SEGUNDO FORO LATINOAMERICANO
DE INFORMACION

LATINBASE'93
MEMORIA

del 28 de noviembre al 1 de diciembre, 1993
Guadalajara, Jal.
MEXICO

SEGUNDO FORO LATINOAMERICANO DE INFORMACION

LATINBASE'93 MEMORIA

"El Concepto de Calidad en los Bancos de Informacion"

ORGANIZACION:

Biblioteca "Daniel Cosío Villegas", El Colegio de México.

Centro de Información Científica y Humanística, Universidad Nacional Autónoma de México.

Dirección de Bibliotecas, Universidad de Guadalajara.

Dirección de Bibliotecas e Intercambio Académico, Universidad de Colima.

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UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO
Centro de Información Científica y Humanística

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SEGUNDO FORO LATINOAMERICANO DE INFORMACION LATINBASE '93

"El concepto de calidad en los bancos de información"

Del 28 de noviembre al 1 de diciembre de 1993.

I. PRESENTACION.

Como antecedente de los trabajos realizados por LATINBASE'93, en diciembre de 1992 bajo la temática "Bases de Datos Latinoamericanas: problemas y perspectivas", se llevó a cabo el Primer Foro Latinoamericano de Información LATINBASE'92, que dirigió sus objetivos a estructurar una serie de mesas redondas y un panel de discusión, organizados y desarrollados con base en sectores de interés específicos y áreas afines, donde se comentaron diversos aspectos y temas relacionados con la situación que guardan los bancos de información en la región latinoamericana.

En esa oportunidad se abordaron, por ejemplo, la forma en que se han venido desarrollando estos recursos en la región, se describieron sus contenidos, se mencionaron las problemáticas a las que se han enfrentado y se contemplaron algunas de las tecnologías empleadas en la estructuración e instrumentación de los bancos de información. Algunos temas como las metodologías y estrategias de desarrollo y las fórmulas utilizadas para la oferta, publicidad y comercialización, también tema del foro, fueron escasamente cubiertos.

A partir de las experiencias y metas alcanzadas por algunos de los más sobresalientes ejemplos de bancos de información sobre América Latina, o desarrollados por latinoamericanos, se discutieron situaciones relacionadas en torno a los aciertos y dificultades que se les han presentado a esos esfuerzos, así como el estado actual de su funcionamiento en general.

Asimismo, el panel de expertos latinoamericanos que se constituyó en el marco de esa reunión abordó, como consecuencia de los trabajos presentados en las mesas redondas, los puntos más trascendentales que se identificaron como problemáticas e inquietudes sustantivas a lo largo del Foro e hicieron una serie de conclusiones y recomendaciones.

El Comité Organizador de este Segundo Foro Latinoamericano de Información, haciendo eco de esas conclusiones y recomendaciones, dirigió sus esfuerzos a identificar un tema que para la región latinoamericana resulta de particular importancia. Asi, tomando ademas cuenta el grado de evolución y nivel de desarrollo que están alcanzando los bancos de información en la región, Latinbase'93 enfocó su atención de hacia "El concepto de calidad en los bancos de información".

LATINBASE'93 logró conjuntar en esta ocasión no solamente a un grupo de casos sobresalientes de la región latinoamericana, sino también a varios expertos de Estados Unidos y Europa quienes, igualmente preocupados por el nivel de desarrollo que han alcanzado los bancos de información a nivel internacional, enriquecieron la discusión con su experiencia y conocimientos sobre el tema. De la misma manera que su predecesor, en el Segundo Foro se instrumentaron mesas redondas y un panel de conclusiones y recomendaciones, cuya metodología de trabajo y contenido se detallan más adelante en este mismo documento.

Durante el desarrollo de las sesiones del Foro se contó con una participación activa y altamente calificada por parte de los participantes, quienes en discusiones profundas y fluídas lograron concretar las problemáticas y características que califican el desarrollo de los bancos de información y bases de datos no sólo en la región latinoamericana sino incluso, como se observó, en varios casos en los países industrializados.

Algunos de estos puntos sobresalientes de la discusión se expresaron en torno al importante papel que juega el profesional de la información, formado en diversas disciplinas afines, y la interacción que forzosamente debe tener con los usuarios de los servicios y productos que genere, con el objeto de garantizar la solución de necesidades y demandas de información a través de sistemas automatizados o de bancos de información.

Asimismo, otra preocupación insoslayable que se abordó en las mesas redondas es que desde, el inicio del proceso para conformar un banco de información, la calidad, así como los mecanismos para alcanzarla, debe ser un factor que obligadamente ha de tomarse en cuenta a fin de alcanzar los niveles de eficacia y eficiencia que se pretenden; esto es, desde las mismas fuentes de información y la validez de los datos que de ellas provengan, un servicio o producto de información cumple o no cumple con las expectativas para lo que fué concebido.

Algunos otros elementos, como los de contar con personal capacitado, como los de hacer estudios de usuarios, como los de tener con la infraestructura adecuada, etc., también fueron debatidos por los asistentes al Foro. A lo largo de este documento también se precisan estos conceptos.

Como determinó, la sesión concluyente del Foro, las expectativas y objetivos de esta reunión fueron ampliamente cubiertos obteniendo de ellos útiles y oportunas recomendaciones y conclusiones, con el objeto de advertir a los organismos y grupos de trabajo que estén organizando bases y bancos de datos en América Latina acerca de la responsabilidad y esfuerzo que implica diseñar, instrumentar y ofrecer este tipo de recursos. Sirva pues este documento documento como una contribución para marcar pautas y lineamientos en la metodología de trabajo, para conformar bases más sólidas en la construcción de este tipo de estructuras de información y para tender a

una mayor eficacia y eficiencia en la solución de necesidades y requerimientos de información presentadas por usuarios cada vez más conocedores de este tipo de servicios.

II. ESTRUCTURA Y CONTENIDO.

LATINBASE'93 dirigió sus trabajos al análisis y discusión del concepto de calidad en la elaboración de productos y en el ofrecimiento de los servicios englobados en los bancos de información. El objetivo fué observar el estado que guardan éstos en el continente americano en relación a la forma en que son producidos, a los mecanismos que se utilizan en su interacción con el usuario y al aprovisionamiento de datos e información tendientes a satisfacer necesidades y requerimientos de información.

Mesa redonda I. Calidad en la producción de las bases de datos.

Se enfocó a discutir en torno al control de calidad en la producción de las bases de datos en sí mismas, observando factores como el de la estructura de los registros, errores tipográficos, códigos de acceso, consistencia de los datos, políticas de indización, grado de actualización y confiabilidad de la información generada, entre otros.

Mesa redonda II. Calidad en las fuentes de información y canales de distribución.

Se orientó a debatir acerca de la confiabilidad del origen de los datos que sirven de insumo a las bases de datos, así como acerca de los mecanismos que se establecen para proveer el acceso a información procesada en una mercancía o en un servicio determinado, tales como redes de especialistas, de intercambio de documentos, de telecomunicaciones, etc. Igualmente se abordaron las consideraciones que influyen para optar por un medio físico determinado en un producto.

Mesa redonda III. Calidad en los servicios ofrecidos por el especialista intermediario.

