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ABSTRACT

The six characteristics of an Experimental Publication System (EPS) evaluated are: (1) prompt dissemination, (2) focused distribution, (3) diversity of content, (4) catalog of abstracts, (5) articles printed separately and (6) low acceptance criteria. Approximately 20% of the psychologists who might be interested in the subject matter are covered by the system. The most popular characteristic was prompt dissemination; the least popular was low acceptance criteria. A focused distribution plan should take factors other than stated interests into account. Authors do not take advantage of the diversity of content characteristic. The Catalog of Abstracts is considered useful and articles printed separately are desirable but not essential to a scientific publication system. Data concerning the low acceptance criteria characteristic are inconsistent. (Author/NH)

Desirable Characteristics of a Scientific Publication System

by

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OCMD-4/70-TR#3

DESIRABLE CHARACTERISTICS OF A SCIENTIFIC PUBLICATION SYSTEM

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Abstract

This report describes an evaluation of six characteristics incorporated into an Experimental Publication System (EPS): prompt dissemination, focused distribution, diversity of content, catalog of abstracts, articles printed separately, and low acceptance criteria. There are approximately one thousand subscribers to EPS, representing about 20% of the psychologists who might be interested in the subject matter covered by the system. A questionnaire sent to subscribers showed that different characteristics appeal more to some people and less to others. The most popular characteristic was prompt dissemination; the least popular was low acceptance criteria. Data indicate that factors other than stated interests should be taken into account in a focused distribution plan. Authors do not take advantage of the diversity of content characteristic and, therefore, little can be said about its impact on subscribers. Most subscribers feel that the Catalog of Abstracts is useful. Although articles printed separately is perceived as being a desirable feature, actual ordering behavior would suggest that this is not an essential characteristic of a scientific publication system. Data concerning the low acceptance criteria characteristic are not consistent. When asked whether additional quality screening should be employed, about one-third of the respondents answered affirmatively, about one-third were indifferent and about one-third answered negatively. For those answering affirmatively, there was little agreement on the basis for additional screening. The implications of each characteristic for a scientific publication system are discussed.

DESIRABLE CHARACTERISTICS OF A SCIENTIFIC PUBLICATION SYSTEM

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In 1968 the American Psychological Association (APA) received a grant from the National Science Foundation to develop a plan for establishing a National Information System for Psychology (NISP). One aspect of NISP will be a scientific publication system serving the information needs of psychologists. The purpose of this report is to describe the results of research concerning some of the desirable characteristics of such a publication system. Instead of focusing on specific products that a scientific publication system might produce, an attempt has been made to isolate the characteristics of potential products and to evaluate the importance of these characteristics for psychologists.

Before examining the research results, it is important to place the research in context by briefly reviewing the history of scientific information exchange.

History of Scientific Information Exchange

Before the seventeenth century, scientists exchanged information by personal correspondence. They described findings, approaches, insights, problems, and plans resulting from their research in letters to colleagues. Their colleagues in turn responded with findings of their own, methods for solving certain problems, their own ideas concerning explanations of results, and criticisms of work done by others. There was a free interchange of ideas and research findings, with the lag between exchanges being dictated primarily by the postal system.

As the number of scientists working in a discipline grew, it became burdensome for a scientist to correspond individually with everyone who might be interested in his work. Scientific journals were established in the mid-sixteen hundreds as a means of broadening information dissemination beyond a scientist's personal acquaintances. Initially these journals contained informal, chatty communications directed toward a specific segment of the scientific population. Gradually, however, journal publication began to serve functions other than the exchange of current information between scientists, and certain traditions concerning scientific journal publication therefore evolved. Information in journals became formalized and more archival in character, thus restricting content to descriptions of empirical research findings, review articles, and presentations of formal theories (Kronick, 1962). The focus of an individual journal was altered as the specialty it served developed. Because publication lags frequently exceeded a year, it became difficult to provide for interactive, responsive communication.

