

# Web Searching in the Context of Information Seeking in Everyday Life: The Cases of Civic and Spiritual Action

## A Research Proposal<sup>1</sup>

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This post-doctoral study focuses on everyday life information seeking via the Internet (or Net). Its mission is twofold. The empirical intention is to look at how the Internet, especially the World Wide Web (WWW or Web), is used in searching for information, and what its role is in information seeking and non-work activities in two divergent domains which are the civic and the spiritual. The theoretical aim of the project is to develop a truly contextual model of Web searching.

## Framework

At the metatheoretical level, the piece of research is most of all informed by Brenda Dervin's *Sense-Making*<sup>2</sup> approach (see e.g. Dervin 1983, 1992, 1999). We wish to emphasize, however, that this work is only loosely based on "orthodox" Sense-Making. Thus far, there have only been a few Sense-Making studies (e.g. Jacobson 1991) on information seeking in electronic environments, so a relatively "new spirit is making itself felt" in Internet research. In fact, the great majority of WWW searching studies — Bruce (1997) and Choo *et al.* (2000) being exceptions — have been plagued by the lack of clear background assumptions, which is why the investigation at hand attempts to rise a cut above the rest.

Adopting the individual's instead of the system's perspective is a central starting point (see e.g. Dervin 1992, 81; Savolainen 1992, 157) here. Constructing meanings is seen as his most essential activity. Life is conceptualized as a process which is characterized by "moving", changing and evolving through time and space — from a past to a present, and from a present to a future (e.g. Cheuk & Dervin 1999; Dervin 1999, 730, 733, 743).

Information research dealing with Internet searching has commenced to proliferate in recent years. Alas, such endeavours have typically examined the use of the WWW as a phenomenon in itself, without explicitly relating it to other sources of information (Savolainen 1999, 779) or its wider frames of reference (see *ibid.*, 766; cf. *ibid.*, 766, 779). However, exploring the context (Savolainen 1998, 342, 344, 345) and role of Net searching, too, is imperative if we aspire to genuinely understand real-life Web utilization.

Figure 1 proposes an analytical nested *model* of information seeking on the Internet. At its core is the World Wide Web, and each enfolding oval stands for a broader contextual layer. The bigger the oval, the more overarching a process is in question. The idea of embeddedness was inspired by Wilson's (1999a, 840; 1999b, 262-263) "nested model of the information seeking and information searching research areas", and Kari's (2001, 145, 147-148, 192, 200) observation of processes unfolding at various levels and on diverse scales. In the diagram, the downward arrow symbolizes how the person's position gives rise to and influences his using the Net. The upward arrow shows that Internet searching can affect his life at various levels. One can in fact replace "Internet" and "WWW" with any other source of information, which makes the frame of reference universal. The model is above all intended to function as a guide for empirical research.

<sup>1</sup> An earlier version of this working paper was presented at *A summer school on web searching* which was held on 19-21 August 2001 in Tampere, Finland.

<sup>2</sup> Henceforth, we refer to the approach with "Sense-Making", and to the phenomenon with "sense-making", as recommended by Dervin (1998).

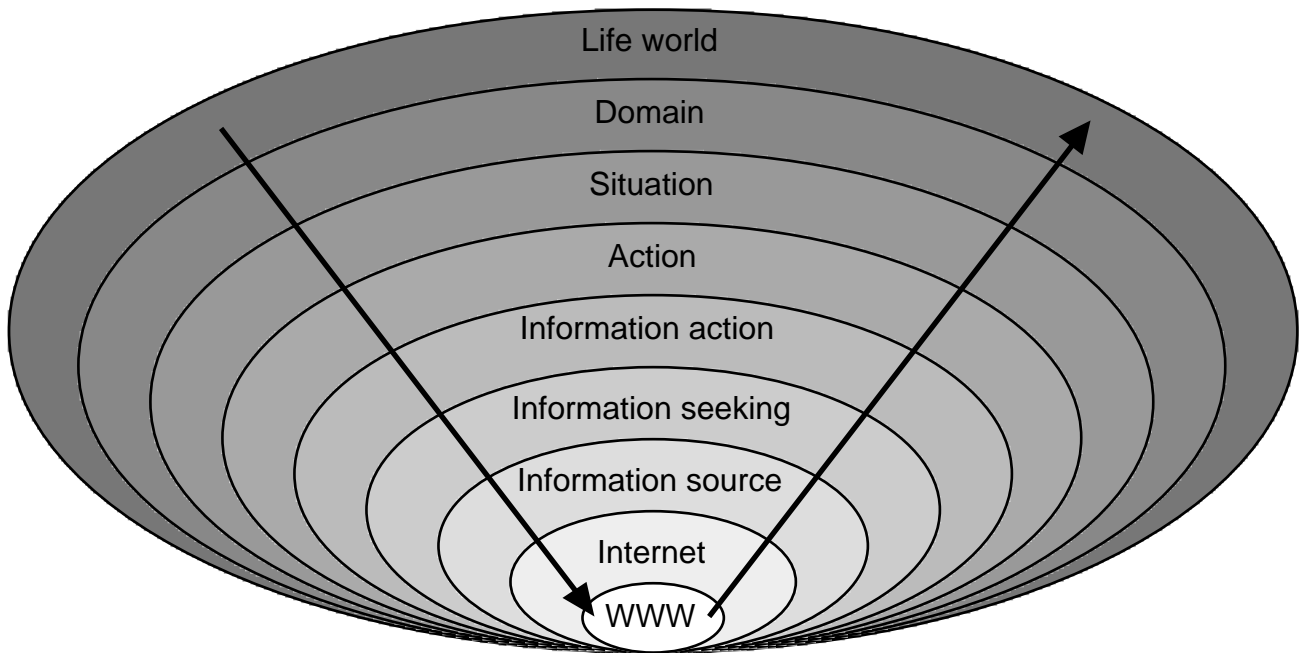


FIGURE 1. A contextual model of information seeking on the World Wide Web

## Life world

In the broadest sense of the word, the person's life world imports the perceived reality in which his everyday activities take place. It may be seen as "the foundation and scene of all human and meaningful action"<sup>3</sup>. (Sarlund 1991, 73.) Some attributes of the life world are the actor's demographics, way of life, personality, beliefs, values, and purpose in life, for example. Due to the expanse of this outermost contextual layer, it will not be a target for empirical analysis in the current project.