Se discutió el papel de los especialistas abocados a optimizar la utilización de los productos de información y a ofrecer respuestas viables a las demandas de información establecidas por los usuarios interesados en una materia específica. En esta sesión se analizó la función de estos profesionales en relación con los bancos de información existentes y con las necesidades de los usuarios. Se observaron aspectos tales como la preparación de los especialistas, su interacción con los diversos sistemas, su interrelación con otros profesionales, su prospectiva, etc.

Mesa redonda IV. Calidad en los productos dirigidos al usuario final.

Se revisaron las características que deben guardar los productos para atender verdaderamente las demandas y expectativas de los usuarios finales, así como los

elementos que debe prever el usuario para hacer un mejor uso de los productos de información, tanto desde el punto de vista de su contenido, como de la herramienta tecnológica empleada.

Panel de conclusiones y recomendaciones.

En esta sesión se retomaron los conceptos definidos durante las mesas redondas y los resultados alcanzados durante las sesiones de discusión. Se elaboraron conclusiones y recomendaciones pertinentes con la finalidad de elevar y mantener la calidad de los bancos de información en América Latina.

I.1 METODOLOGIA DE TRABAJO.

Cada mesa redonda contó con la participación de un conductor de mesa, cuya intervención se basó en su amplia experiencia en el tema, quien expuso al pleno sus puntos de vista al respecto y ofreció un panorama de la situación prevaleciente. Asimismo, participaron más especialistas, quienes, con base en la experiencia obtenida en sus propias instituciones, comentaron las problemáticas a las que se enfrentan en la realidad los bancos de información en el punto a discutir, así como sus propios puntos de vista.

Dentro de cada sesión el público asistente participó, de acuerdo con el ritmo y mecánica que siguió cada mesa, con sus puntos de vista y opiniones. Estas intervenciones estuvieron sujetas a los tiempos que marcaron cada uno de los conductores.

El panel estuvo constituído por los cuatro conductores de las mesas redondas y un moderador.

Todas las sesiones contaron con un relator, quienes estuvieron encargados de organizar y presentar las ideas principales que se establecieron en cada mesa, con el objeto de presentarlas para su discusión en el panel y posterior publicación en las memorias del Foro.

Conductores.

Los conductores tuvieron la responsabilidad de dirigir y moderar la participación y la discusión por parte de los demás miembros de la mesa y del público en general.
para tal efecto presentaron un documento de trabajo en cuanto a la temática que abordó cada mesa y en el que se asentaron los siguientes puntos: un esclarecimiento de la situación actual; una revisión general de carácter crítico de los errores y aciertos ocurridos; un planteamiento de las tendencias y prospectivas y una expresión de comentarios y opiniones personales del conductor.

Los documentos motivaron a la discusión tanto de miembros de la mesa como del público, los cuales aportaron y enriquecieron con comentarios y posiciones personales.

Invitados.

Los invitados fueron seleccionados por su preponderante actividad en el campo de los bancos de información y por constituir un ejemplo constante de tratamiento de este tipo de productos de información. En tal sentido los representantes de esta categoría expusieron, a la luz de la temática de cada mesa y del documento base de trabajo elaborado por el conductor, las características o condiciones que son sintomáticas de su propia experiencia.

Relatores.

Los relatores recogieron y organizaron las principales ideas planteadas y discutidas en cada mesa, con el objeto de elaborar conjuntamente con cada conductor y con la participación del moderador del panel, la agenda de discusión y la mecánica de trabajo del panel.

II. PROGRAMA FINAL.

Domingo, 28 de noviembre.

16:00 - 17:00	Registro de participantes.
17:00 - 17:30	Ceremonia inaugural.
	Presidium:
	Maricarmen Canales, Directora de la Feria Internacional del Libro.
	Victor Manuel González Romero, Vicerrector de la Universidad de Guadalajara.
	Irma Pellicer, Directora de Bibliotecas de la Universidad de Guadalajara.
	Alvaro Quijano, Director de la Biblioteca "Daniel Cosío Villegas" de El Colegio de México.
	Juan Voutssás Márquez, Director del Centro de Información Científica y Humanística de la Universidad Nacional Autónoma de México.
	Victorico Rodríguez, Director General de Intercambio Académico y Sistema de Bibliotecas de la Universidad de Colima.
18:00 - 19:00	Coctel de bienvenida en la Biblioteca Iberoamericana "Octavio Paz".

Lunes, 29 de noviembre.

09:00 - 11:30 Mesa redonda I.
Calidad en la producción de bases de datos.

Conductora: Elizabeth Aversa del Departamento de Investigación del Institute for Scientific Information (ISI) en los Estados Unidos de América.

Invitados: Juan Voutssas Márquez, Director del Centro de Información Científica y Humanística de la Universidad Nacional Autónoma de México (CICH-UNAM).

Victorico Rodríguez, Director General de Intercambio Académico y Sistema de Bibliotecas de la Universidad de Colima en México.

Antonio Agenor Briquet de Lemos, Consultor Independiente de Brasil.

Relatora: Pilar Ma. Moreno de el Departamento de Control Bibliográfico de la Biblioteca Daniel Cosío Villegas de El Colegio de México.

11:30 - 12:00 Receso.

12:00 - 14:30 Mesa redonda II.
Calidad en las fuentes de información y en los canales de distribución.

Conductora: Carol Tenopir, Profesora del Departamento de Ciencia Bibliotecaria del Escuela de Graduados de Estudios Bibliotecarios de la University of Hawaii en Manoa, Estados Unidos de América.

Rogelio Hinojosa, Subdirector de Servicios de Información Selectiva, S.A. (INFOSEL) en la Ciudad de Monterrey, Nuevo León, Mexico.

Ma. Luisa Arenas, Directora de Sistemas de Bibliotecas de la Pontificia Universidad Católica de Chile en Santiago de Chile.

Sue Mundell de la División Hispánica de la Biblioteca del Congreso productores del Handbook of Latin American Studies en Washington, D.C., Estados Unidos de América.

Relatora: Ma. Elena Ceballos Monterrubio., Coordinadora de Informática de la Dirección de Bibliotecas de la Universidad de Guadalajara en Guadalajara, Jalisco, México.

Martes, 30 de noviembre.

09:00 - 11:30 Mesa redonda III.
Calidad en los servicios ofrecidos por el especialista intermediario.

Conductor: Tefko Saracevic, Profesor de la Escuela de Comunicación, Información y Estudios Bibliotecarios de Rutgers. The State University of New Jersey en los Estados Unidos de América.

Invitados: Federico Turnbull, Director de Asesores Especializados en Información y Documentación S.C. (AEID) en la Ciudad de México, D.F. Mexico.

Georgina Arteaga, Jefa del Centro Regional de Información y Documentación en Salud de la Facultad de Medicina de la Universidad Autónoma de Nuevo León (UANL) en la Ciudad de Monterrey, Mexico.

Poggi Zulay, Subdirectora de Información, Ciencia y Tecnología del CONICYT en Caracas, Venezuela.

Alejandra Ciurlizza, Jefa del Centro de Documentación de la Asociación Latinoamericana de Instituciones Financieras de Desarrollo (ALIDE) en Lima, Perú.

