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What is This?

Slow Delphi: An investigation into information behaviour and the Slow Movement

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Abstract

As part of a wider study of the relevance of the principles and practices of the Slow Movement to the information disciplines and professions, a Delphi study was carried out with 17 researchers in information behaviour and practices. A novel variant of the Delphi technique, termed the Slow Delphi, was devised for this study. This is aimed at eliciting qualitative understanding of complex conceptual topics, where there are a variety of perspectives and positions to be considered. The results of the study show a variety of points of potential applicability of Slow principles in research into information behaviour and practices, and in information provision. These include: more explicit inclusion of a temporal dimension in information behaviour models; greater recognition of the importance of the tempo of information seeking; more critical consideration of speed and scale as factors in the information environment; and the potential for individuals to exercise greater control over their information environment.

1. Introduction

This paper describes the development of a variant of the Delphi method, and its application to the investigation of information behaviour and information practices. This application formed part of a wider study of the concept of 'Slow Information Behaviour'. This examined the implications of a Slow perspective for the study and theory of information behaviour, and the possible implications of a Slow perspective on everyday information practices.

The wider study used a variety of methods, including literature analysis, concept analysis and focus groups, which are described fully by Poirier [1]. This paper focuses on one method used, a Delphi study, and reports both the development of a novel variant of the Delphi process and the results of its application.

The research questions addressed in the wider study were: what is a Slow perspective, in relation to information; what, if any, are the implications of a Slow perspective for the study and theory of information behaviour; and what, if any, are the implications of a Slow perspective on everyday information practices? This paper reports on that part of the study which developed a new investigative tool, the Slow Delphi method. It reports the results of the application of that tool, primarily to show the value of the new method, and secondarily to illustrate the perspectives of experts in information behaviour, mainly academic researchers, on the Slow perspective.

2. Slow information

The Slow Movement has been described as 'organized signs of dissatisfaction with the pace of life in developed industrial societies' [2: 146]. Originating in Italy, with the publication of the Slow Food Manifesto in 1989 [3], Slow has since

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developed as an umbrella term embracing a variety of areas, spreading from its core interests in food, and having over 100,000 members worldwide. Its principles extend to include any area of life in which individuals may feel they have lost control, encouraging purposeful reflection about choices, and extending to ideas of Slow Cities, Slow Money, Slow Travel and more [4–6].

Consideration of the relation, if any, between Slow principles and information practices has been limited, and this paper reports a part of the first systematic examination of the topic. There has been some interest in the idea of Slow Reading, a contemplative and purposeful approach to acquiring information [7, 8], while Cronin has advocated Slow Writing in the context of library and information science scholarship [9]. However, a literature analysis shows that there has been no explicit analysis of the relation between Slow principles and information practices [1]. This is despite numerous discussions of the problems resulting from rapid consumption of information in the context of greatly increased speed of provision and scale of available resources: see, for example, the analyses of Gleick [10], Eriksen [11] and Bawden and Robinson [12]. Indeed, there has been little consideration of time, in any respect, as a factor in information behaviour. An exception is the analysis by Savolainen of time as a factor in information seeking [13], and a small number of studies that have examined this empirically; see, for example, the reports by Osatuyi and Mendonca [14] and by Connaway et al. [15]. The Delphi study reported here is part of an extensive examination of the relevance of the ideas of Slow for the information sciences.

3. The Delphi study method

The Delphi method is a structured and controlled form of communication and interaction, used with a group of people – typically experts in the subject at hand – to ascertain a summary of their views, and to determine if there is a consensus [16, 17]. It was originally devised in the 1950s as a quantitative technique for technological forecasting, but has since been applied more widely, with considerable variation in methods. Its common feature is that the views of the participants are ascertained individually, and then circulated anonymously; each participant then revises their views, and the process continues to a state of consensus, or at least stability. Typically, two or three rounds are sufficient to gain a stable and useful result.