## Domain

Within his life world, the individual acts in certain domains. According to a dictionary, domain is "a particular area of activity or interest" (*Collins ...* 1987, 418). It entails certain competencies — that is to say, knowledge and skills. The people in the sphere constitute a "thought or discourse community" (see Hjørland & Albrechtsen 1995, 400). Hölscher's and Strube's (2000, 340-341) experimental comparison of "Internet experts and newbies" hinted that the individual's "domain knowledge" has a cardinal impact on his Web searching. Covi (1999, 294) found that sufficiently broad domain knowledge is requisite in the utilization of networked information resources. When discussing this requirement, Covi (*ibid.*) refers to "material mastery skills" which indicates one's abilities to obtain discipline-specific information, knowing what materials are available, and how these are organized and displayed in electronic sources.

Two basic domains are *work* and *leisure* (see Ford 1977, 3; Savolainen 1998, 334, 345). Most investigations into network use have operated in occupational (*ibid.*, 342) or study contexts. One of the delightful exceptions in this regard is Pivec's (1998) scrutiny of youngsters' pastime Net usage. This state of affairs is a symptom of a bias which in fact ails all information research. Yet, prior inquiries have indicated that more often than not, information searching situations arise "outside of work" (Chen & Hernon 1982, 17-18). A recent survey and interview study (Lamminmäki 2000, 52, 53, 78) on Internet utilization in a public library found that information was most often sought about hobbies rather than work or studies (cf. Klobas & Clyde 2000, 23). Hence, there is clearly demand for analysing Net searching in connection with free time activities. Therefore, the current piece of research concentrates on non-work contexts. This, in turn, will create opportunities of comparing the results with earlier findings (e.g. in Choo *et al.* 1999, 2000) on job-related information seeking via the Internet.

<sup>3</sup> This and all other quotations from sources in other than the English language are translations of our own.

Even *leisure* is a huge field of inquiry as such, containing a multitude of domains. That is why in practice, it is naturally not very sensible to study information searching on the Internet in free time in general, for the results could remain rather vague and trivial. So, it is probably wisest to examine information seeking in some tangible spheres of life. Civic and spiritual action were chosen as examples in the present investigation, because they have not been much researched before in information seeking studies. They are also expected to have theoretical utility, as explained below. While the two selected domains may extend to the person's working life, too, it is nevertheless presumed that they chiefly belong to his private sphere.

In general, **citizenship** means membership in a socio-political community, involving certain rights and responsibilities towards the commonwealth. Most developers of citizenship theories explicitly regard *participation* in the society and personal *autonomy* as the actor's goal. According to Barbalet (1988, 68-69), citizenship is fully practised when the individuals are engaged in the community life on an equal basis. Ultimately, participation of this kind may result in better and more responsible citizenship. Further, sovereignty or independence belong to basic needs common to all human beings. The most salient feature of autonomy is initiative which may be taken particularly when one faces social evils (Doyal & Gough 1991). Also Roche (1992, 93-94) emphasizes the importance of personal self-government, good mutual relations, and participation in politics.

In sum: the most central dimensions of (good) citizenship are autonomy and participation in various fora of society. In particular, the fora of the *civil society* are important in this respect. Following the ideas of Cohen and Arato (1994), civil society can be understood as the sphere of non-work activities located between the state and the profit-driven market. It may be conceived as a field of interaction, and the main actors in this sphere include families, voluntary associations, social movements attracting citizen activists, and so on. The attainment of the goals of citizenship presupposes the existence of varied material and immaterial resources. The most vital of these are income, health, education, accommodation, family, and social environment. Increasingly, knowledge is a basic asset of citizenship, because it lays the foundation of comprehending the society and its processes. Hence, more strongly than before, competencies in using various tools such as computers and the Internet belong to the elementary resources of achieving citizenship.

Since the late 1960's, the ways in which citizens seek information in everyday contexts have been paid some attention to, predominantly in the USA. The majority of the studies may be classified as broad surveys scrutinizing the most popular information sources and channels, and identifying barriers to information seeking (see e.g. Chen & Hernon 1982; Dervin *et al.* 1976; Marcella & Baxter 1999; Warner *et al.* 1973). In addition, there has been a small number of qualitative investigations examining the information seeking practices of citizen activists (Durrance 1984), elderly people (Chatman 1992; Williamson 1998), and those in a disadvantaged or marginal position in society (Chatman 1991, 1996). In the late 1990's, the role of the Internet in citizen information seeking started to arouse increasing interest (see e.g. Savolainen 1999). However, the practices of Web searching have not been discussed in detail in these studies.

Quite a different domain is represented by **spiritual action** which means activities concerning the individual's spiritual side. A dictionary defines spiritual primarily as "relating to people's deepest thoughts and beliefs, rather than to their bodies and physical surroundings" (*Collins ...* 1987, 1405; cf. Decker 1993, 34). Another lexicon complements this by stating that spiritual betokens "of or pertaining to the intellectual and higher endowments of the mind", and "of or pertaining to the moral feelings or states of the soul". Some aspects of the adjective are "mental" and "intellectual". (*Webster's ...* 1996.) Secondly, spiritual is understood as "relating to people's religious beliefs" (*Collins ...* 1987, 1405) as opposed to "temporal" matters (*Webster's ...* 1996).