Relator: Julio Zetter, Secretario Técnico de Difusión del CICH-UNAM en México.

11:30 - 12:00 Receso.

12:00 - 14:30 Mesa redonda IV.
Calidad en los productos dirigidos al usuario final.

Conductora: Elisabeth Davenport, Investigadora del Departamento de Ciencia de la Información de la University of Strathclyde en Glasgow, Escocia, UK.

Invitados: Jaime Litvak, Investigador del Instituto de Investigaciones Antropológicas de la Universidad Nacional Autónoma de México (IIA-UNAM).

Christopher L. Heard, Investigador del Departamento de Geotermia del Instituto de Investigaciones Eléctricas (IIE) en Palmira, Cuernavaca, Morelos, Mexico.

Francisco Javier Bringas San Emeterio, Jefe de la Biblioteca del Instituto Venezolano de Investigaciones Científicas (IVIC) en Caracas, Venezuela.

José Enrique Gonzalez Cornejo, Coordinador del Sistema Computarizado REDUC del Centro de Investigación y Desarrollo de la Educación en Santiago de Chile.

Relator: Alvaro Quijano, Director de la Biblioteca Daniel Cosío Villegas de El Colegio de México.

17:00 - 19:00 Reunión de trabajo entre el moderador del panel, los conductores y relatores para el establecimiento de mecánica de trabajo y agenda de discusión del panel.

Miércoles, 1o. de diciembre.

09:00 - 11:00	Panel de conclusiones y recomendaciones.
Moderador:	Isidro Fernández-Aballí M.
Invitados:	Elizabeth Aversa del Departamento de Investigación del Institute for Scientific Information (ISI) en los Estados Unidos de América.
	Carol Tenopir, Profesora del Departamento de Ciencia Bibliotecaria del Escuela de Graduados de Estudios Bibliotecarios de la University of Hawaii en Manoa, Estados Unidos de América.
	Tefko Saracevic, Profesor de la Escuela de Comunicación, Información y Estudios Bibliotecarios de Rutgers. The State University of New Jersey en los Estados Unidos de América.
	Elisabeth Davenport, Investigadora del Departamento de Ciencia de la Información de la University of Strathclyde en Glasgow, Escocia, UK.
Relatora:	Rosalba Cruz Ramos, Secretaria Técnica de Educación Continua del CICH-UNAM en Mexico.
11:00 - 11:30	Receso.
11:30 - 13:00	Continuación del panel de conclusiones y recomendaciones.
13:00 - 14:00	Ceremonia de clausura.

III. DOCUMENTOS BASICOS DE DISCUSION.

Como respuesta a la convocatoria hecha a los conductores de las mesas, estos elaboraron los respectivos documentos para ser presentados a los participantes de cada una de las cuatro mesas.

Dichos documentos se presentan a continuación en su versión original:

Mesa I. Control de calidad en la producción de bases de datos: una presentación de algunas inquietudes y consideraciones futuras por Elizabeth Aversa.

QUALITY CONTROL IN DATABASE PRODUCTION: A PRESENTATION ON SOME PRESENT CONCERNS & FUTURE PROSPECTS

By ELIZABETH S. AVERSA
INSTITUTE OF SCIENTIFIC INFORMATION

Summary: This presentation defines quality control, introduces the need for quality control in the production of databases, and gives examples of factors that affect quality. Examples of quality control processes and procedures are presented, primarily from the perspective of the Institute for Scientific Information (ISI), producer of **Current Contents, Science Citation Index,** and other large databases.

The purpose of this paper is to set the stage for the upcoming discussion by my colleagues on Panel 1. In the way of an overview and introduction, I will outline what quality and quality control are, provide background on the need for quality control in databases, and review the may factors that can affect the quality of databases. I will also share some examples from the production of ISI's databases, examples that were generously provided to me by our director of development and quality control, Dr. Irv Sher.

Any discussion of quality control in the production of databases must begin with the questions "What is quality?" and "How do we measure quality in a database?" If we define quality as "character with respect to excellence," it follows that every ethical database producer aspires to create a product of the highest quality. Database producers realize, however, that the desire to produce a high quality database must be tempered with the realities of cost and time requirements for perfecting the database. As Anne Mintz so correctly noted, "100% accuracy in a database could cost a publisher so much as to price a product right out of the marketplace."

(Mintz,15) And as ISI's director of quality control wisely points out, even if a database producer had infinite resources to work with as well as total control of the data entering a database, it would still be impossible to reach perfection because some irregularities can never be made consistent and some answers from the producers of the source documents can never be obtained! (Sher, 1993) So, for the purposes of this discussion, let us assume that database producers have the goal of producing the highest quality databases possible, within the constraints of fiscal and temporal resources.

Quality control, then, is the system, or set of policies and procedures, that database producers put in place to ensure that the highest quality standards will be maintained.

I would argue that quality control in the production of databases is fundamentally different from quality control with respect to the production of manufactured goods, in that inspection of the finished product and the removal of inferior products from distribution is not adequate where databases are concerned. The reason for this is that database production errors are perpetuated almost immediately and may be very difficult to identify upon later inspection. While a defective automobile can be recalled and repaired, errors in databases are not so easily detected nor their effects reversed. Therefore when we speak of quality control we must mean a system in place throughout the production process, not just a post-production, pre-distribution inspection or spot check.

Carol Tenopir, from whom who will hear later during this conference, has suggested that quality control in online databases encompasses several issues: "quality of the database itself; quality of the sources that are used to create the database; quality of the telecommunications link; quality of the online vendor; and quality of the online searchers and the service they provide as intermediaries." (Tenopir, 124) In this presentation, I will address only the first two categories. The aspects of quality control to be addressed are those that generally define the field the field: quality improvement, error control, and defect prevention. (Crosby, 1027)

So, with these definitions and caveats in mind, consider why quality control is so important in the database industry. There are four widely recognized reasons for the investment in quality control or quality management.

First, there is increasing reliance, from all sectors, on electronic databases. As Redman puts it, this reliance is "increasing the amount of data stored and used, and the number of duplicate copies of any data item kept." (Redman, 3) The possible adverse effects of erroneous data is obvious.

Second, the number of multi-source and shared multi-institutional databases is also increasing. This sharing, both at input and output points, necessitates attention to consistency and quality assurance. Bibliographic systems like OCLC, incorporating records from a variety of institutional sources, target quality control efforts on eliminating duplicate records, augmenting incomplete records, and correcting and standardizing names, subject headings, and other attributes. (Calhoun et a1. 16)

A third very strong argument of the implementation of quality control systems in database production is that good business practice requires it. The legal liability of database producers, the potential costs of cleaning up erroneous data, and the value of good reviews and reputations are important factors. A legal case that made its way to the US Supreme Court in the mid-1980's, Greenmoss Builders vs Dun and Bradstreet, provided a wake up call to database producers on the potential damages of erroneous data.

More recent legal actions involving TRW have been brought over inaccuracies in consumer credit data and the reporting of it in several states. Both legal and marketing aspects of the liability issue have been addressed in the literature. (Tarter, 61).

While the monetary cost of litigation provides incentive for quality control, there are also cost associated with efforts to correct errors in databases. Not the least of these is opportunity cost, in that both money and manpower that could be enhancing databases must be diverted to the data clean-up effort.