These evolutionary factors, as well as the present economics of publication and distribution, have led to circulation of scientific periodicals well beyond the boundaries of the directly interested readerships. This occurs to the detriment of the recipients who must allocate valuable reading time to the relatively unrewarding pursuit of scanning much that is irrelevant in order to read but few items of importance (Swanson, 1966). New journals come into existence at an increasing rate, resulting in duplication and overlap of content even though, at the same time, there are large gaps in coverage (Van Cott and Zavala, 1968). The motivation to publish

has become a blend of the desire to communicate findings with colleagues and the need to establish a reputation, receive recognition, and assure promotion. In some instances, this results in the publication of material which has little scientific merit (Merton, 1969).

Because of all of these factors--historical tradition, economics, and increasing amounts of information published in scientific journals--finding information appropriate to his interests has become an overwhelming problem for the scientist. One solution to this problem is retreating to the techniques of information exchange that were used before the scientific journal came into being. The scientist can rely on personal correspondence with a select group of colleagues doing similar work. Studies of scientific communication (APA-PSIEP, 1964) indicate that today's scientists are using these informal avenues of information exchange extensively. Although this approach necessarily results in restricted coverage and consumes a large portion of the scientist's time, it provides many rewards which cannot be provided by the present journal system, such as the free exchange of information with minimum lag. However, the establishment of these personal contacts is largely fortuitous and a number of years is usually required to develop a comprehensive network of people with shared interests--the "invisible college" (Price, 1963).

Another way for the scientist to obtain information is for him to attempt to stay abreast of the literature by subscribing to an increasing number of journals and by taking advantage of abstracting and indexing services, therefore spending a substantial amount of his time searching for relevant information. The time spent in this manner detracts from the time the scientist could be contributing to the science, and a large amount of the material obtained by these methods contains descriptions of empirical research performed about two years earlier.

Is there a way out of this dilemma? Can a scientific information dissemination system be developed that serves the communication needs of scientists? What are the desirable features of such a system? Can a single system meet the needs of a diverse set of scientists? The Office of Communication Management and Development (OCMD) within the American Psychological Association is attempting to find answers to these questions. Although the approach to finding these answers is multi-faceted and broad in scope, one of the chief means is through a newly-established Experimental Publication System (EPS). The rationale and description of EPS are described below.

Rationale and Description of EPS

The Experimental Publication System serves as a vehicle for obtaining relevant system experience and feedback from subscribers which in turn will lead to specific design recommendations for an operational system. One of the guiding principles in planning this system was that valid evaluative information could not be obtained from users unless they were given a product to assess. In other words, asking people for their opinions concerning desirable features of a hypothetical scientific information system would not be as helpful as asking users to evaluate a product possessing specified characteristics. This concept led to the adoption of an evolutionary approach in the design of EPS--the characteristics of the system would be changed in response to user feedback, and these changes would subsequently be evaluated.

Once these guidelines were established, definition of the characteristics of EPS was initiated. To enable the system to compensate for what have been perceived as flaws in the present scientific journal system, and to relieve the scientist from part of the necessity for exchanging information on an informal basis, it was decided that the system would possess three distinctive characteristics. These characteristics

are: (1) prompt dissemination, (2) focused distribution, and (3) diversity of content. There are a number of reasons for the selection of these three primary characteristics.

Prompt dissemination is essential because the lag time associated with the publication of an article has repeatedly been cited as a basic flaw in the journal system. The SATCOM report (NAS, 1969) insists that "lag times in publication of as much as a year must be considered intolerable," and it has been noted that "a paper tends to be out of date. . . at the time it finally appears in a journal, a fact that pleases neither the author nor the reader" (Brown, Pierce and Traub, 1967). EPS is designed to have a maximum time lag of 65 days from the submission of a manuscript to its distribution.

Focused distribution is important because a substantial proportion of the subject matter contained in a journal is not applicable to an individual subscriber's area of interest. It has been suggested that it is necessary "to hand-tailor access to information" in order to "protect the user from unwanted and irrelevant literature" (NAS, 1969), and many approaches to selective dissemination of information have been proposed (Cuadra, 1969). A critical factor in most approaches is the matching of material contained in an article with a subscriber's interest profile. The Experimental Publication System classifies material received according to narrowly defined categories, and distributes this material to subscribers who have indicated their interest in that category. Initially, the system has offered three distribution categories in the area of applied psychology-- (1) management and organizational behavior, (2) psychology and the work environment, and (3) industrial psychological measurement.

