. KM systems are searchable repositories of information that are particularly useful in situations where access to written materials can strengthen a proposal or a research project.

Drawbacks of such KM systems, however, are many. For one thing, it is difficult to ascertain whether, or to what extent, organization personnel use a given KM database. Second, the taxonomic systems of the programmers used in the development of the databases do not reflect the nomenclature most often used by users/employees. Further, language changes over time so that

terminology used to search the database may be inconsistent with some terms coded into the original system or used in older reports and letters. As a result, updating the information is a critical and constant activity that consumes enormous for KM resources.

Another drawback to such systems is the fact that when individual retirees complete formal questionnaires, for example, the database system may have few degrees of freedom to incorporate incidental information (often tacit knowledge) offered by the respondent. Such incidental information could turn out to be extremely valuable at some future time; however it may be ignored in favor of responses to structured questionnaires that are far faster and easier to upload into a database. Moreover it is very difficult to code information given in open-ended essays or discussions, and yet this is precisely the form most know-how or tacit knowledge is offered. Finally, structured survey questionnaires themselves are often biased by assumptions that are unwittingly built into their design, and this further restricts the type and extent of information, which could be captured from a departing employee.

### *Multi-media Approaches to Knowledge Management*

Multi-media approaches are gaining in popularity. Videotaping can capture a much wider range of information to complement the use of survey questionnaires, interviews, and other traditional forms of knowledge capture. Currently, the US Department of Labor is promoting the use of multimedia knowledge capture approaches as ways to record how tasks are accomplished. The use of videotaping, computer graphics and simulations, and written materials are proving to be a powerful way to train and re-train employees, particularly since it is now widely understood that learning is accomplished differently for each individual. The combination of video, pictures, text, and even voice, means employees who are not native English speakers, for example, can see how a task is accomplished rather than read text in a language in which they are not necessarily proficient. Similarly, multi-media formats are ideal for training of employees with a variety of learning styles, and they are far superior to sole reliance on textual descriptions. They can be accessed through personal computers for almost instant refreshers or alerts.

Despite the promise of multi-media approaches to knowledge capture there are drawbacks, and some of these are significant. First, multi-media approaches are costly in time, labor and materials. They require IS/IT capabilities that may be beyond the capabilities of many organizations, particularly government groups. Second, they are labor intensive. Time is required to set up a particular video or film sequence, to ensure that lighting, positioning, and the processes to be filmed are done so at their most advantageous angles, and film editing--even with digital media--is a tedious process. Finally, there may be significant sensitivity to sharing know-how and craft secrets---they *are* a form of intellectual property and job security, after all---

by allowing them to be filmed or videotaped. Similarly, it sometimes happens that the process of videotaping a repair job, for instance, reveals that those doing the repairs are not following the protocols established in the manual. In such cases, knowledge capture teams are faced with the dilemma of resolving the differences between what the book mandates and what actually may work better.

### Web-based Communities of Practice

Finally, tra-digital approaches have begun to incorporate what has become known as communities of practice. Communities of Practice (CoP) have been utilized as a strategy for a number of years (Wenger, et al., 2002). CoPs are generally organized around subject matter experts (SMEs) and provide dynamic, flexible discussion and problem-solving forums for employees working on related projects or in related areas. They often provide opportunities for novices to receive advice and know-how from those with more experience as questions and situations arise.

Communities of practice often arise naturally and spontaneously within organizations, as informal groupings emerge based on substantive aspects of projects and programs. In fact, some organizations have tried to foster the growth of communities of practice through architectural design. Openness, reconfigurable work areas, and 'conversation spaces' complete with comfortable chairs, tables and small kitchens dominate the award-winning Ohio Aerospace Institute in Cleveland, for example. Of late, there have been numerous attempts to build virtual communities of practice by utilizing the World Wide Web. These continue to proliferate, and do provide an excellent way for knowledge to be shared and for mutual problem solving.