The complex problems of correcting inaccuracies in data have been described in relation to financial and other numeric databases. The clean-up plans for the database of the Resolution Trust Corporation.

Finally, the value of the database producer's overall reputation cannot be overstated. The "business advantage" afforded by favorable reviews from increasingly knowledgeable users in a competitive marketplace will continue to influence those managers whose responsibilities include quality assurance in database production. Arnold is adamant in stating that it is "manufacturing" of a database, not marketing, that makes for success, and he suggests that electronic data will be evaluated on characteristics such as price, accuracy, and appearance as consumer become more demanding. He, they want more, (Arnold, 39), and certainly the effort of the Southern California Online Users Group (SCOUG) To create a rating scheme for databases provides evidence for that view. (Tenopir, 64).

The fourth, and perhaps most fundamental, reason for attention to quality control has to do with the multiplier effect of data errors. Data, unlike manufactured hard goods, do not deteriorate with time and use, but instead become pervasive on the information landscape. Redman has likened bad data to virus: "Once it gets into a database there is no telling where it will strike... bad data seems to propagate from one database to the next." (Redman, 7) At special risk are data elements such as author names and addresses, elements that are sometimes written to other files to be used for purposes other than simple retrieval from a single bibliographic database. The multiplier effect is further compounded by the fact that out-of-date data resides in files from the time a change occurs until the next update, and for many bibliographic databases, files are never revisited for the purpose of error correction. So obsolete, as well as bad, data con live on, almost in perpetuity.

For all these reasons, then quality control is necessary in the database process, both at the input stage and as post hoc review steps. In fact, it has been suggested that database production requires even more stringent quality control and management than more traditional product manufacturing processes. (Redman, 15)

With all this in mind, then, we can consider the database production process, the points in that process where quality control processes are applied, and what the future holds for both production and quality management.

Meadow outlines a general "database producer sequence" as a series of steps. After deciding to create a database and determining to include certain sources, the producer applies quality control to the next steps: specifically, design of the record structure, creation of individual records, data entry, and maintenance. (Meadow, 11)

Accuracy, consistency, completeness, and the avoidance of duplicates are generally the goals of quality control in database production. The literature abounds with examples of specific systems to automate various quality control tasks. A few selections include:

Lam describes aspects of quality control in the production of a Canadian database on occupational health and safety; techniques described include verification of data values such as ISBN's and ISSSn's, automatic provision of values such as reasons for inclusion in the file, and technical editing and checking of subject indexing. (Lam, 29)

Ridley reports on the application of an expert system for duplicate detection in a British bibliographic database, and emphasizes the relation database structure for both the records and the expert system rules; this example clearly illustrates how quality control considerations are integrated into the initial database design. (Ridely, 2)

Others consider indexing quality as the primary indicator of overall quality, and continuing work addresses this area. (White and Griffith, Chu and Ajiferuke, etc.) O'neill and Vizine-Goetz's review covers additional quality control issues applicable to online databases. (O'neill and Vizine-Goetz, 125)

With these broad approaches in mind, let me now turn briefly to the production and quality control processes at the Institute for Scientific Information (ISI). ISI's founder, Dr. Eugene Garfield, started the company over 30 years ago, and from that time he has been committed to improving and maintaining the highest possible quality of the data in ISI's growing family of information products. Over twenty years ago, in an essay calling for the noting of errors in textbooks, he spoke of the "responsibility by all within the system of scientific communication to reduce the noise in the system..." (Garfield, 233) ISI has continually taken that responsibility seriously, and makes every effort to keep our errors to a minimum and even to correct errors that we find in the sources that we index for our print, online, and cd-rom products.

This is no small task, considering that ISI processes over on million source items annually, twice as many source author names and addresses, and eight to ten times as many cited references. This huge volume, when combined with the need for timeliness, has necessitated using artificial intelligence and increasingly "smarter"

programs to edit, verify, identify errors, and prioritize and correct the problems encountered. And to add to the complexity of production and quality control, the changes in technology -a thirty year progression from punched cards through key-to-tape, key-to-disk, and most recently to scanning with OCR -require vigilance for new kinds of errors specific to the technology of production.

Clearly, ISI has a commitment to quality control and has implemented an extensive system for maintaining and improving the data. As with any database producer, however, fiscal and time considerations require that priorities are set for which elements to target for maximum consistency, completeness, and accuracy.

Elements in ISI's databases that are particularly susceptible to error, and that area among the most critical to the overall quality expected by our users, include author names, author addresses, and references (including author, and bibliographic information -title, volume, page, and year). These are important for three major reasons:

(1) ISI produces **citation** indexes, and therefore depends upon de accuracy of references in published papers for the construction of the indexes for de **Science Citation Index**, the **Social Sciences Citation Index**, and the **Arts and Humanities Citation Index**, as well as the specialty indexes. With incorrect entries, users would find it impossible to perform and exhaustive search of citations to a particular older work.

(2) All author addresses are keyed, and these addresses are used by end users for a variety of reasons. Users may need address information to write for reprints or to perform searches for articles published by authors at specific institutions or laboratories or even by researchers in particular countries. Complete and consistent data are needed here.

(3) ISI's files are also extensively used for publication and citation studies. Science policy analysts worldwide, institutional administrators, publishers, and government agencies use ISI data for developing science indicators, for ranking institutions and labs on productivity and citation impact, and for studying the effectiveness of editorial and marketing decision-making. Information scientists use ISI's data to investigate past, present, and even future trends in research. And librarians also consult ISI's products for collection management and journal selection purposes.

Although we are concerned for every data element, I will focus my examples on author names, addresses, and cited references. Instead of trying to detail our production and quality control processes, I will give examples by answering three basic questions: (1) What kinds of errors does ISI encounter? (2) Where in the process of database production do the errors occur? (3) What do we do about the errors?

Table 1 summarizes, and I will show foils of, an assortment of individual examples. Please keep in mind that these quality control examples were applied at various times as ISI has shifted its production technologies -some items describe what was done in batch mode; others describe aspects of a newer system being implemented as we move to scanning with OCR. The latter allows errors to be identified and corrected "on the fly" as the data is input.