As the Delphi method became more widely used in the social sciences, a number of 'variant' or 'modified' Delphis were devised, more qualitative in nature, and geared to understanding differences of opinion, rather than finding a single right answer. These include: *Policy Delphi*, aimed at identifying a range of possible futures [18]; *Disaggregative Policy Delphi*, focusing on how and why predicted developments will come about [19]; *Imen-Delphi*, exploring the personal reactions of panel members [20]; and *Argument Delphi*, this being most concerned with the process of debate itself [21].

Finally, and of most direct relevance, we should note the Delphi studies undertaken by Zins, carried out with a panel of information science scholars to try to find consensus on some of the foundational issues of the discipline [22–25]. Described as a *Critical Delphi*, this focuses on the participants' understanding of concepts, and of the inter-relationships between these concepts.

In addition to Zins's studies, recent examples of various forms of the Delphi method applied in information research include studies of future library/information services [26, 27], information research priorities [28, 29], search engine quality [30], the future of resource description [31], website development [32], issues of literacy and information literacy [33, 34] and use of reference sources in library/information education [35]. Poirier reviews these, and others, in detail [1].

The Delphi method, in its numerous variations, is therefore clearly suited to investigating issues and concepts of relevance to the information sciences, and it was therefore chosen as one of the methods for examining relations between Slow principles and information behaviour. Participants would be chosen for their expertise in information behaviour research, rather than for any involvement with, or particular knowledge of, the Slow Movement.

4. The Slow Delphi variation

None of the variants of the Delphi technique described in the literature was ideally suited to this study, and therefore a novel variant was devised, including elements of several existing variants. Since the issues at hand related to values, attitudes and general perspectives on life, an entirely qualitative approach was required, thus ruling out those Delphi variants with a significant quantitative aspect. The Critical Delphi approach provides the necessary focus on concepts and their relations. From the Policy Delphi is drawn a focus on difference of opinion, rather than on consensus; this dictates that the panel be selected according to their range of interests and positions, rather than according to any similarity of expertise or viewpoint. Finally, from the Argument Delphi is drawn the active role of the moderator, interacting with the participants, injecting notes of controversy when necessary, protecting minority perspectives when appropriate, and

preventing too rapid a move to conclude interaction. This active role was felt to be necessary in this study, as it seemed likely that participants, being experts in information research rather than in any aspect of the Slow movement, might need to be guided to consider certain issues, and this should be done in a controlled and open manner. By comparison with other Delphi techniques, the panel members in a Slow Delphi are given more time to consider the issues at each stage, and offered open-ended conceptual statements for consideration, rather than asked to choose between clear procedural alternatives.

The role of the moderator demands a constant reflection on the process, with coding and categorizing of participants' responses, accompanied by the writing of memos to make explicit the moderator's decisions. These procedures draw from the grounded theory approach, and indeed Slow Delphi has many similarities to Constructivist Grounded Theory, proposed by Charmaz [36]. Both are qualitative methods, by which theory is developed, and meaning is constructed, by the researcher, through conceptual discussion in which the researcher takes an active role. However, it should be emphasized that a Slow Delphi does not aim to generate grounded theory as such, and is not therefore a grounded theory method in the full sense. The main difference is that, whereas Constructivist Grounded Theory examines specific situations and events, Delphi examines interpretations and opinions about abstract concepts, and about situations which may be hypothetical or anecdotal. To code the responses using gerunds or action-based concepts as Charmaz recommends [36: 47–48] would be to force upon them a sense of actual experience that may not exist. More generally, the tightly defined conceptual codes generated in most grounded theory studies, and indeed most qualitative research, are not appropriate in this form of Delphi, which seeks, for the most part, to identify broader themes or concept relations. Its intention is to initiate and facilitate critical thinking and reflection, through as varied a collection of perspectives as possible, and this can be enhanced by maximizing freedom of response by avoiding a closed or overly structured format.