Diversity of content is necessary because the journal system restricts the content of articles. Information which does not conform to traditional journal standards of acceptance is usually lost and inaccessible to most psychologists. There has been no formal outlet for descriptions of problems, research in progress, and theoretical or methodological explorations. In addition, rarely do negative findings and techniques of design and analysis find their way into formal publications. Yet it is precisely these types of information which may well be most useful to the psychologist (NAS, 1967). It has been suggested that the publication of brief papers, a "letter journal", or a service which distributes progress reports, notes, and negative findings is called for to fill this void (NAS, 1969).

Features Incorporating Characteristics in System

The next consideration in developing a publication system is to determine how the primary characteristics selected should be incorporated. This can be accomplished in a number of different ways. For example, the manuscripts received could be screened for quality, bound together within distribution categories, and sent to subscribers. Descriptive information about the contents in other distribution categories would not be included. These procedures would be similar to those used in most current journal operations. Rather than proceeding this way, however, it was decided that the three major characteristics just described would be incorporated in three features. These features are (1) a catalog of abstracts, containing descriptive material about all the manuscripts distributed by the system, (2) articles printed separately, offering users the option of ordering individual items from the catalog of abstracts, and (3) low acceptance criteria requiring manuscripts to meet only minimal standards for publication in the system.

A catalog of abstracts is a feature adopted to enable subscribers to a narrowly-defined distribution category to become aware of material available in other categories without having to read full texts. In addition, it was felt that some subscribers

might prefer to review abstracts and order complete texts of material of interest to them rather than to subscribe to a distribution category. Articles printed separately is a feature perceived as a necessary adjunct to the catalog of abstracts. Distribution of separate articles also permits subscribers to retain only those manuscripts directly relevant to their interests, to organize the separates in ways that fit their own retrieval needs, and to circulate individual manuscripts to colleagues. The feature of low acceptance criteria is perhaps the most controversial feature. Licklider (1966) points out that high standards of quality can be enforced in journals, but perhaps there should be an outlet for "low-grade contributions" where the buyer can apply his own standards. It has been estimated that only 10% of the manuscripts rejected by the first journal to which they are submitted are never published. If this is a true estimate, then high acceptance standards are doing little more than increasing publication lag. This low acceptance criteria feature is still being given careful consideration so that it will be implemented wisely.

In summary, the primary characteristics and features of EPS are (1) prompt dissemination, (2) focused distribution, (3) diversity of content, (4) catalog of abstracts, (5) articles printed separately, (6) low acceptance criteria.

Implementation of EPS Characteristics

Based upon a survey of interest areas listed for individuals in the 1968 APA Directory, it is estimated that there are approximately 5,000 psychologists who might be interested in the subject matter covered by EPS. In late May and early June, 1969, a two-page letter describing the system and inviting both subscriptions and manuscripts was sent to a selected group of APA members. The mailing list was collected from member subscribers of the Journal of Applied Psychology, the Journal of Educational Psychology, and the Journal of Consulting Psychology. Membership lists of APA Divisions 5, 14, 15, 17, 19 and 21 were also used. In addition, an advertisement was placed in the July 15, 1969, Bulletin of the Human Factors Society, and another appeared in the August, 1969, issue of the American Psychologist.

Potential subscribers to the bi-monthly EPS issues were given three options. Under the first, one could subscribe to all the articles published in the three distribution categories of the system, and also receive the Catalog of Abstracts. The annual subscription cost is eighteen dollars. Under the second option, one could subscribe to only those categories which matched his interests and review abstracts from the other categories. The annual cost is six dollars for one distribution category, and twelve dollars for two categories. Under the third option, the individual or institution subscribing receives only the Catalog of Abstracts. The cost is three dollars annually. He may then order reprints of those articles of specific interest to him, at a cost of one dollar for each reprint.

Manuscripts are submitted to the system and distributed as individual units, and no attempt is made to revise or redact them. In order to reduce delays and publishing costs, authors are requested to submit manuscripts in single-spaced, typewritten, camera-ready form. A photo-offset printing technique, which employs a temporary mat made from the camera-ready copy, is used to reproduce the articles. Authors are charged a ten dollar processing fee for every manuscript they submit to EPS. The purpose of this fee is to assure that the author desires dissemination of his manuscript at least enough to invest ten dollars. It was felt that without such a fee, some authors would be likely to submit material not suitable for distribution.