The person's mere spirituality or spiritual life is not a sufficient trigger for information seeking. A pertinent motive could be a spiritual problem, routine, interest, change or development which all require spiritual action. This, in turn, can be facilitated by searching for information. Spirituality is a relevant subject for research in that everybody surely has incorporeal goals. From a wider perspective, these can be viewed as a part of seeking and fulfilling the meaning or purpose of one's life. Spirituality is also an intriguing phenomenon from the angle of Internet use in the respect that the combination brings together two opposite things: the material (Net as a structure of metal, plastic and glass components) and the immaterial, the artificial (Net as a manifestation of technology) and the natural. How can they be reconciled? Another favourable consideration is that the WWW seems to be a well-exploited tool in communicating about spiritual affairs.

As far as we know, the sole inquiry on spiritual issues in information studies has been A. Neelameghan's (1999) theoretical article entitled *Lateral relations and links in multicultural, multimedia databases in the spiritual and religious domains*. An earlier paper by Jay Kinney (1995) discusses the potential impact of the Internet on spirituality, but is not concerned with information seeking.

This one research project enables the blending of two different domains, which serves both analytic and synthetic aspirations. On the one hand, the two spheres make it possible to compare Internet information seeking in two disparate realms of everyday life. It is surmised that these deviate from each other at least on the dimensions of spirituality, formality and communality. An attempt will be made to verify and enlarge this set of dissimilarities by resorting to literature and the research participants. On the other hand, the mundane and the spiritual will not cancel each other out, but rather make each other complete in the present scrutiny. The result will be a holistic depiction of non-work Internet use.

## **Situation**

The person often encounters situations which belong to a particular domain. Dervin (1983, according to Halpern & Nilan 1988, 170) defines situation as "an epistemological time-space context that an individual would recognize as being meaningfully separate from other epistemological contexts". It can be conceptualized as a perceived totality of time-space qualifiers, and visualized as a local, malleable reality in which acts and events take place (Kari 2001, 196). The actor ordinarily becomes aware of the situation when "routine thinking no longer works effectively", and his "movement is stopped" (Savolainen 1993, 17; see also Dervin 1983, 14) or at least restricted (Kari 2001, 73; Perttula 1993, 66-67) in a figurative sense. Change, interest, maintenance and problem are usual situation types (Kari 2001, 75-77, 188). Here, it is pertinent to inquire into what the situation is like, how it leads to Web searching, and how the discovered information in turn affects the outcome of the situation. Furthermore, comprehending information seeking via the WWW necessitates its comparison in different situations (see Wang *et al.* 2000, 249).

## **Action**

Resolving a situation requires action on the individual's part (Kumpulainen 1993, 15). Action, the common denominator of the fields of the civic and the spiritual, can be generally defined as "anything that you do in order to deal with or achieve something" (Collins ... 1987, 14). It is seen as intentional and hence meaningful (Dant 1991, 201, 203; Wersig & Windel 1985, 18), at least by its performer. Action finds its expression in both physical and mental acts (Kari 2001, 119-120, 191). In the current piece of research, we are principally interested in cognitive and especially information action.

The Internet is used as an instrument of information action (see Healy 1997, 63; also Perry 1995, 29; Pharo 1999, 209; Pivec 1998, 90; Savolainen 1998, 338; Savolainen 1999, 780), but it is employed for many other purposes, too, like business (Pivec 1998, 90), communication (Patrick 1997; Savolainen 1998, 338; Savolainen 1999, 780), developing Net skills (Turpeinen 1999, 61, 62, 69), education (Pivec 1998, 90; Savolainen 1998, 338), entertainment (Patrick 1997; Pivec 1998, 90; Savolainen 1998, 338; cf. Erdelez 2000, 366; Pihlajamäki 1999, 115), finance (Kling 1999, 58), passing time (Turpeinen 1999, 75, 76), problem solving (Hawk & Wang 1999, 264), "random surfing" (see Savolainen 1998, 338; cf. Erdelez 2000, 366), relaxing (Turpeinen 1999, 75, 76), research (Pivec 1998, 90), shopping (Kling 1999, 58; Pivec 1998, 90; cf. Pharo 1999, 209), socializing (Patrick 1997; Pivec 1998, 90), and work (Turpeinen 1999, 61, 62). There are some indications of information action actually not being the most prevalent motive for Net utilization (see Savolainen 1999, 780; cf. Pharo 1999, 209; Turpeinen 1999, 75, 76).

## **Information action**

By building upon Erdelez's (1997, 412-413) elucidation of "information behaviour" and Wersig's and Windel's (1985, 18) discussion on "action", it is proposed that information action is a process in which the individual performs meaningful deeds in relation to information and knowledge in order to

achieve something<sup>4</sup> (cf. Frants & Brush 1988, 86). Information action is one way to the person's destination in the situation. It is also suggested that this activity may take at least four broad avenues: information seeking, mediation, dissemination and organization. The Internet can be used in all of these tasks. However, this investigation in the main examines seeking information.

## Information seeking

An instance of sense-making (Bruce 1997, 320; Dervin 1983, 3; Solomon 1997b, 1136; see also Solomon 1997a, 1125; cf. Cheuk 1999, 24-25; Dervin *et al.* 1982, 425) and information action (Kari 2001, 38), we define information seeking as a purposive process in which the individual attempts to find information through information sources in order to satisfy his information need (*ibid.*, 40; cf. Byström 1999, 31; Kuhlthau 1991, 361). Gratification is seldom, however, an end in itself, but rather a means to a "higher" end (cf. Kari 2001, 40-41). This generally denotes using the constructed knowledge (*ibid.*, 41; cf. Rich 1997, 12) in order that the situation can be solved. The Net is to be put in the context of what information is wanted and what is actually obtained (cf. Wang *et al.* 2000, 236), as well as how the actor's understanding evolves during the process.