This new variant of Delphi embodies in itself some important Slow principles, and hence it seems reasonable to term it the *Slow Delphi* variant. The differences from each of the other recognized Delphi techniques noted above, taken together, justify its being regarded as a distinct Delphi variant. Its distinctive characters are, in particular, its open-ended nature, and the way in which it encourages a creative and thoughtful response, rather than simply the extended timescales which it permits. It is structured in three rounds, although – unlike other Delphi variants – the process differs for each round. The time allowed for participant responses at each stage is generally significantly greater than that typical in Delphi studies, so as to gain considered reflective responses. However, an important feature of the Slow Delphi is that the process is flexible, and may be changed by agreement between moderator and panel, so that timescales, like other aspects, may be amended. The Slow Delphi process is set out below in outline: further details of, and rationale for, the process are given by Poirier [1].

4.1. Panel selection

The panel is selected so as to represent as wide a range of backgrounds, experience, specialties and potential viewpoints as is commensurate with their having sufficient expertise and interest in the topic being studied.

4.2. Round 1

(1)   Orientation of panel.
(2)   Responses from panel.
(3)   Analysis of response.
(4)   Generation of statements.

Orientation involves providing the panel with an initial position paper, written by the moderator, outlining the issues, but avoiding specific theories, solutions or viewpoints, and typically phrased in a deliberately controversial way. This is intended to engage the panel in thinking critically about the issues, without leading them to focus on them in any particular way. The participants are given a relatively long period, typically several weeks, to consider the paper, and to respond to it in whatever format, and at whatever length, they feel appropriate. The moderator reads and analyses the responses so as to identify significant themes, from these to generate broader conceptual units, and from these to produce a series of key statements. These are returned to participants for comments in a 'verification' process, where each participant receives an individual set of statements appropriate to their initial response. The verified statements are then arranged into revised themes.

4.3. Round 2

(1) Consideration of statements by panel.
(2) Responses from panel.
(3) Analysis of responses.
(4) Selection of key statements.

The participants are asked to rate the set of statements from Round 1 according to a Likert scale of agreement/disagreement, and to comment on them. Again, a lengthy period is allowed for purposeful consideration. The moderator analyses these, drawing out a smaller set of main themes, with a single key statement representing each.

4.4. Round 3

(1) Consideration of key statements.
(2) Elaboration and revision of position by panel.
(3) Analysis of elaborations.

Each participant is sent an individual account of the key statements from Round 2, with a note of their own previous relevant comments as well as the numbers of panel members agreeing with each. They are invited to reconsider the statements in the light of general panel opinion, to reconsider their own responses and to elaborate on their thinking, thus allowing for both revision and explanation of their position. The moderator analyses the responses and produces a final summary document. If necessary, this round may be repeated, if moderator and participants agree that this is worthwhile.

5. Results

The results are summarized below, with fuller details given by Poirier [1]. Since the themes and headings are extensively restructured at each stage, unlike other Delphi methods which give simply a reduction, narrowing or simplification of initial themes, it is not possible to display the developing results in a simple chart format.

5.1. Panel selection

Potential participants were identified from their status as authors of journal articles, monograph chapters or major conference papers in the area of information behaviour. Specifically, 47 panellists were identified as having presented at two or more of the biennial *Information Seeking in Context* conferences; an additional eight as chapter authors in the multi-authored volume on *Theories of Information Behavior*, edited by Fisher Erdelez and McKechnie (Information Today, 2005); and a further nine as having a research specialism in information behaviour from authorship of relevant journal articles and from information on personal webpages. Invitations to participate were issued to these 64 people, 25 of whom accepted. Their geographic distribution, realistically paralleling academic activity in the area, is shown in Table 1.

The majority were from library and information science departments in academic institutions, although there was one representative from each of library practice, the media and the business world. All were active in research in some form of information behaviour, with a wide range of specific interests and expertise within this. This was judged to give as wide as range of perspectives as could reasonably be expected.