As with other knowledge capture approaches, there are some drawbacks with communities of practice also. For one thing, groups by their very nature often become closed to outsiders, or at least are perceived by outsiders to be closed. The close camaraderie established among long-time members can intimidate newcomers and novices who are afraid to ask a question that might be regarded as stupid. Second, the use of subject matter experts as the focal hubs around such communities are created may, in time, lead to competing ideologies and approaches, much like those that exist between rival scientists and their graduate student communities (see, for example, Kanigel 1986). SMEs that have substantial personal charisma are often elevated to a very high status within an organization, and their views dominate research directions and approaches. In such situations it becomes very difficult to introduce new directions or approaches. Other issues include 1) intellectual property – who owns or gets credit for this idea or knowledge and 2) trust – the grease of openness. Nevertheless, CoPs provide flexible and dynamic contexts in which knowledge capture can occur.

## Ethnographic Approaches Capture Tacit Knowledge

Ethnography<sup>4</sup> is the study and systematic recording of the culture of a human group. The goal of ethnographic research is to uncover and understand the cultural system that frames human action and to construct a socio-cultural model of the local living knowledge system that is consistent with the way local people understand it and uses local (emic) categories to describe and organize their reality (Galt 1985:14). All ethnographic approaches share three important characteristics “(1) a system perspective, (2) triangulated data collection, and (3) iterative data collection and analysis (Beebe 1995:42).”

Ethnographers collect and analyze a combination of verbal, observational and contextual information to identify what people say and do in their natural environment. Fieldwork concentrates on observing and eliciting detailed descriptions of activities and specific products used. Ethnographers follow a set of well-understood rules that builds rapport in the first segment and then look for deeper information. Details are summarized at the end of the interview in order to confirm the data with the respondent. Verbal statements are validated through observed actions. Researchers listen for native language: words, terms, and descriptions to fully understand the use in context.

The consistencies and, more frequently, the inconsistencies between what people say and what they do, help identify unarticulated or unrecognized needs, gaps and adaptations called “work-arounds” and “disconnects.”

Underlying the ethnographic research approach is the understanding that all people belong to one or more networks of interlocking social relationships where all members share a common or core set of beliefs/knowledge, values and behaviors. Anthropologists and other trained ethnographers use various methods to uncover the core sets by:

- Gathering individual (emic) perspectives from members of these socio-cultural groups.
- Examining the collected information to identify patterns of shared beliefs/knowledge, behaviors, values and rules.
- Constructing group "mental models" from identified patterns to understand the meaning at the core of the knowledge system.
- Interpreting how the members of a socio-cultural network use their mental models to construct and express appropriate shared behaviors, beliefs/knowledge, and values, to provide a contextual frame of meanings for products, and services.

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<sup>4</sup> “. . . The things humankind makes and uses at any particular time and place are probably the truest representation we have of values and meaning within a society.” (Kingerly 1996: ix).

- Identifying disconnects in the mental model where shared beliefs don't match behavior or where beliefs are not shared or breakdown causing points of stress.

Ethnographers must command a sound working knowledge of the concepts and methods that make ethnographic research possible. Qualitative and quantitative data and analysis techniques help discern among processes that may be more or less prevalent among the groups or individual under study. Data collection methods are just that; standardized techniques that enable researchers to gather valid and relevant information. Rapid ethnographic research uses appropriate qualitative and quantitative methods for data collection and analysis (see Schensul and Trotter 1999; Bernard 1999).

Qualitative data such as descriptions of perceptions about how people use or classify objects, the nature of their personal interactions, and opinions about the world around them provide tremendous clues about people on a group level; it yields us clues about culture. Quantitative data such as the amount of time spend at a display terminal or the number of phones calls is great for the same reason. When combined, the ethnographer can create and distinguish among the most important human processes within and across groups of people.

Data analysis enables the ethnographer to identify patterns and make inferences from that information about the relationships among cultural phenomena.