Of particular concern is the *strategy* with which the WWW is approached. Information seeking strategy is best formulated as the general manner in which one organizes his thoughts and deeds to find information (see O'Connor & Seymour 1990, 185; also Berger 1979, 134). The three basic strategies are searching, browsing and encountering (see Kari 2001, 98-100; cf. Ashford & Cummings 1983, 382-385; Berger 1979, 134-142; Choo *et al.* 1999, 6; Hawk & Wang 1999, 256; Johnson 1996, 4, 140; Pharo 1999, 215; Wilson *et al.* 1999, ch. 2.1; Wilson & Walsh 1995, 22). Most inquiries (an exception is Choo *et al.* 1999) into information seeking on the Web do not explicitly analyse strategies, as they (e.g. Catledge & Pitkow 1995; Hawk & Wang 1999; Hölscher & Strube 2000) tend to be focused on the tactical plane (see below) of events. The research at hand will attempt to relate the adopted strategy with the situation in which the person is. As far as we know, this has not been done before in information studies.

## Information source

Information seeking becomes concretized in the sources of information that are consulted by the doer. "Information source" means a carrier of information from which the individual gets or at least expects to get knowledge that could satisfy his information need (Byström 1999, 47; King & Palmour 1981, 72-73; cf. Johnson 1996, 8, 48-50; Limberg 1998, 20). For just about any information requirement, there is commonly a range of potentially relevant sources of which one or more are solicited. Therefore, exploring the role of the Internet among the various sources is a salient issue (Savolainen 1999, 766; see also Kaminer 1997, 341; Savolainen 1998, 338, 342, 346). The rationale for preferring the Net to other sources — and the other way around (see Savolainen 1999, 769) — is a central question here.

## Internet

Defining the Internet in one unambiguous sentence is a mission impossible, because it is such a complex phenomenon. *Technically*, the Net is an international and physical network of computers that are connected by cables (Bruce 1997, 319; Klobas & Clyde 2000, 31; Lynch & Preston 1990, 263, 268), a platform for electronic technologies (Kahin 1995, 3; cf. Zebec & Sercar 1999, 356), and "an information infrastructure" (Bruce 1997). *Culturally*, the Net can be interpreted as "a network of users" (Perry 1995, 29), or "a loose collection or 'ecosystem' of subcultures" (Healy 1997, 65). *Practically*, the Internet may be seen as a global and open "information network" (Bruce 1997, 319; Iivonen & Halttunen 1999, 31), an information source (Brown & Duguid 2000, 12; Klobas & Clyde 2000, 5; Scull *et al.* 1999, 17; Zebec & Sercar 1999, 355) or system (Kaminer 1997, 341), or a communication system (*ibid.*, 330; Klobas & Clyde 2000, 5, 31). In the final analysis, the Net may be viewed as a tool (see Turpeinen 1999, 78) of sense-making (see Bruce 1997, 320, 321).

*Metaphorically*, the Internet has been imagined as an information sea (Hintikka 1994, 101), a litterbin or even "mausoleum" (Zebec & Sercar 1999, 356), a "shopping mall" (Fidel *et al.* 1999, 24,

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<sup>4</sup> See Kari (2001, 37-39, 191-192) for an exhaustive treatment of information action and how it differs from "mere" information behaviour.

27), a "library without walls" (Bruce 1997, 319), a road (Krohn, according to Laurinolli 1995, 7), or an "information superhighway" (Bruce 1997, 319; Patrick 1997; see also Kahin 1995, 3; Lynch & Preston 1990, 263; cf. Patrick 1997). All of these emblems<sup>5</sup> suggest that it is most illustrative to picture the Internet — being mainly visual by nature — as a virtual place or space (see Hawk & Wang 1999, 256; Hölscher & Strube 2000, 337; cf. Pharo 1999, 208) in which the actor moves (see Alasilta 2000, 169; Choo *et al.* 1999, 8; also Fidel *et al.* 1999; Lynch & Preston 1990, 265). What is more, the Internet itself is a dynamic (Kaminer 1997, 341; Rieh & Belkin 1998, 279) process, because it transforms perpetually (Lamminmäki 2000, 6). Thus, the Net has its temporal dimension, as well. As a whole, then, it may be useful to metaphorically conceive the Internet as a world with inhabitants and travellers (see Perry 1995) of its own.

The Net is not a single unity, however, but incorporates many *services* (Kaminer 1997, 341; Zebec & Sercar 1999, 355), including electronic mail, FTP (File Transfer Protocol), games, IRC (Inter Relay Chat), mailing lists, newsgroups, and, of course, the World Wide Web (Hintikka 1994, 141; Kaminer 1997, 335; Kinney 1995, 765; Lamminmäki 2000, app. 4; Savolainen 1998, 332, 333; Turpeinen 1999, 61). These systems can be linked to each other. The present study homes in on the WWW which is the most conspicuous part of the Internet (O'Neill 1998, 114). Nonetheless, the inquiry will not altogether forget the other segments of the Net, as Web investigations frequently do.

## World Wide Web

It is appropriate to define the Web as an interactive and collaborative "information environment" (Catledge & Pitkow 1995, 1066; Kinney 1995, 770; Pharo 1999, 207; Tewksbury & Althaus 2000, 128; cf. Hintikka 1994, 112) that is composed of hypermedia and hypertext documents linked to one another (see Catledge & Pitkow 1995, 1066; Jansen & Pooch 2001, 235; Kinney 1995, 770; Lazonder *et al.* 2000, 577), and distributed over the Internet (see Choo *et al.* 1999, 8; cf. O'Neill 1998, 114). In this work, information seeking by means of the WWW is essentially conceptualized in terms of the applied tactics.