Eight participants dropped out before the end of the process, owing to conflicting demands on their time, or to discomfort with the interactive, open-ended and creative nature of this variant of the Delphi technique. Responses from these

Table 1. Geographic distribution of respondents

Region	Respondents
North America	13/25
Europe	8/25
Asia	2/25
Australasia	2/25

participants were included in the analyses, as their views were considered relevant, even though they were not carried through to the conclusion. One drawback to this Delphi variant is the relatively large demands on time and intellectual effort made on the participants, as well as the relatively long duration of the process. Conversely, one of its strengths is that input from participants who do not 'stay the course' can be included, as part of the process of capturing a variety of perspectives. This is in contrast to other Delphi variants, where a need for consistency and consensus may mean that the views of such participants cannot be included.

5.2. Round 1

A 2500 word position paper was circulated, introducing aspects of the multiple choices and emphasis on speed in the current information world ('infomania') and suggesting an alternative based on Slow principles ('infodiversity'). The latter outlined a set of the principles of the Slow Movement, couched in informational terms; the term was chosen to mirror the Slow Movement's focus on 'biodoversity'. It covered such issues as understanding of the provenance and appropriateness of information, purposive and mindful information gathering, and a deliberate adjusting of tempo in information seeking. This position paper was written in the first person, to communicate the moderator's active role, and was intentionally controversial to ensure panel reaction, the *provocateur* role being one of the elements drawn from the Argument Delphi [21]. Specific references to papers, theories or authors were avoided, to prevent leading the panel towards criticism of such. The panel were given 7 weeks to return a response in whatever format and length they thought appropriate

Of the responses, 40% were around 1000 words, 40% around 500 words and 20% significantly under 500 words. This degree of variability would be a problem for other forms of Delphi study, but is acceptable in this Slow variant. This is because all other Delphi methods seek for consistency in the way participants' views are presented, to better assess the degree of consensus between viewpoints, and perhaps to arrive at quantitative findings; for Slow Delphi, these factors are not of importance. Some 70% of respondents initially agreed that there was a significant issue or problem; others did not understand the points made, or felt that the issues were less significant than suggested. The responses of this latter, 'dissenting', group were initially analysed separately in this phase.

Six broad conceptual units were identified for the responses: information society; nature of information; information behaviour and practices; slow information; the interaction between information behaviour and type of information; and the Delphi process itself. From these units, 13 themes incorporating 196 verified statements were negotiated. The themes, and number of statements in each, were:

(1)   nature of information, its use and users [19];
(2)   information-seeking process [13];
(3)   information overload [23];
(4)   convenience and ease of access [8];
(5)   consumption, consumerism and commercialism [20];
(6)   speed and scale of information delivery and access [9];
(7)   time, speed and tempo generally [23];
(8)   quantity and variety [8];
(9)   space and place [5];
(10) internet and social media [10];
(11) models and theories of information behaviour [12];
(12) information science research and practice [21];
(13) slow principles [25].

Two examples of statements for each theme are shown below, the full list of statements being given by Poirer [1]:

(1)   Information itself cannot be fast or slow.
(1)   Information is always useful.
(2)   Information seeking is a creative process of discovery.
(2)   Information seeking should be as quick as possible in order to allow more time to put the information to use.
(3)   Overload is related to both speed and volume of incoming information.
(3)   Avoidance and withdrawal are as equally rational behaviours as seeking and searching.
(4)   Users are likely to choose ease of access over quality.
(4)   Speed and convenience are keys to user satisfaction in information seeking.
(5)   To frame the information user as a consumer is a contradiction in terms.

(5)   Information, and therefore information behaviour, is commercial in some contexts.
(6)   The desire for speed of access is less stoppable than the desire for unlimited choice.
(6)   Unlimited choice causes more anxiety than speed of access.
(7)   The information society treats time as if it were inversely scalable (less = better).
(7)   Life is getting faster.
(8)   'More is better' derives from 'information is power'.
(8)   Users desire quantity over quality of information.
(9)   Spatial reduction is not the same thing as spatial disconnection.
(9)   The spatial disconnection between information user and information source disrupts and distorts the information chain.
(10)   The advent of the internet has transformed information from a public good to a quantifiable commercial good.
(10)   Social tagging co-opts users as unpaid labour.
(11)   Theories of information behaviour largely leave time out.
(11)   Information process models are misleading because they focus on critical, rather than ongoing and everyday, needs.
(12)   Both information research and information practice tend to focus on the present moment.
(12)   There is an assumption that persists in information practice that more is better.
(13)   Slow principles simply reflect a further option to choose from.
(13)   Information itself cannot be slow.