The system has no page allotment. It publishes all articles received and accepted up to five days prior to the distribution date. A minimum of thirty manuscripts is

distributed in each issue. When this minimum quota is not available the system acquires additional manuscripts from recent submissions to the Journal of Applied Psychology.

Subscriber Interest

The first Experimental Publication System issue appeared in August, 1969. During the first six months of operation, 927, or about 20% of the original estimate of interested psychologists, subscribed to the publication.

It should be pointed out that there was no follow-up to the original two-page letter, and the system received very little publicity. The fact that almost 20% of the potential subscribers actually subscribed on the basis of this letter indicates that the six primary characteristics and features of EPS as described in the letter do meet some needs of these psychologists.

Evaluation of Combined EPS Characteristics

In a questionnaire sent with the first issue of EPS to about 400 subscribers. subscribers were asked to rank-order the primary EPS characteristics on a "desirability" scale ranging from 1 (most desirable) to 7 (least desirable). Additional characteristics could be written in and rank-ordered. Approximately half of the subscribers who were sent the questionnaire returned it. The average rank for each of the characteristics and the proportion of respondents assigning each rank to the characteristics is shown in Table 1.

Insert Table 1 about here

The most desirable EPS characteristic is promt distribution, with an average rank of 2.2. Almost two-thirds of the 220 respondents assigned to this characteristic a rank of 1 or 2. The next most desirable characteristic is focused distribution, with an average rank of 3.0. Approximately two-fifths of the respondents ranked it either 1 or 2. Very close to each other in terms of rank-order are diversity of content, with an average rank of 3.4, and catalog of abstracts, with an average rank of 3.6. Each of these characteristics was assigned a rank of either 1 or 2 by slightly less than one-third of the respondents. The articles published separately characteristic received an average rank of 4.1, with about one-fifth of the respondents assigning this characteristic a rank of 1 or 2. Finally, low acceptance criteria received an average rank of 5.2, with very few respondents assigning it a rank of 1 or 2. There were few "other" characteristics listed and evaluated by the respondents.

The frequency with which each rank was assigned to each characteristic was evaluated by a Chi Square test; the differences were statistically significant ($p < .02$) Comparisons of paired characteristics showed that the frequencies of assigning each rank to the prompt dissemination characteristic differed from the frequencies of assigning each rank to the articles printed separately and the low acceptance criteria characteristics ($p < .05$). However, the frequencies of assigning each rank to the prompt dissemination characteristic did not differ from rank assignment for the focused distribution, diversity of content, and catalog of abstracts characteristics.

One conclusion that can be drawn from these results is that there is very little agreement among the respondents concerning which characteristic is most desirable. Although the prompt dissemination characteristic, with an average rank of 2.2, received a large number of 1 and 2 rankings, the articles printed separately characteristic,

TABLE 1

The average rank for each of the primary EPS characteristics and the proportion of respondents assigning each rank to the characteristics. (N=220)

EPS Characteristics	Average Rank	Percent Respondents Assigning Each Rank: RANKS Most Desirable 1	2	3	4	5	6	Least Desirable 7
Prompt dissemination	2.2	48	17	13	11	7	3	1
Focused distribution	3.0	15	26	20	21	14	4	0
Diversity of content	3.4	13	17	24	20	16	10	0
Catalog of abstracts	3.6	13	19	21	20	17	9	1
Articles printed separately	4.1	8	12	15	16	22	26	1
Low acceptance criteria	5.2	1	6	6	11	23	43	10
Other	6.6	2	3	1	1	1	5	87

with an average rank of 4.1, received a rank of either 1 or 2 from about 20% of the respondents. This implies that different aspects of the system appeal more to some people and less to others, and therefore an operational scientific publication system must be multi-faceted if it is going to appeal to a large number of people.

Evaluation Results of Each EPS Characteristic

Prompt dissemination. The popularity of the prompt dissemination characteristic found in this study has also been found in other studies (Kinkade, 1968). It appears that most psychologists desire fast dissemination of information. There is little doubt that this should be a characteristic of a scientific publication system for psychologists.