Information seeking *tactic* can be demarcated as the concrete method of moving from one location to another in the Web (see Choo *et al.* 1999, 8, 13, 14; cf. Kari 2001, 46). Research has revealed a multitude of tactics (see Catledge & Pitkow 1995, 1068; Choo *et al.* 1999, 12-14; Hawk & Wang 1999, 260-263) that does not readily yield to simple typologies. However, it may be stated that the user basically goes around the WWW by either following links (browsing; see Pharo 1999, 211) or entering queries (searching; *ibid.*, 214; cf. *ibid.*, 211). Ellis (1989) suggests six generic and systematic categories of information seeking activity which are (at least partly) also relevant in the study of Web tactics: starting, chaining, browsing, differentiating, monitoring and extracting (cf. Choo *et al.* 2000, 148-151). As Choo *et al.* (1999, 14, 15) found out in their multimethod study on Web information acquisition, a pattern of WWW moves is indicative of a certain strategy of information seeking. Hence, the tactics used do not make much sense unless set against the larger strategic background (cf. *ibid.*, 15). Accordingly, our investigation is not preoccupied with a detailed scrutiny of how the individual navigates around the Web. Instead, it will be looking at whole journeys<sup>6</sup> through the WWW and how these embody an information seeking strategy. The fundamental parts of the peregrinations are their starting and terminal point, as well as the route between these.

Another point of interest from the angle of contextuality is the *selection* of Web pages. In other words, we shall also probe the reasons for choosing (see Kari 2001, 46, 103-105) particular WWW documents from among other Web pages. Hawk and Wang (1999, 257) propose that opting for a source is founded on a decision rule of some kind. Given the vast number of Web documents and the ensuing "information overload" (Abramson 1998, 326; Hölscher & Strube 2000, 337; Rieh & Belkin 1998, 279), picking pages is a valuable research object.

## Research problem

The fundamental research problem in the investigation at hand is to examine information seeking on the World Wide Web, and how it relates to its ever wider contexts: the Internet, other sources of information, the process of information seeking, information action, other action, the situation, and

<sup>5</sup> See Ratzan (2000) for a more comprehensive discussion on WWW metaphors.

<sup>6</sup> Analogously, Scull *et al.* (1999, 19) talk about "traveler's tales".

the domain. In addition, we shall try to determine how some of these contexts affect Web searching, and vice versa. The research problem has two planes. *Macrolevel* matters are analysed in a domain or individuals' life in general, across situations. *Microlevel* phenomena are perused in particular situations in the sphere, as experienced by the persons. These planes exist in symbiosis in that the macrolevel provides the context for the microlevel, whereas the microlevel illustrates the macrolevel. The research questions below were chiefly derived from the contextual model put forward above. The great majority of the specific questions are open-ended, which imports that there is no set of predeterminate answers. Some questions are marked with an asterisk (\*) which denotes that the question is a close-ended one, that is, the affair will be measured within a predefined qualitative typology or quantitative scale. One must bear in mind that these enquiries will be operationalized in a more tangible guise.

## Macrolevel

### Research question 1: What is actors' relationship with the subject domain?

- a. what is the personal meaning of the sphere?
- b. why are the personages interested in the area?
- c. what are the individuals' history and goal regarding the realm like?
- d. what do they do in practice to reach their objective?
- e. how formal are their activities? \*
- f. how individual is their venture? \*
- g. how far have they got on their way to the destination?
- h. how well is the area known? \*
- i. what sets the domain apart from other demesnes?
- j. does the field belong more to the persons' leisure or working life? \*
- k. what is the position of the sphere in their life overall?
  - l. what is their role in the realm? (\*)
- m. what is the role of information seeking in the province?
- n. what are the most important information sources?

### Research question 2: How is the Internet conceived of and used?

- a. what is the Net?
- b. what kind of a place or space is it seen as?
- c. what is the significance of the Internet in the actors' life?
- d. how experienced are they in utilizing the Net? \*
- e. which device and browser program are operated most commonly? (\*)
- f. what is done with the Net?
- g. where is the Net usually utilized?
- h. how often is it used?
- i. how does the usage of the Net change over time?

### Research question 3: How do the Internet and the domain relate to each other?

- a. what is the function of the Net in the area?
- b. what is the role of the Web?
- c. how well do the Net and the sphere match? \*
- d. what sort of incompatibilities are there between them?
- e. how does the field affect WWW searching?
- f. how does Web content influence the persons' life in the demesne?
- g. how does the relationship between the realm and the Net alter with time?

### Research question 4: How is information associated with the domain sought on the World Wide Web in general?

- a. which Net service is primary? \*
- b. in what type of situation is the WWW taken advantage of? \*
- c. are Web sources consulted on a routine or need basis? \*
- d. what is looked for in the Web?
- e. how do the people move in the WWW? (\*)
- f. why are certain pages selected?
- g. what kind of pages are most useful, and which ones are most useless?
- h. how successful are the individuals in finding what they need? \*

- i. what consequences does the changeability of the Web have for information seeking?
- j. how does the persons' style of WWW searching transform over time?
- k. why is the Web rather than other sources or Internet services chosen?
  - l. what pros and cons does the WWW have in comparison with other sources and Net services?
- m. which sources or Internet services does the Web complement or replace?
- n. how does the WWW modify the actors' information seeking habits?
- o. what more extensive impact does Web information have on their life?

## Microlevel

### Research question 5: How is information connected with the domain sought on the World Wide Web in a specific situation?