This matrix of themes and verified statements was sent to the participants as the start of Round 2.

5.3. Round 2

The panel were given 11 weeks to consider this material, by responding to each statement with five-point Likert-scale judgements (strongly agree; agree; neither agree nor disagree; disagree; strongly disagree), to add further comments and to explain their reasoning. Analysis of the responses led to identification of five main areas, represented by key statements, as below.

1. Differences of perspectives with the information science, and between the information sciences and practice:

   Information professionals and researchers have a different view of what information is, compared with that of the people engaged in its seeking and use, who constitute the object of our services and research.

2. Information literacy:

   Information literacy is about being selective and critical.

3. Speed and scale:

   An increased speed and scale of information delivery may lead us to information choices which we would not otherwise make.

4. Information overload:

   Overload is a societal phenomenon rather than a specifically informational one.

5. Consumerism:

   To call information users 'consumers' simply denotes that they consume information; it is neither positive nor negative.

These statements were selected as representative of both the original research concerns and the emerging themes, and warranted further elaboration either because they presented a contrasting perspective to Slow, or because they were a source of notable disagreement in Round 2.

5.4. Round 3

Each participant was sent an individualized document, with the five key statements annotated with information on the views of the panel as a whole as well as the participant's own previous comments and ratings. They were invited to reconsider the statements in the light of the total responses, reflect upon their own response and interpretation of the statement, and then elaborate on their thinking. By agreement between moderator and participants, this round was limited to a 4 week response time, although this is still generous compared with other Delphi techniques.

Some significant changes in view were seen at this stage – one participant, for example, changing from disagreeing to agreeing with a statement about the nature of overload. One of the advantages of the reflective nature, and the contemplation time, of the Slow Delphi technique is that it facilities such thoughtful revisions of view.

Analysis by the moderator of the Round 3 responses formed a qualitatively expressed summary of the Delphi panel's conclusions on the relations between Slow principles and information behaviour and practices. These are set out in brief in the next section, a fuller discussion being given by Poirier [1].

6. Slow information behaviour

This Delphi study was designed to investigate the implications of a Slow perspective for the study and theory of information behaviour and information practices, through a facilitated conceptual discussion with experts in this field. We may, at the risk of over-simplification, summarize the rich set of results under five headings.

6.1. Context-dependency

One over-riding perspective agreed by the panel is that all of the issues discussed are context-dependent. What is problematic, or beneficial, for one person in one situation may not be so in general. Both speed and scale of information delivery will have repercussions, but these may be positive or negative according to the context. The positive features are self-evident; the negative may include a sense of overload, caused by the speed and scale of the information landscape and exacerbated by societal pressure to locate, absorb, process and use different pieces of information as quickly as possible. This 'social speed' is technologically enabled, but may also be driven by consumerism. While the panel did not feel that consumerism is a root cause of overload, there was widespread acknowledgement of its influence with the information disciplines and professions. This influence, most notable in the language used in professional contexts, brings with it mostly negative connotations, such as people being passive recipients of information – although, again bearing in mind the over-riding context-dependency, these may be counter-balanced by positive effects.

6.2. Disciplinary perspective

The panel's view was that the information disciplines, necessarily and inevitably, take a different perspective from the world at large; those studying information behaviour, for example, have different concerns than those of the people studied. Since Slow principles originate within society at large, they would be more likely to be studied or observed than be adopted as a research approach in their own right. However, a generally accepted viewpoint was that the attitude of researchers, information providers and users in any given context would have to correlate, if the research study or information service was to be successful. For example, in the context of overload owing to speed and scale, Slow could perhaps provide a common approach to the navigation of the information culture and the alleviation of overload.