Because ethnographic research is open-ended it can be time consuming. A key to ethnographic research for practical use has been the development of rapid ethnographic assessment methods. Since at least the mid-1970s, rural development projects requiring quick results have been called rapid appraisal, rapid assessment, and rapid rural appraisal.<sup>5</sup> More recently they have been used to describe new research directions in health (Beede 1995, Bennett 1995, Higginbotham 1994)<sup>6</sup> and product innovation (Squires 1999, Sunderland 1999).

Rapid ethnography, as we apply it to capturing tacit knowledge in organizations, differs from other rapid ethnographic approaches in three important ways. First, while rapid rural appraisal requires the participation of sizable multi-disciplinary teams, small teams usually do rapid ethnographic research for knowledge capture. Thus the teams have to be quick, almost self-supporting and well coordinated. Second, the outcome of the work is most likely a product such as a technical manual, rather than complex state-subsidized programs and public policies. Third, the teams use video whenever possible to

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<sup>5</sup> See, for example, Chambers (1983), Hildebrand (1982), Rhoades (1982), Honadle (1979), Shaner, Philipp, and Schmehl (1982), and Collinson (1981).

<sup>6</sup> See also Manderson and Aaby (1992), Manderson, Almedom, Gittelsohn, Helitzer-Allen and Pelto (1996), and Trotter and Schensul (1998).

document interviews, behavioral activities, and the relationship among things so that individuals who could not be present might review and exchange information.

Rapid ethnographic approaches have several important components: semi-structured, open-ended interviews, site tours (contextual observation), participant observation, literature reviews, cultural history, and semiotic (content) analysis. Occasionally other methods such as time series analysis, multi-dimensional scaling (cognitive mapping), focus groups, and telephone surveys may also be used as appropriate.

## **Integrating Ethnography into Knowledge Capture Strategies**

Traditional approaches to knowledge capture, while hoping to capture all knowledge before, or just as it walks out the door, are generally not capable of capturing tacit knowledge. Newer, tra-digital approaches, appear to have greater ability to capture both explicit and tacit knowledge, but are limited by time and resource constraints within most organizations. However, these, too, often fall short of capturing and assembling tacit knowledge in ways that can be utilized effectively by managers and employees.

While tacit knowledge is the most difficult to capture, it is often the most important knowledge to capture to maintain and strengthen organizational performance and effectiveness. Tricks of the trade practiced by master craftsmen and artisans, lessons learned about priority sequencing of steps to host a conference or meeting, and tactical approaches to handling a demanding boss are all examples of tacit knowledge and know-how. They are the things that enable an organization to operate smoothly. The systems approach of ethnography helps to identify that knowledge which is germane and provides a way to capture it in context through triangulation and iteration.

The authors are currently working with the US Navy to identify how best to incorporate these methods into the Navy's current knowledge capture approaches and to train the Navy's professional personnel in the use of ethnographic methods. While results of the project are not yet final, they are encouraging. It is expected that ethnographic methods will be integrated into current data capture strategies and will contribute to increased effectiveness and efficiencies. Pending continued successful outcomes in the current project, we believe that ethnographic approaches can provide significant enhancements to organizational knowledge capture activities. The addition of systematic ethnographic methods will be a welcome addition to the organizational tool kit.