Focused distribution. This characteristic was ranked as relatively desirable. But subscription behavior does not indicate this characteristic to be universally important, as shown in Table 2. Although 46% of the subscribers did take advantage

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Insert Table 2 about here

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of focused distribution by subscribing to just one of the categories, 38% subscribed to more than one distribution category. One explanation for why more people did not subscribe to only one distribution category might be that subscribers were attracted by other aspects of the system, but the definition of material which would be included in a particular distribution category did not match their interests. However, out of over two hundred subscribers returning a questionnaire sent with the first issue, only 9% rated category definition "objectionable", with the other possible rating being "desirable".

As a further indication of the adequacy of the definitions of the distribution categories, the areas of interest expressed in the 1968 APA Directory were judged with respect to a possible interest in the material covered by one of the three distribution categories. This was done only for those subscribers who were APA members in 1968 and who subscribed to a single distribution category. These judgments were then compared to actual subscription behavior. The results are shown in Table 3.

Insert Table 3 about here

Except for subscribers to the industrial psychological measurement category, there is a very high correspondence between judged interest and actual subscription behavior. This correspondence implies that the category definitions at least fit the interests of subscribers to single categories. There were no apparent differences between the stated interests of subscribers to single categories and subscribers to more than one category.

It may be tentatively concluded, then, that subscription to more than one category is dictated by considerations other than stated interests. This conclusion is supported by responses to a questionnaire distributed at the 1969 APA Convention. Less than half of 232 respondents agreed with the statement, "I would like to receive a copy of only those articles that match my interests, rather than the journals that I subscribe to." This suggests that other considerations must be taken into account in the distribution of material in a scientific publication system.

TABLE 2

Number and percent of subscribers to each category and combination of categories.

Category	Number of Subscribers	Percent of Subscribers
Management and organizational behavior	201	23
Psychology and the work environment	99	11
Industrial psychological measurement	103	12 46*
Catalog of abstracts	151	17*
Management and organizational behavior Psychology and the work environment	38	4
Psychology and the work environment Industrial psychological measurement	9	1
Management and organizational behavior Industrial psychological measurement	142	16
All articles in all categories	148	17 33*
Total	891	100

*Subtotal

TABLE 3

The relationship between the judged category of interest areas and the category ordered (the numbers in each cell are actual frequency counts).

JUDGMENT OF INTEREST	CATEGORY ORDERED: Management and organizational behavior	Psychology and the work environment	Industrial psychological measurement
Management and organizational behavior	63	2	10
Psychology and the work environment	3	26	0
Industrial psychological measurement	14	10	33

Diversity of content. The diversity of content characteristic was perceived by subscribers to be a moderately desirable characteristic. Unfortunately, the manuscripts distributed by EPS in the first three issues were not particularly diverse. Figure 1 shows the number of pages contained in the manuscripts distributed by EPS

Insert Figure 1 about here

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in the first three issues. Over four-fifths of the manuscripts contained fewer than seventeen pages. Very few long manuscripts were received.

As another index of the lack of diversity of content contained in the material distributed thus far by EPS, the content of each manuscript was classified into one of six categories.

Problem-directed: The author defines, discusses and analyzes a particular problem or need of an applied or social nature and generally concludes with either a set of recommendations regarding the solution or an approach for attacking the problem.

Statistical: The manipulation of numerically assigned descriptors of various events or objects. Searching for trends or functional relationships is a common objective of statistical studies.

Experimental: The researcher manipulates, within specified limits, certain features in a situation which are assumed to constitute the relevant conditions for the occurrence of the phenomenon under study.

Tutorial: The author describes a particular method, procedure, or technique and the conditions or situations appropriate for the application of the method, procedure or technique.

Theoretical: The author utilizes a conceptual, physical, or mathematical model as an aid for characterizing, explaining, understanding, or predicting some observable or reported phenomenon or set of events.