TABLE 1. EXAMPLES OF ERRORS, THEIR ORIGINS, AND SOME QUALITY CONTROL SOLUTIONS

Origin of Error	Problem	Example*	Corrective Measure
Source article author	Incorrect cited author name	Author cites "AGOSTINI A" but should have cited "AGOSTONI A"	Match cited item on keys for au, jo, v p, yr = Forever File match is "AGOSTONI A" Correction and cross references made, (1)
Publisher policy	No cited author initials	Reference is to "WEINBGERG" but should be to "WEINBERG SS"	Match cited item on keys for au, jo, v, p, yr = Forever File match is to "WEINBERG SS" Correction and cross reference made. (2)
Publisher policy	Incomplete source author address	Address given is "Civil Engineering Dept., Univ. of Western Australia, Australia"	New system displays full address if an older entry with the address exists, then copies full address to file. (3)
ISI keying	Keying error stutter	Keyed source author as "YSOHIMURA T" but should be "YOSHIMURA T"	New system recognizes "YS" alerts to problem through rules governing names and statistical probability of the combination. Probability that correct name matched cited item 'YOSHIMURA T" - Correction made. (4)
ISI Keying	Keying error stutter	Keyed cited author as "KULLICHIKHIN SG" but should be "KULICHICHIN SG"	New system matches to most statistically probable variant Winning entry is "KULICHICHIN SG" Correction and cross reference made. (5)

ISI Keying	Inconsistent transliter-ation	Keyed cited author as "BRUSILOVSKII BA" but was previously entered as "BRUSILOVKSKY VG"	Wining entry is "BRUSILOVKSY VG" Correction and cross reference made. (6)
Scanning /OCR	Poor fond results in error	Is term "arid" or "and" -both pass spell check	Editorial decision made on display of error (7)
Source article author	Incorrect first author in cited item	Author cited "KIRTLEY J" but he was second author on paper with HANSMA PK. Author should have cited "HANSMA PK".	NO CORRECTION WAS MADE IN THIS CASE. Although other keys matched on HANSMA's citations, so would have other papers that may have been published on the same page of the same issue of the journal in question. (8)
Name inconsistent	Chinese name presentation - order error	Author cited "J. XINGGANG." Paper contains references to works of "S.G.JIANG."	New system uses rules for spelling plus elements of citation and self-citation to identify, correct errors. (9)
Typographic error on journal	Author name misspelled	Source author name given is "D. MEYER-EBRECTH". Correct surname is "MEYER-EBRECHT".	Rules on spelling identify problem, self cites indicate probably correct name. (10)

*Sources' Dr. Garfield- Essays of an Information Scientist, items 1,3,8; Dr. Sher - personal communication, items 2,4-7,9,10.

As I mentioned, we are currently shifting from key to disk to scanning with OCR technologies. Dr. Sher has described the quality control effort during the transition as "attempting to change engines on a train that is moving at 100 miles an hour - without having the passengers feel so much as a bump." Dr. Sher and his colleagues have developed new programs for detecting and correcting errors, and these "smarter programs" aim to prevent errors while a avoiding introducing new errors of "commission". The quality control effort attempts to automate corrections where there is a clear error and obvious solution; to flag less obvious potential problems for an editor to review; to upgrade key dictionaries and other files ; to maintain records necessary to identify recurring problems so as to suggest policy or procedural changes.

In the new technology ISIS'S quality control includes

- Scanning each page separately via manual feeder so every page number and each paper's page can be verified;
- redisplay of every page so that any bad images can be identified and corrected, and so page counts can be verified again:
- spell checker, corrected and
- scientific symbols and chemical signs are edited by matching what the journal presents with ISI's formats; changes can be made by pointing and clicking on a 6-screen table without the keyer having to make a decision;
- OCR is checked against the documents and elements such as title terms and punctuation are checked independently;
- addresses are corrected or completed through use of the master address file described earlier - an address specialist can take care of problems not solved by automated procedures;
- editors and specialists check for critical elements;
- all records are also checked as database records after the data is formatted and
- The entire database is subjected to additional q.c. checks, including additional spell checking and review.

Jeanette Bulls, who provided much information on the new ISI systems, stated that although there are quality control checks at both machine and operator levels and audit trails created throughout the process, none of the new technology will replace training and updating of personnel involved with scanning and keying. Keyers still input references, and the receive extensive training before they ever input a single record to ISI's databases. (Keyers take three months of classroom training, and once on the system they are still trainees for about nine months. After one year, both productivity and quality standards must be met.)

The issue of training as a quality control issue leads me to my final point: innovative, creative, high tech measures do not make the entire quality control system. One quality control check that is very important, but requires no smart programs is ISI's weekly 100 author questionnaire. Each week 100 authors whose articles have been input to ISI's databases receive a letter and a printout of the data from their articles.

the authors are asked to check the output and return it to us, and we make note of the errors. Usually the problems are isolated, but "occasionally those may be symptomatic of a more general problem, which we promptly investigate." (Garfield, 144)

I hope that the previous remarks describe the present situation and lead us to fruitful discussion of the issues surrounding quality control. The organizers of this conference also asked the chairmen of the panels to describe trends and to add our personal comments and opinions, so I will take just a moment to do that.

Stephen Arnold suggests that database production, from the decision to produce a database to the receipt of feedback from users of the database, should be called "information manufacturing" and he suggest that the present "stage in information manufacturing" (1992-1997) is driven by a "growing awareness of the importance of quality in the machine-readable file..." (Arnold, 34) I agree that this is, indeed, the case.

I also agree with Arnold that much human effort will be replaced by software and hardware "effort." However, I do not believe that smart programs and machines will replace the human role in database production. Personnel in database production may be shifted and moved around, but at some point, there will be a human in the quality control system. The human role will be to design better database structures, to develop indexing policies, and to write the smart programs for automatic authority control, duplicate detection, and recognition of errors and incomplete data. The human role will be to evaluate present quality and to recognize present shortcomings in the production process, and to develop increasingly effective systems for checking, validation, dictionary construction, and the like. Most of all, however, the human role in quality control will be to provide a philosophy of quality for each organization engaged in the database production and delivery business.

It is also my view that the most reliable database producers will bring many diverse techniques to bear on the quality control question. They will use highly sophisticated expert systems approaches for some tasks, more routine approaches for the less exotic tasks, and "low tech" approaches for the other forms of checking, validation, and error correction. From the combination of many approaches to quality control will evolve new knowledge about the process and yet unthought of solutions.

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Mesa II. Calidad en las fuentes de información y los canales de distribución por Carol Tenopir.

QUALITY IN INFORMATION SOURCES AND DISTRIBUTION CHANNELS (Round Table II)

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I am pleased to be here as the chairman of Round Table number II: quality in information sources and distribution channels. To put this second round table into context, I think it will be useful to turn to the information distribution and use chain as describe by Martha E. Williams.[1]

[See figure 1.]

The intellectual side of creation of the content of databases takes place in steps 1-3, as do the organization and other editorial content decisions. Many of these we heard about in Round Table I. Steps 6 and 7 we will hear about in Round Tables III and IV. This round table will concentrate on steps 4 and 5 --the links between database/content producer and users. As you can see on this diagram, all of these links are bound together and there is overlap at each stage. Round Table II will concentrate on those things that facilitate people's access to databases, but some aspects must also be discussed in the other three round tables.

Instead of links we could also call this process the "bridge" between content and users. We must assume quality content and motivated users, but high quality distribution channels are what makes it possible to connect the two.

THE PRESENT SITUATION: CHOICES FOR ACCESS

There are many possibilities of how this "bridge" or these "links" will appear. Today the user of electronic information products has many choices for access methods. These alternatives of access come under two main categories: 1) database access only at the time the user needs it, or 2), distribution of the entire database to the user's site by subscription or purchase. [See Figure 2.]

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[1]Martha E. Williams, "Highlights of the Online Database Industry and the Quality of Information and Data", National Online Meeting Proceedings, New York, May 1-3 1990. Medford, NJ: Learned Information, Inc., 1990,3.