- a. what is the situation like? (\*)
- b. why is information wanted?
- c. what is the information need like?
- d. which strategy is adopted in approaching information? \*
- e. what is the link between the strategy and the situation?
- f. what sources or Internet services are turned to before the current session? (\*)
- g. why is the WWW chosen instead of other sources and Internet services?
- h. where and how do the individuals move in the Web?
  - i. why are particular documents opted for?
  - j. which page is most useful, and which one is most useless?
- k. how does the acquired information affect the persons' knowledge? (\*)
  - l. to what extent do they find an answer to their question? \*
- m. how is the need for information transmuted?
- n. why do the actors stop or continue seeking Web information after a session?
- o. how is the information obtained from the WWW used?
- p. how does the attained knowledge affect the situation? (\*)
- q. to what extent is the situation resolved or altered? (\*)
  - r. what is the role of the Web among the other sources and Net services in solving the situation? (\*)
- s. what wider influence does the Web information have on the individuals' life?
  - t. how typical are the cases in relation to the actors' habitual WWW information seeking? \*

\* \* \*

### Research question 6: How do the two domains compare with each other in terms of the previous questions?

## Methods

Most previous inquiries into Internet searching have been exploratory (Abramson 1998; Erdelez 2000, 365; Hawk & Wang 1999, 264; Hölscher & Strube 2000, 338; Rieh & Belkin 1998, 279; Scull *et al.* 1999, 17, 24) rather than explanatory. Because we still know relatively little even about the basics of the Net as a tool of information seeking, the former approach is in order. In this case, *exploration* signifies digging deep into meanings to construct a context-sensitive picture from the actor's perspective. In other words, the current study will strive to eschew the trap of producing an objectivistic, meaningless overview out of context (as in Spink *et al.* 2001). When the person's experiences are *explained*, this will not be done through statistical measurement, but by making sense of them within a certain discourse and context.

As an exploratory work, the inquiry will chiefly probe the study object in an *inductive* manner, allowing ideas to surface from the data. The basic nature of prior investigations into this area has been predominantly quantitative (Abramson 1998; Spink *et al.* 2001), qualitative (Lamminmäki 2000, 33; Savolainen 1999, 771; Scull *et al.* 1999, 18) or a combination of both (Choo *et al.* 1999, 3). As a matter of course, the research at hand takes a *qualitative* approach, since this is ideal for tapping meanings (Scull *et al.* 1999, 18) inductively.

## Participants

To many people, it may be indifferent what is going on in the civic or spiritual sectors of life. There are others who pay little attention to the Internet. Hence, we ought to centre our research efforts on individuals who are sufficiently motivated to go through the various phases of the investigation (see Savolainen 1998, 345). Accordingly, we shall look for persons who are interested in the domain, and who also use the Net in connection with it. For practical and financial reasons, it is sensible to limit the dispersion of the informants to the local province of Pirkanmaa (whose capital is Tampere).

In earlier inquiries into information seeking on the Internet, the number of partakers has been 150 (Lamminmäki 2000, 38), about one hundred (Catledge & Pitkow 1995, 1068), several dozen (Choo *et al.* 1999, 10; Erdelez 2000, 366), two dozen (Hawk & Wang 1999, 259; Hölscher & Strube 2000, 342; Lazonder *et al.* 2000, 578; Savolainen 1999, 766), a dozen (Hölscher & Strube 2000, 338; Lamminmäki 2000, 35, 42; Pharo 1999, 210; Pharo 2001, 4; Rieh & Belkin 1998, 282; Scull *et al.* 1999, 18), or some half a dozen (Erdelez 2000, 367; Fidel *et al.* 1999, 27). Since profundity is our aspiration, the sample size in the present research tends to the lower end of this scale. We deem 20 individuals — ten from each domain — adequate. In addition, the pilot study (see below) may require two extra informants.

Prior scholars have either enlisted all members in an organization as study participants (Catledge & Pitkow 1995, 1066), or recruited volunteers through "self-selection" (*ibid.*, 1065; Choo *et al.* 1999, 10; Fidel *et al.* 1999, 33; Hawk & Wang 1999, 259; Pharo 1999, 210; Pharo 2001, 4). Because there is no exhaustive or even representative register of civic or spiritual actors, total or random sampling has to be ruled out. This leaves us with one option only: to seek out *volunteers* from a number of quarters in the hope of reaching at least some degree of representativeness. One must, however, be aware of the trouble with willing involvement: a bias towards the more active people will be present (see Savolainen 1998, 345-346).

Actually locating suitable candidates for the research is not simple. Considering the theme of the investigation, the *Internet* is probably the best vehicle in this. In an interview study of the general population by Savolainen, he discovered that the most efficient way of finding participants was by publishing a notice in the Web version of a provincial newspaper. The announcement was accompanied by a brief questionnaire and a request for the respondent's contact information. (Savolainen 1999, 771.) Something similar will be done here, but since it is our intention to look at specific communities, the message must be directed to these. The fora — be they Web sites, newsgroups, or e-mail lists — that will be exploited should preferably be devoted to one of the subject areas.