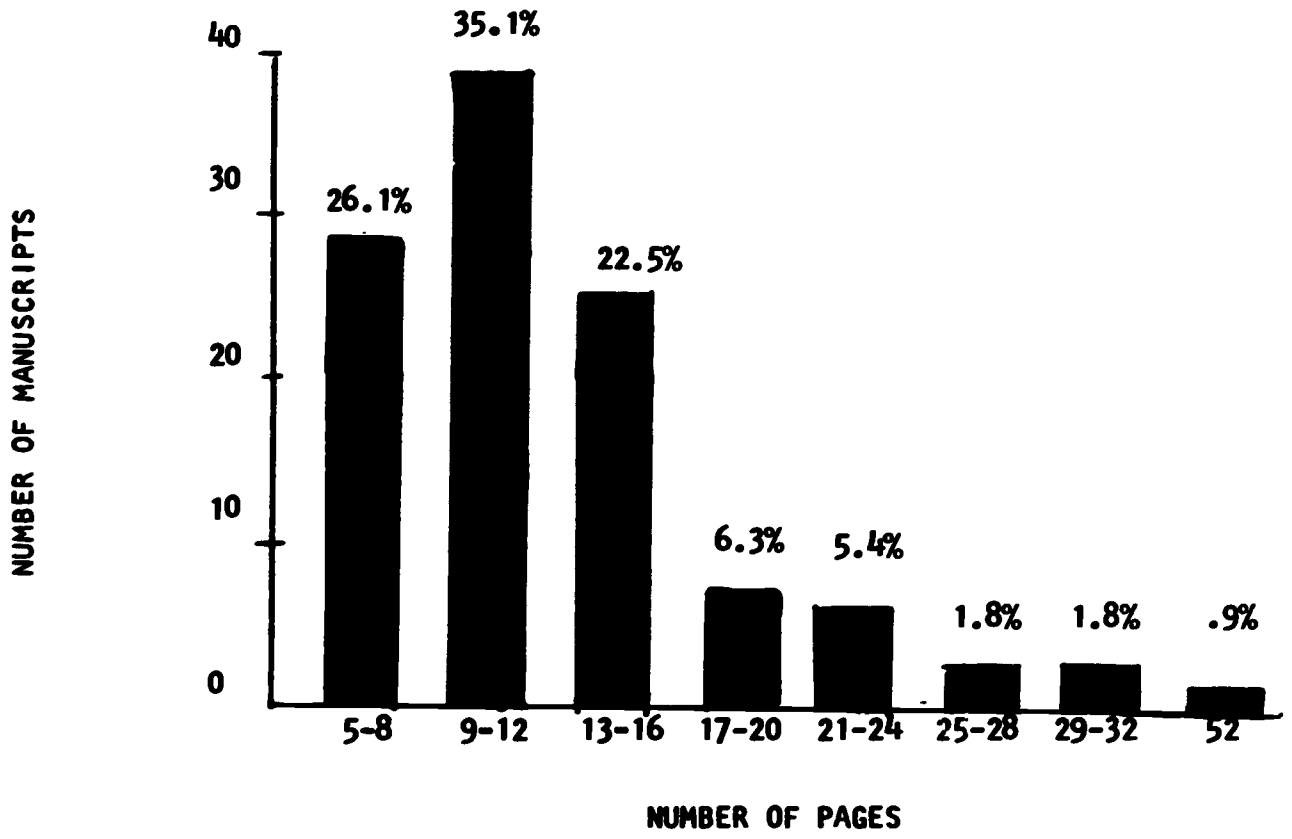
Review: The author summarizes, extracts or integrates the reported findings or conclusions from a number of source documents.

The proportion of material belonging to each of the six content categories for each distribution category is shown in Table 4. Most of the manuscripts were problem-directed, statistical, or experimental. Very few tutorial, theoretical, or review manuscripts were received.

Insert Table 4 about here

It is not clear how EPS subscribers respond to diversity of content because authors have not yet capitalized on this feature of the system. Although it is too early to state with certainty, it appears that authors do not prepare manuscripts which do not conform to journal acceptance standards in terms of content and length. Perhaps authors have to be exposed to the advantages of writing articles which differ from the traditional journal format for a period of more than six months before they will diversify the types of articles they produce.

FIGURE 1



The number of pages contained in the manuscripts distributed in the first three issues.

TABLE 4

The proportion of material belonging to each of six content types for each distribution category.