The first category primarily consists of remote online access. This may be via large commercial online systems such as DIALOG, Data-Star, and so forth, or access over less formal channels of distribution such as Internet, other library's online catalogs, or electronic bulletin boards. Increasingly in the library environment, libraries electronically share access to databases using Internet or a shared online public access catalog (OPAC) vendor. For document delivery purposes, the first alternative can also include telefacsimile delivery of individual documents.

The most popular option in the second category is CD-ROM, but this option also includes distribution of databases on diskettes, magnetic tape, and other alternative media. When one library leases a database on magnetic tape, loads it on their local computer, then makes it accessible to others via Internet or through their OPAC system, the boundaries between remote access and local access blur. In essence the library that loads the database fits into category two, but it has become a remote access online site for other libraries (category 1).

Bibliographic and full text journal article databases on magnetic tape for loading on local computers is growing quickly in the library market, but CD-ROM is growing the fastest in the consumer market. Figure 3 shows the comparative revenues of the various distribution media for 1988 and 1990 and as forecasted by LINK Resources Inc. for 1993 and 1995. The percentage of use of remote online is expected to grow with the tremendous continued growth of Internet around the world. Internet continues to grow at a pace of 7-9% per month, with over 50 million users as of August 1993.

ASSURING QUALITY: ERRORS AND TRUTHS

Just as with constructing a bridge, the process of providing access to information content is a complex task. Let's assume that the database producer has selected high quality materials and has produced them with all the degree of quality control described in Round Table I. Now, what happens to that information? The information distributor (sometimes called the databank, sometimes the information vendor, sometimes just another library) takes the information content and turns it into an information product that is then distributed to or accessed by users.

All of the steps on the left side of this diagram [Figure 4], fall into the information distribution area. The quality of the users or searchers themselves relies on good training and expertise; database content issues are the responsibility of authors and publishers at the time the information is gathered and organized. All of the remaining parts of the search process are part of access sources and distribution options.

Many of the quality issues for access are software issues. The content or documents are transformed into a database by *loading software* in the process of file loading or index creation. The *search engine* provides the power and capabilities to search and

retrieve the transformed information content. The quality of the *user interface* is what makes the search and retrieval process successful or no to individual users.

Software quality can be measured by standard checklists of features[2], but it is an error to think there is one standard for it. A large part of software quality has to do with what is appropriate for users and for the particular types of content. Interfaces can be of high or low quality whether they are command-driven, menus, function keys, or natural language. Search engines may be Boolean-logic based or some other alternative. "User-friendliness" is a difficult concept to generalize. Reliability and consistency, coupled with what's appropriate for a given user group, can be most important.

To software quality issues also add those to do with the physical mastering process, copying, and even the process of putting the disk into the mail. If a database is distributed online, quality issues are found in the telecommunications channels and even the infrastructure of the phone system. Floppy disk distribution requires a database that can be fit in reasonable chunks on a disk, and any distribution medium must be robust and appropriate for the intended users.

It is and error to assume there is one best distribution medium for all databases and all users. When CD-ROM first appeared in the mid-1980s, some experts forecast the end of online access.

(Online access in the mid-1970s had similarly been seen as the end of print.) May distribution options co-exist today and surveys of libraries show them choosing a variety of distribution options[3].

Each distribution option has its own strengths depending on the needs of the purchasers and the type of information distributed[4]. For example, online is best for multi-media books and when telecommunications quality is a problem: locally loaded is most cost-effective for high volume use materials.

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[2] See for example, Reva Basch, "Databank Software for the 1990s and Beyond: Part 1, The User's Wish List," Online 14 (March 1990): 17-23 and Peter Jacso, CD-ROM Software, Dataware, and Hardware, Englewood, CO: Libraries Unlimited, 1992.

[3] Carol Tenopir and Ralf Neufang, "Electronic Reference Options: How They Stack Up in Reserarch Libraries," Online 16 (March 1992): 22-28.

[4] Carol Tenopir, "Choices for Electronic Reference," Library Journal 118 (July 1993): 52,54.

VARIETY OF QUALITY ISSUES: TENDENCIES AND PROSPECTS

No matter the distribution option, there are a variety of quality issues to be considered when evaluating information sources, some of which I have touched on already. With the increasingly vocal international quality movement, some progress has been made on some these issues.

--Software

As mentioned earlier, software quality involves loading software, search engines, and user interfaces. In the last few years there have been many changes to access software, both for the better and worse. One of the most promising prospects for interface software is the tendency to offer options for interfaces. Interfaces that can adapt to individual users levels and needs are still a long way off, but at least many of the online and CD-Rom systems now allow a choice of interfaces. Several systems now support commands, menus, and natural language input.

Search engines are also breaking out of the facto standard Boolean logic systems. Westlaw DIALOG, and Mead Data Central, for example, now allow users to choose either exact match Boolean logic or partial match relevance ranking search engines.

--Content error detection/correction

The information distributor's software must make error detection and correction easy. At the time a database is loaded, error detection procedures should be run to catch inconsistencies, field errors, and other obvious things. Once a database is distributed, customers should be given ways to notify distributors and database producers automaticaliy when errors are found, and error correction must take place quickly and easily.

As fundamental as all of this seems, such error correcting procedures have not been commonplace. To date only one online vendor (NewsNet) has implemented Anne Mintz's much publicized FIXIT command[5].

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[5]Anne P. Mintz, "Quality Control and the Zen of Database Production." Online 14 (November 1990): 15-23.

--Connections/physical reliability

Remote online systems now typically operate many hours per day, with 23 hours + becoming the norm. Response times have improved with improvements in hardware at both the host and customer end. The biggest remaining obstacle is dependent on forces sometimes outside the control of the information industry or customers. Transmission quality still varies considerably with local telecommunications infrastructure and high access speeds depend on quality lines. Better error correcting/detecting by packet-switching networks and by modems are making online connections more reliable in most parts of the world. The CD-ROM industry has grown so quickly in large part because of international standards such as ISO 9660 that allow any disk to be played on any player. Standards such as MARC format for data distributed for local loading also facilitate growth.

--Time Delivery

Updating databases on time is a shared responsibility between the database producer and database distributor. Update schedules have been accelerated in recent years in the online environment and with high speed modems more information can be transmitted more quickly both from the producer to the distributor and from the distributor to the customer. CD-ROM and tapes are still typically updated once per month or less, although there are exceptions. With locally distributed databases some delivery issues, such as postal delivery infrastructure, remain outside of the control of the distributor. Improved courier services and international overnight delivery are helping here, however.

--Documentation/training

The responsibility for documentation and training is a shared one between database producers and distributes. Documentation and training should be available in print and electronically, and at little or no cost to users. Training should also be available in person or over the telephone. From the distributor, documentation and training needs to cover the software as well as the individual database as loaded on that system[6].

Many documentation quality issues have not changed over the years, but some current developments include: more documentation available online and on CD-ROM, built-in tutorials for various levels of users, and better help screens. The line between documentation and training and system interface and search features is being blurred. Online 24 hour trouble shooting is still a long way off for most distributors, however.