In the case of civic actors, we may try to enlist informants by contacting people who participate in discussion groups available in *Mansetori* (<http://mansetori.uta.fi/>) that is an electronic forum organized by the City of Tampere. In particular, *Mansefoorumi* (<http://mansefoorumi.uta.fi/>), which is a part of Mansetori and devoted to civic debates, can provide opportunities for the recruitment of partakers. In addition, co-operation with the project of *eTampere* (<http://www.etampere.fi/english.htm>), especially its subproject *InfoCity* (<http://www.etampere.fi/infocity/eindex.htm>), may be useful in this sense. As for spiritual actors, there are no public newsgroups on spirituality in Finland, which is somewhat surprising. However, a total of 38 relevant WWW sites or pages could be identified. The most promising forums seem to be

- regional or national Web sites/pages:
  - *Henkinen hyvinvointi* (<http://www.occuphealth.fi/tt/projekti/aihekohtaiset/hhv/>)
  - *Henkinen Kehitys -lehti* (<http://www.henkinenkehitys.fi/henkinen%20kehityslehti.htm>)
  - *Kulta-aika* (<http://gamma.nic.fi/~starseed/>)
  - *Luonnonlain puolue* (<http://www.meditaatio.org/llp/>)
  - *Pirkanmaan Henkinen Kehitys ry* (<http://www.henkinenkehitys.fi/tampere.htm>)
  - *Transsendenttinen Meditaatio* (<http://www.meditaatio.org>)
  - *Uusi Safiiri* (<http://www.via.fi/safiiri.htm>)
  - *Valonkantajat* (<http://personal.inet.fi/yhdistys/valonkantajat/>)
  - *Valosali* (<http://members.surfeu.fi/avartuva/valosali.html>)
  - *Väinölä* (<http://www.ihmisyydentunnustajat.sci.fi/vainola.html>)

- national discussion groups of:
  - *Ajattomat Matkaajat* (<http://pub8.bravenet.com/forum/show.asp?usernum=602212338>)
  - *Fitness* (<http://www.city.fi/fitness2/keskustelut/index.php3>)
- national e-mail lists of:
  - *AKASHIC.NETworks* (<http://www.akashic.net/finland/postituslista.htm>)
  - *Aretalogia* (<http://communities.msn.fi/Aretalogia>)
  - *Henkinen kasvu* (<http://gamma.nic.fi/~starseed/postituslistat.html>)
  - *Henkiset ihmiset* (<http://gamma.nic.fi/~starseed/postituslistat.html>)
  - *Smiling Stars* (<http://www.smilingstars.fi/sahkopostilista.html>)

What will be posted is a short, persuasive invitation to take part in the inquiry. The advertisement will include two questions only, enquiring of the reader why he is keen on the domain — civic action or spirituality — and for how many years he has used the Internet. There will be spaces, too, in which he can — should he wish to volunteer for the research — enter his contact information. With WWW pages, we will just ask the webmaster to place a link there pointing to our own recruitment page (e.g. <http://www.uta.fi/~csjakar/>) which is essentially a Web form. The respondent's contact information, rationale for being intrigued by the realm, and familiarity with the Net are really everything that we will need to know at this stage, as it can be assumed that replying to our appeal is an indication of his concern with the study object. If and when the number of people signing up exceeds our quotas, it will be time to do some elimination. Firstly, those living in Pirkanmaa will be prioritized. Secondly, an attempt will be made to elect groups whose interests in the domain represent maximum heterogeneity. Thirdly, we will essay to choose partakers whose amount of Internet experience varies as much as possible. We shall get in touch with the final "sample" by e-mail or telephone, and fix a time and place for meeting face to face.

## Data collection

Former inquiries have examined Internet information seeking in either experimental (Catledge & Pitkow 1995, 1068; Hölscher & Strube 2000, 337, 341; Lazonder *et al.* 2000, 578-579) or natural (e.g. Choo *et al.* 1999, 3; Pharo 1999, 210; Pharo 2001, 4) conditions. At least Fidel *et al.* (1999, 36) are clearly in favour of the authentic alternative. We also came to this choice, for a laboratory setting undermines contextuality and validity which are important considerations here. Hence, the project at hand will — as far as possible — endeavour to study the participant in his normal environment and on his own terms, i.e. where and when he wants. The only requisite is that the informant must have access to a machine with an Internet connection.

Methods of data gathering used in earlier research comprise discussion (Choo *et al.* 1999, 11; Fidel *et al.* 1999, 25), interviewing (Choo *et al.* 1999, 10, 11; Erdelez 2000, 365, 366, 367; Fidel *et al.* 1999, 25; Lamminmäki 2000, 25, 33, 36, 42; Rieh & Belkin 1998, 282-283; Savolainen 1999, 766, 771; Scull *et al.* 1999, 18), observation (Fidel *et al.* 1999, 25; Hölscher & Strube 2000, 341-342; Lamminmäki 2000, 37; Lazonder *et al.* 2000, 577; Pharo 1999, 210; Rieh & Belkin 1998, 279, 283), survey (Choo *et al.* 1999, 10; Erdelez 2000, 365, 366; Lamminmäki 2000, 25, 33, 34), and thinking aloud (Fidel *et al.* 1999, 25; Hawk & Wang 1999, 259; Hölscher & Strube 2000, 339, 341; Pharo 1999, 210; Pharo 2001, 4; Rieh & Belkin 1998, 283; Scull *et al.* 1999, 18; Wang *et al.* 2000, 238-239). Of these, interviewing and thinking aloud appear to be the most fundamental techniques.

Following the example set by the bulk of earlier studies (e.g. Choo *et al.* 1999, 3, 10; Erdelez 2000; Hawk & Wang 1999, 259; Lamminmäki 2000; Pharo 2001, 4; Rieh & Belkin 1998, 283), this investigation will wield multiple methods, for different research questions demand different procedures. Interviewing will be the core technique, covering the macrolevel questions (1-4; see above) and almost all of the microlevel questions (5a-d, f-g & j-s), as well. The real-time scrutiny of Web searching (questions 5h-i) will necessitate observation and thinking aloud protocols. As Wang *et al.* (2000, 236) correctly comment, interviewing is not a precise method, because the respondent may not be conscious of or faithfully remember (also Erdelez 2000, 367) everything that happened during the WWW session. The complication with such a multiform course of data collection is its strain on the informant (Savolainen 1998, 345). In order to lighten his burden, every step of the investigation will be made as easy and comfortable as possible for the participant.