	PERCENT OF CONTENT TYPE					
Distribution Category	Problem directed	Statistical	Experimental	Tutorial	Theory	Review
Management and organizational behavior	42	28	20	4	4	2
Psychology and the work environment	25	4	67	4	0	0
Industrial psychological measurement	40	33	7	10	5	5
Total	37	25	25	6	4	3

More diverse content is definitely desirable. In the questionnaire distributed at the 1969 APA convention, nearly 80% of the 232 respondents agreed with the statement, "There is a need for more integrative writing, e. g. state-of-the-art summaries, and other forms which distill or condense information." These results suggest that a scientific publication system should provide for integrative or condensed articles as well as the more traditional articles.

Catalog of abstracts. This characteristic received almost a mid-point rank on the desirability scale. These results produced some speculation that the Catalog of Abstracts may not be a useful feature of EPS. Therefore, in a questionnaire sent with the third issue, subscribers were asked to check one of three alternatives concerning the usefulness of the Catalog. Only 4% checked "not useful at all", while 52% checked "useful sometimes" and 44% checked "very useful". From these results, it would appear that the catalog of abstracts characteristic does serve a useful purpose for EPS subscribers, and a characteristic at least similar to it should be incorporated into a scientific publication system.

Articles printed separately. This characteristic was given a mid-point rank on the desirability scale. This indicates that a significant proportion of the subscribers feel that the ability to order separate articles is an essential aspect of EPS. Supporting this conclusion are the answers to another question asked in the questionnaire sent with the first issue to determine if the respondents planned to order separate articles. Over 50% answered "yes". However, actual ordering behavior does not support the apparent popularity of this system feature. During the first six months of operation, 78 orders were received. About 10% of the orders were made by authors for their own articles. Another 25% of the requests were sent in by subscribers to single distribution categories. About 50% of the requests were sent in by subscribers to the Catalog of Abstracts, with the remaining 15% being made by people who could not be identified as either authors or EPS subscribers. These operational results suggest that actually ordering separate articles is not a popular activity.

The low number of orders for separate articles may be due to the one dollar charge for an article. However, in a questionnaire distributed to attendees of the 1969 APA Convention, a question was asked concerning how much respondents would be willing to pay for the capability of ordering separates of articles abstracted in Psychological Abstracts. They were given three alternatives: $1.00, $2.50, and $5.00. About 90% of the 232 respondents indicated that they would be willing to pay $1.00; most of the remaining 10% would not be willing to pay more than $2.50. In a similar question regarding how much respondents would be willing to pay for reprints of articles published in APA journals, the respondents answered in much the same way. Although reprints of published articles may not be the same as the separate articles distributed by EPS, it could be inferred from these results that psychologists are in fact willing to pay $1.00 for the ability to order separate articles.

It may be concluded from all the data on this characteristic that the feature is perceived as being moderately desirable, that a substantial proportion of subscribers plan to take advantage of this capability but a very small proportion of them actually do, and that subscribers are willing to pay as much as $1.00 per article for the ability to order separates. The characteristic should be incorporated in a scientific publication system, with the realization that a large number of orders will probably not be received.

Low acceptance criteria. In the questionnaire sent with the first issue, the low acceptance criteria characteristic generally received a rank near the "least desirable" end of the scale. This raised serious questions concerning whether or

not EPS should provide screening for quality and, if it should, what aspects of quality should be used in performing such screening. A questionnaire distributed with the third issue attempted to provide answers to some of these questions. Since the way a question concerning the implementation of screening is stated has an important bearing on the interpretation of the responses, the question is duplicated here in its entirety, with the proportion of respondents (N=240) answering each alternative added in the spaces provided for check marks.

> Originally the Experimental Publication System was set up to provide minimal screening of manuscripts submitted to it. This has resulted in the distribution of some articles which are considered to be low in quality. It has been suggested that the system raise its standards of screening to eliminate these articles. This would reduce the number of articles distributed and it may increase lag and cost. We are interested in your opinions concerning the desirability of raising our standards of acceptance. Please indicate your feelings about raising our standards: (please check)
>
> 29% Would like 36% Indifferent 35% Would not like

These results again clearly illustrate a divergence in what different subscribers consider to be desirable characteristics of a scientific publication system.