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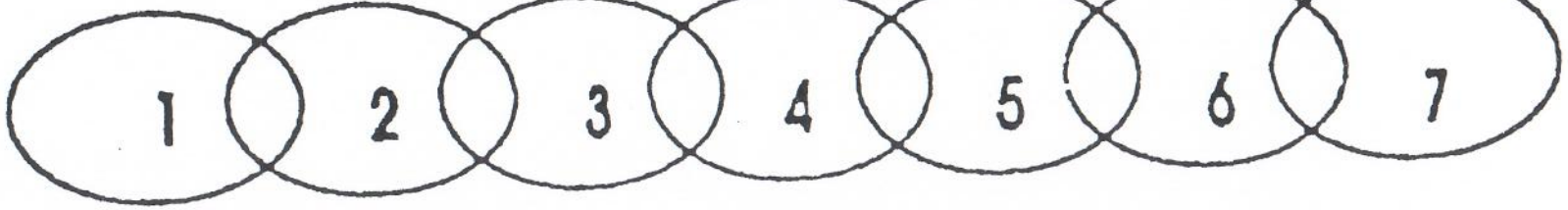
[6]R. Jununen, et al, "Quality Requirements for Databases: Projecto for Evaluating Finnish Databases." Proceedings of Online Information '91, 10-12 December 1991, London, England. Oxford: Learned Information, Ltd., 1991. Pp. 351-359.

PERSONAL COMMENTS AND OPINIONS

Progress is being made in improving the quality of distribution channels. It is a challenge to each of you who are customers to demand continued improvements in areas where the information distributors have control, such as better software, more timely updates, better documentation, and improved facility for correcting content.

Other quality issues are much bigger than the small world of information distributors, producers, and customers. Telecommunications infrastructure, global network reliability, postal delivery, and hardware technologies all impact the quality of information delivery. The view of the long term is positive, but it may come more slowly than may of us would like. In the meantime, the single most important factor is choice. The variety of distribution options--commercial online, networked online, facsimile, CD-ROM, diskettes, and locally loaded databases --allow customers to choose and to provide the best quality resources in the most appropriate media.