Giving particular focus to the speed and scale of information provision in the information research agenda could have beneficial outcomes, in giving attention to aspects that may have been under-rated: context of information use; everyday practices and 'passive' information reception; the encroachment into all aspects of society; the tempo at which people seek information and the effect that this has on success; and the objective and subjective factors of overload, and the ways in which this is alleviated at personal and institutional levels. While current models for information seeking, and information practices in general, do include the temporal dimension, this could be made more explicit, to cater for the factors noted above.

More generally, consideration of Slow concepts in the information disciplines and professions may highlight some of the value judgements being made, for focusing on and problematizing the impact of speed and scale. Since context is key, it follows that these are not always going to produce the best results in practice, but information research and provision tend to frame and accept them as universally beneficial. A critical view of this may go together with an explicit acceptance of the existence, and benefit, of different tempos of information seeking in different situations.

6.3. User-centredness

Slow was generally considered by the panel to be a user-centric concept, and this was why it was not perceived as a generally useful research lens. It is more likely to be located in personal information styles, and in individual information seeking strategies, than in any overarching disciplinary or metatheoretical sense. Having said that, there was majority agreement that Slow demonstrates the potential to be used as a framework for information literacy, which implies at least an institutional, if not sectoral or disciplinary, approach based on Slow principles.

6.4. New technology

The panel perceived difficulties in applying Slow principles to the communication of information, because of the basic incompatibility between them and the instantaneity of modern information technologies, and social media technologies in particular. The majority feeling was that inherent speed of current and emerging technologies is likely to prevent, or even make redundant, the adoption of a Slow attitude. This centralizes these technologies in the information landscape and may be seen as representing a determinist perspective. The majority of participants did not agree with this latter viewpoint, however, so the information discipline, so far as it is represented by the panel, seems to tend to a constructivist view of technology.

6.5. Information culture

The panel agreed that, while desirable, the widespread application of Slow principles in the wider society, particularly in information terms, is virtually impossible. It would require a fundamental change in society to shift emphasis away from speed and choice, notably in the working environment. However, it was also recognized that Slow may be better seen as a focus on speed and choice, in information terms, as options in the search process or in the delivery of information, rather than as absolutes or as guarantees of success. It may also be seen as the power that an individual has, particularly in the context of everyday life, to choose those options according to reflectively determined need, rather than being swayed by conventional societal forces. It is difficult, however, to imagine this happening on any large scale in an information culture dominated by instantaneity and being 'always on', and may be a difficult strategy to advocate.

7. Conclusions

The novel variant of the Delphi technique reported here, the Slow Delphi, has been shown to be a valuable research tool for eliciting qualitative understanding of complex conceptual topics, where there are a variety of perspectives and positions to be considered. This Delphi variant should be a useful addition to the methods available for qualitative research in the information sciences.

The findings from the application of this method reported in this paper feed into a wider study of the relevance of Slow principles in the library/information sciences. This study showed intriguing links, actual and potential, between Slow principles and the ways in which information behaviour and information practices are studied and conceptualized. In particular, the idea that tempo is a significant, and understudied, factor in information seeking may act as a stimulus for further consideration of time as a crucial element for conceptualizing information behaviour. The main contribution of a consideration of the Slow concept in the information behaviour context may simply be a more critical consideration of the impacts of scale and speed of information provision. There is also a question mark over the kinds of process and task-based models that have been used to describe information behaviour; Slow approaches, less likely to involve discrete stages leading to satisfaction of an explicit need, do not fit such models so well as the more common information-seeking process. This is recognized in the relatively new concept of 'slow search' [37].

Slow principles can and have been used by individuals to create breathing space between information and the methods employed to absorb, process, use or reject it. While it is not likely that the whole of society will move to embrace Slow principles in its information practices any more than anything else, it may be that a wider understanding of these principles can offer more choice in how individuals and organizations deal effectively with the speed and scale of the modern information environment. They may lead to a better 'informational balance', with a focus on awareness, reflection and an ability to make appropriate choices.

Funding

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