## References cited

- Beazley, Hamilton, Jeremiah Boenisch, and David Harden. 2002. *Continuity Management: Preserving Corporate Knowledge and Productivity when Employees Leave*. Hoboken, NJ: John Wiley & Sons
- Bennett, F. J. 1995. Qualitative and Quantitative Methods: In-depth or Rapid Assessment? *Social Science and Medicine*, 40(12): 1589-1590.
- Chambers, Robert. 1983. Rapid Appraisal for Improving Existing Canal Irrigation Systems. *Discussion Paper Series No.8*. New Delhi, India: Ford Foundation.
- Collinson, Michael. 1981. A Low Cost Approach to Understanding Small Farmers. *Agricultural Administration* 8:463-471.
- Csordas, T. 1992. Anthropology's Integrity as a Research Discipline, *Medical Anthropology Quarterly* 6 (4): 394-400.
- Den Hertog, J. Friso and Edward Huizenga. 2000. *The Knowledge Enterprise: Implementation of Intelligent Business Strategies*. London: Imperial College Press.
- Handwerker, W. Penn and Danielle Wozniak. 1997. Sampling Strategies for the Collection of Anthropological Data: An Extension of Boaz's Answer to Galton's Problem. *Current Anthropology*, 38(5): 869-875.
- Higginbotham N. 1994. Capacity Building for Health in a Social Science: The International Clinical Epidemiology Network, Social Science Program and International Forum for Social Science in Health. *Acta Tropica* 57(2/3):23-137.
- Hildebrand, Peter. 1982. Summary of the Sondeo Methodology Used by ICTA. In *Farming Systems Research and Development: Guidelines for Developing Countries*. W. W. Shaner, P. F. Philipp, and W. R. Schmehl, Eds. Pp.89-291. Boulder, CO: Westview.
- Honadle, George. 1979. Rapid Reconnaissance Approaches to Organizational Analysis for Development Administration. Paper presented at the RRA Conference, at the Institute of Development Studies, University of Sussex, Brighton.
- James Beebe. 1995. Basic Concepts and Techniques of Rapid Appraisal, *Human Organization*, 54(1): 42-51.
- Kanigel, Robert. 1986. *Apprentice to Genius: The Making of A Scientific Dynasty*. New York: Macmillan
- Lampl, Linda L., Susan E. Squires, Cris Johnsrud, "Ethnographic-based Approaches to Knowledge Capture" IAMOT 2004, Washington, DC.

Kingery, W. (Ed), 1996. Editor's Preface, *Learning from Things: Method and Theory of Material Culture Studies*, edited by W. David Kingery. Washington, D.C.: Smithsonian Institution Press.

Lewin, K. 1947. Frontiers in Group Dynamics: I. Concept, method, and reality in social sciences: social equilibria and social change. *Human Relations*, 1 (1), 5-41.

Manderson, L and B. Aaby 1992. An Epidemic in the Field? Rapid Assessment Procedures and Health Research. *Social Science and Medicine* 35(7): 839-850.

Manderson, Lenore, Astier Almedom, Joel Gittelsohn, Deborah Helitzer-Allen and Pertti Pelto, 1996, Transferring Anthropological Techniques in Applied Research. *Practicing Anthropology* 18(33-5).

Rhoades, Robert E. 1982 The Art of the Informal Agricultural Survey. (Training Document 1982-2.) Lima, Peru: Social Sciences Department, International Potato Center.

Shaner, W. W., P. F. Philipp, and W. R. Schmehl. 1982. *Farming Systems Research and Development: Guidelines for Developing Countries*. Boulder, CO: Westview,

Squires, Susan. 1999. Rapid Ethnographic Assessment, American Breakfast and the Mother-in-law. Paper presented at the American Anthropology Association meetings, Chicago.

Sunderland, Patricia. 1999. Glancing Possibilities: Three Weeks to Understand the Nature of Family Life in the United States. Paper presented at the American Anthropology Association meetings, Chicago.

Trotter, Robert and Jean Schensul, 1999. Methods in Applied Anthropology, in *Handbook of Methods in Cultural Anthropology*, H. Russell Bernard (ed.), Walnut Creek: Altamara Press.

Van Arsdale, Peter, 1996. Ethnography, the Life Course, and the Use of Event Calendars: A Research Note. *Cultural Anthropology Methods* 8 (3): 11- 12.

Wenger, Etienne, Richard McDermott, William M. Snyder. 2003. *Cultivating Communities of Practice*. Cambridge, MA: Harvard Business School Press.

Wenger, Etienne, Richard McDermott, William M. Snyder. 2000. *Cultivating Communities of Practice*. Cambridge, MA: Harvard Business School Press.

Werner, Oswald, 1995. Short Take15: The Case for Verbatim Cases, *Cultural Anthropology Methods* 7(1): 6-8.