In antecedent research, an interview was done after a survey (Erdelez 2000, 366, 367), or before (Scull *et al.* 1999, 18), after (Choo *et al.* 1999, 11; see also Kantor & Nordlie 1999, 650) or both



Hölscher & Strube 2000, 339), in a questionnaire (Choo *et al.* 1999, 10; Hawk & Wang 1999, 259; Lamminmäki 2000, 34; Lazonder *et al.* 2000, 578; Perry 1995, 29), in a screen capture (Lazonder *et al.* 2000, 578; Pharo 1999, 210; Pharo 2001, 4; see also Kantor & Nordlie 1999, 650), in a transaction log (Abramson 1998, 317, 318; Catledge & Pitkow 1995, 1066, 1068, 1072; Choo *et al.* 1999, 10, 11, 12; Hawk & Wang 1999, 259; Hölscher & Strube 2000, 338, 341; Jansen & Pooch 2001, 236, 237), or on videotape (Hawk & Wang 1999, 259; Scull *et al.* 1999, 18). The most popular instruments seem to have been a questionnaire and a transaction log.

This investigation breaks away from the mainstream of research, as it will principally rely on audiotaping. Log files cannot be created, because they would presuppose that all partakers either perform their WWW search in one location, or install a Web tracking program in their computer, and this will not be feasible. In addition, the immobility of video equipment prevents screen capturing on site. The interviews and thinking aloud will be documented by means of a *mini cassette recorder*. During the interviews, various *figure-completing tasks* on paper will be given to the informant (see Scull *et al.* 1999, 18) when visualization is more illustrative than mere speech. In the WWW search episodes, their function is to portray the unfolding of the situational information seeking process which forms a "time-line" (see e.g. Jacobson 1991, 649-650; Schamber 2000, 735). If a single Web session does not suffice, the participant will be furnished with a *diary*. In this, he can write down acts, events and changes in the situation which take place between two episodes of observation, that is to say, when the researcher is absent. The partaker will hand back the diary to the investigator at the end of the last session. Alternatively, the informant can send diary entries by e-mail. Finally, the analyst can take *field notes* of relevant points at any stage of accumulating the data.

The data collection proper will be preceded by a *pilot study* whose objective is to appraise the applicability of the selected methods and the process of harvesting as a whole (above). The pilot study will take the first entrant from both domains (i.e. a total of two partakers), and examine their Internet utilization by going through the above-mentioned steps. The only difference is that here, collecting data will begin forthwith after the enrolment of the informants. If the test period suggests that the empirical procedure ought to be revised, improvements will be made in advance of the main part of data gathering. If the corrections are minor, it will become possible to include the pilot material in the final body of data.

## Data processing

When data has been collected, it will be transformed into text, if it is not in this format already. This phase can actually be executed in parallel with — albeit lagging behind — the amassing of empirical material. The data processing will involve transcribing the audio recordings, interpreting the video films and drawn images, as well as writing out the diary entries and field notes. It will also entail synthesizing the various forms of data into a single file for each informant, and converting these into a database within a computer program for qualitative analysis.

## Data analysis

At the macrolevel of Internet utilization, the unit of analysis will be an individual. At the microlevel, the unit will be a situation for which he seeks information via the Web. The first step in the examination will be coding the data, pursuant to a coding scheme grounded upon the research questions, the empirical material, and prior classifications. The major methods of analysing — which will all depend on codes — will be content analysis, typologizing, and cross-tabulation. Some quantitative measures — such as frequency, distribution, average/median, and perhaps statistical tests — will be made use of, too, but predominantly for the purpose of illustration.

*Validating* our reading of the data is a necessary part of the analysis. This will not be accomplished via triangulation, as Hawk and Wang (1999, 259-260) did, but by soliciting feedback from the partakers about our depiction of their own thoughts and deeds (Fidel *et al.* 1999, 25). The *reliability* of the findings may be boosted by double-checking codes, for example. With such a small and self-selected sample, the empirical *generalizability* of the results will be low (see Savolainen 1998, 345), which is almost a hallmark of Internet usage research (see Pihlajamäki 1999, 124; Savolainen 1998, 345). This is not a problem, however, because our aim is mainly theoretical.

## Working plan

The study is conducted at the Department of Information Studies, University of Tampere (Tampere, Finland). It employs two principal investigators (Kari & Savolainen) and a research assistant, if one is available. The two analysts share the same tasks, but each of them will gather and work on his own set of data. Savolainen will handle the domain of civic action, and Kari will be responsible for the demesne of spiritual action. The researchers will collaborate by mutually negotiating about principles and practices, by checking each other's coding and analysis, and by composing papers and articles together, for instance. The research assistant's help will solely be needed with transcribing the garnered audio material. The whole undertaking is intended to last about three years in all. Our projected timetable henceforth is as follows:

- Reading literature: October 2001 – December 2003
- Developing research scheme: October 2001 – August 2002
- Creating/procuring and testing research instruments: October 2001
- Recruiting participants: October – November 2001
- Collecting data: October 2001 – January 2002
- Processing data: November 2001 – February 2002
- Coding data: March-August 2002
- Analysing data: September 2002 – February 2003
- Reporting results: March-December 2003

## Contributions

The research project proposed here will have much to offer for the study of information seeking on the Internet. The major *theoretical* merits will be the promotion of a holistic approach (looking at the individual's entire life in a domain and the evolution of whole processes), of understanding contextuality, and of developing the Sense-Making metatheory. On the *methodological* side, the most important inputs of the inquiry will be the advancement of naturalistic research, the combination of macro- and microlevel, the comparison of groups, as well as the elaboration of the Sense-Making methodology. In *practice*, the investigation will shed light on a central area of human life, that of leisure activities, which has too often been overlooked in information studies.

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