Those respondents who indicated that they would like additional screening were asked to rate different aspects of quality which should be used in performing screening on a scale from 1 (very important) to 10 (not important at all). These are the average ratings (N=70) for the different aspects as defined.

> 4.7 Readability: Including appropriate word usage, syntax, grammar and general coherence.
>
> 2.9 Technical Accuracy: Judged degree of technical or professional quality of the reported study. This will include such factors as thoroughness of supporting documentation, adequacy of the design, appropriateness of the statistical treatment of the data, internal consistency, etc.
>
> 3.8 Significance: Judged value or importance of the results, findings, or implications of reported study, i.e., the judged impact that the outcome of the study will have on subsequent research, education, application to problems/issues or to management practices.
>
> 4.6 Timeliness: Judged level of interest associated with the topic area described in the article. The relevance of the study to problems or subject matter content currently of high interest to a significant segment of the professional or scientific community.

Although technical accuracy is perceived as being the most important aspect that should be used for screening, no single aspect is consistently regarded as being either very important or not important at all. The variability in the ratings between respondents shows that what is important to some subscribers is not important to others. As an example, some subscribers may use the material for tutorial purposes where the timeliness and significance of an article is not as important as the readability or technical accuracy. Other subscribers may use the material for research purposes, where timeliness and significance may be very important and readability and technical accuracy may be of secondary importance. The basis used for screening in a scientific publication system, therefore, may be determined by how the recipients used the material supplied by the system.

Those respondents indicating that they would like screening were also asked how much they would be willing to pay for it, in terms of distribution lag time and subscription costs. The average time lag that respondents would be willing to sustain is 25 days. The average increase in subscription costs they would be willing to pay for additional screening is two dollars. It may be concluded from these results that subscribers who want additional screening are willing to pay for it, to some extent, in terms of time and money. It is important to them, and a scientific publication system should take this into account.

It should be recognized that these are preliminary results, using the opinions of but a very small proportion of the total APA membership to determine the emphasis given to quality screening in a scientific publication system. The importance of related quality issues will be investigated in subsequent research. One problem that must be solved is how a scientific publication system can achieve technical quality. Kuney (1968) states, "The best control of technical quality continues to be a strong and effective review system." The review system generally consists of the journal editor and one reviewer selected by the editor. Although this has been an accepted practice for many years, Wolfgang (1965) raised the question of who is the effective critic of the worth of scientific output. He points out that to determine whether a given study is important or trivial is an esthetic rather than a quantitative decision. And in science, as in everything else, esthetics and taste may easily be confused with fashion. Supporting this view, Crane (1967) performed a study indicating that editors of influential journals and their referees tend to accept papers from authors who resemble them in terms of academic affiliation, school of doctorate, and professional age, and to reject papers from authors who differ from them. She attributes this to a sharing of common viewpoints by editors and authors, rather than to personal ties.

If the effectiveness of editorial review as a means of achieving quality in a scientific publication system is questionable, one might ask, what is accomplished by the editorial review process? One clear result is an increase in publication lag. In a study of psychological journals (APA-PSIEP, 1963) it was found that the median publication lag was six months for some journals and as much as fifteen months for others. Publication lag is measured from the time the manuscript is submitted to the time that it is published. A substantial proportion of this publication lag is attributable to the editorial review process. As Overhage (1967) points out, the impact of these long publication lags is that "authors of scientific and technical papers are bypassing carefully edited primary journals in favor of more rapid publication in poorly edited reports." The result of this practice is that important work is being published in obscure sources that are often beyond the reach of the librarian's bibliographic tools and therefore inacessible to many scientists. Thus, if the only way to achieve quality in a scientific publication system is by using a time-consuming editorial review process, then the consequences in terms of increased publication lag and subsequent publication in obscure but rapid sources must be carefully evaluated. This evaluation will be a continuing focal point in further EPS developments.

The research concerning desirable characteristics of a scientific publication system described in this report may be viewed as an initial step toward developing a publication system for psychologists. One finding is clear. A scientific publication system for psychologists must be capable of producing a variety of products, each possessing different characteristics. Further research is required to specifically define these characteristics.

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