Author

Primary Publisher

Secondary Publisher/ Producer

Tertiary Publisher / Vendor

Gateway

Searcher Analyst

End user Requestor

FIGURA 1

Figure 1. Information-use chain

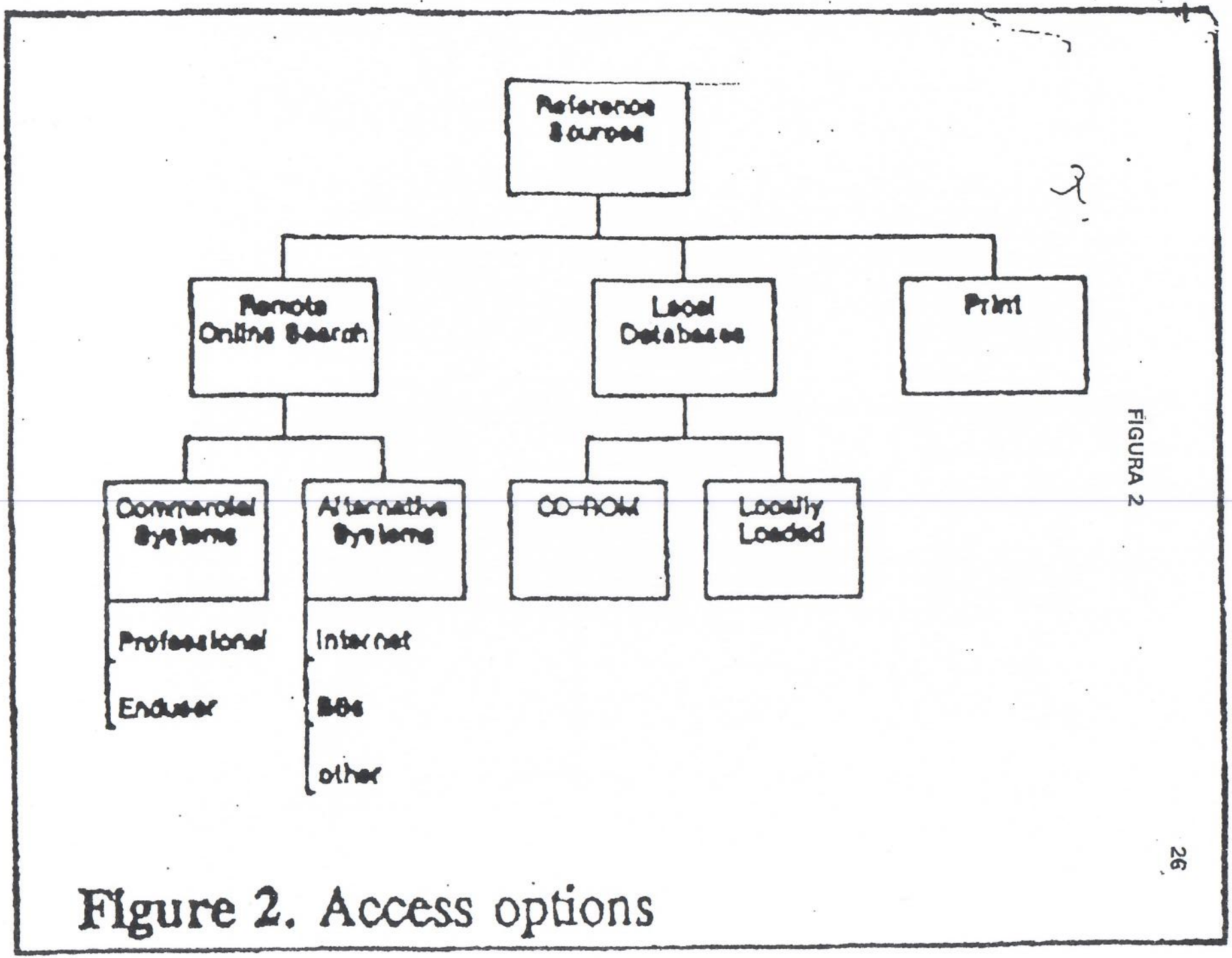


FIGURA 2

26

Figure 2. Access options

FIGURA 3

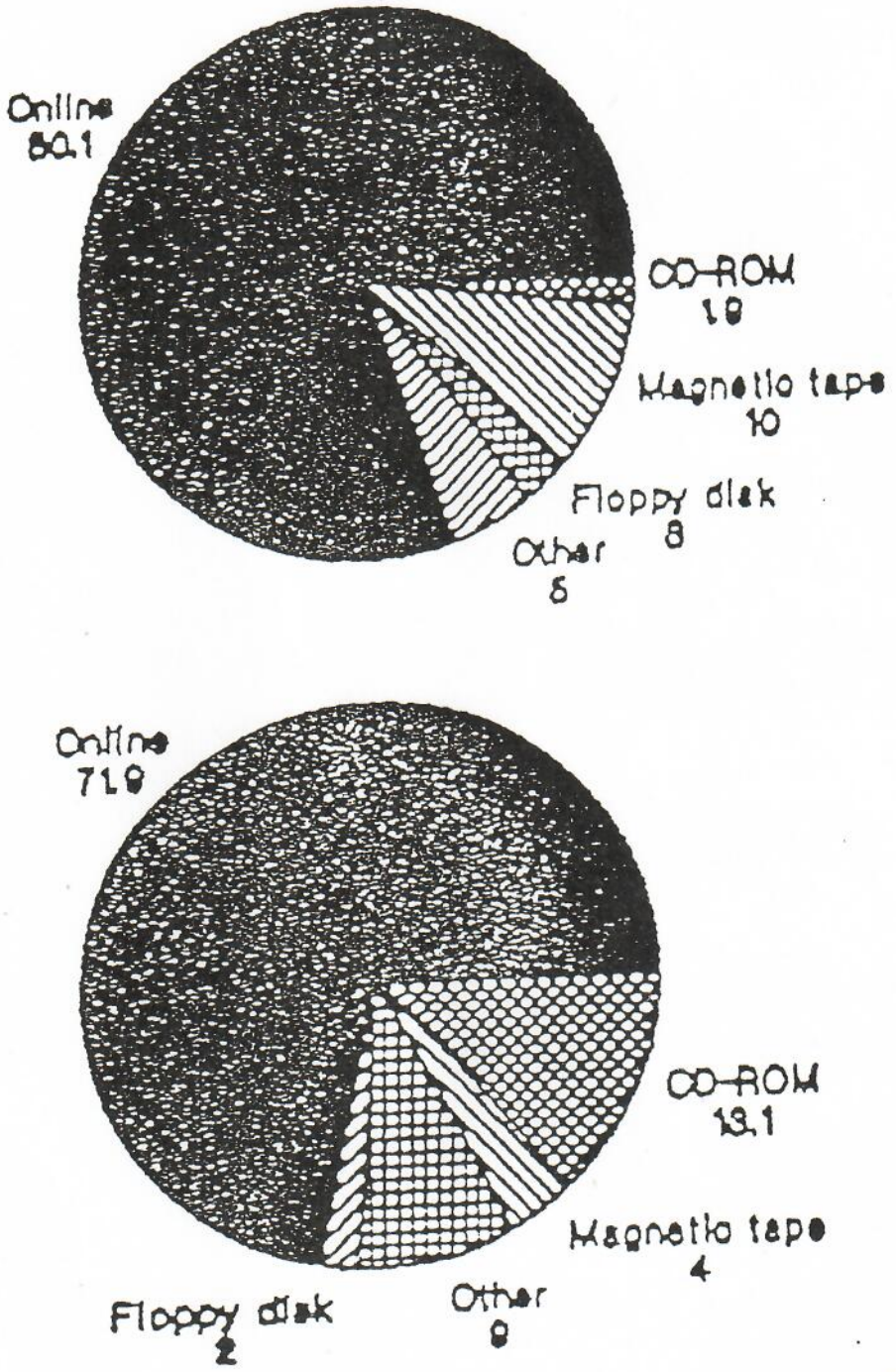


Figure 3. North American revenues 1988 (top) and 1993 (bottom).

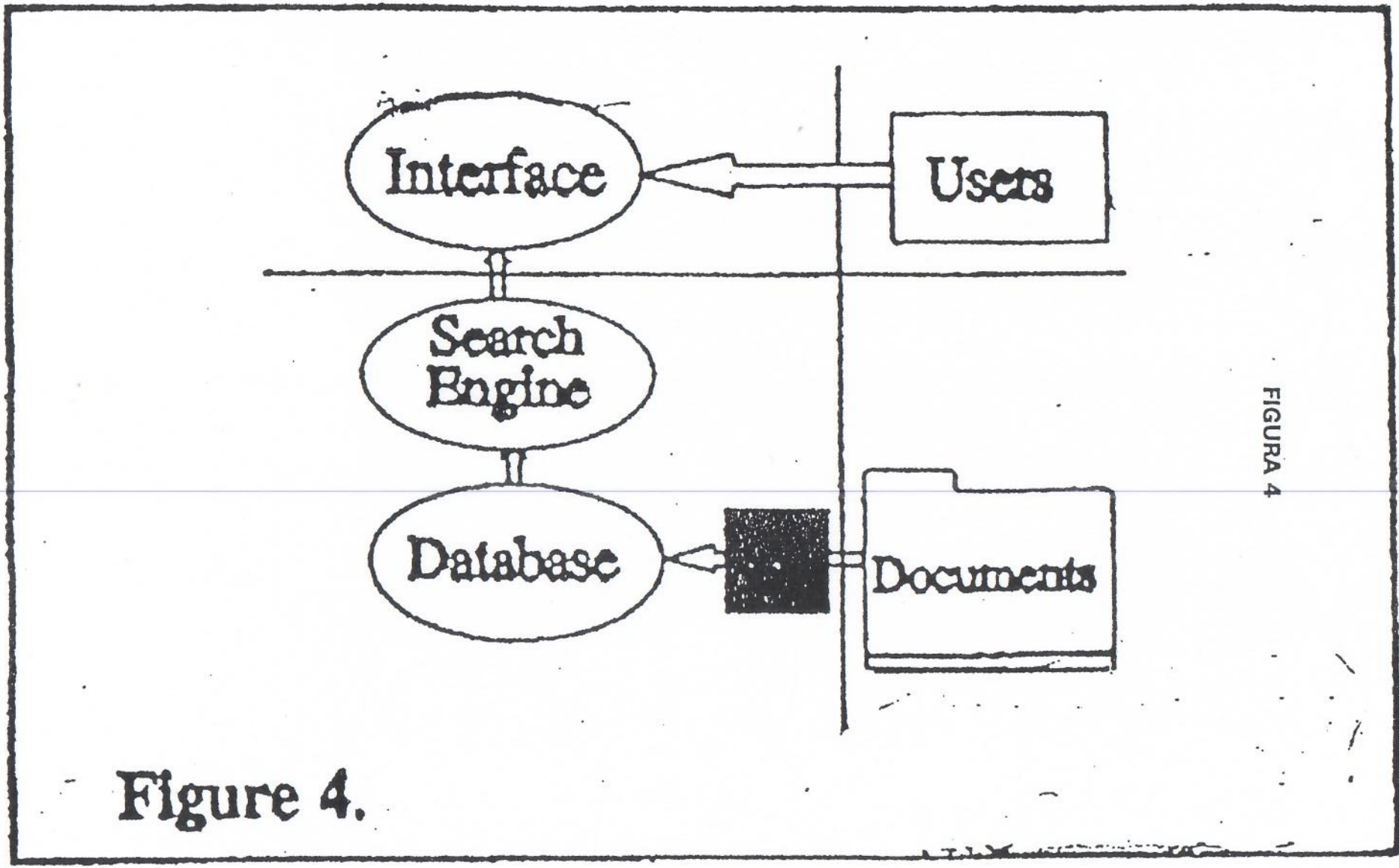


FIGURA 4

Figure 4.

Mesa III. Aspectos de la calidad en los servicios de información ofrecidos por los intermediarios: aplicación de la administración de la calidad total por Tefko Saracevic.

LATINBASE'93

Second Forum of Latin American Information
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ISSUES OF QUALITY IN INFORMATION SERVICES BY INTERMEDIARIES: APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM)

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Introduction

The search for quality has become a pervasive modern movement in great many fields. It started with businesses that became outstanding successes in their area, primarily because they provided high quality products and services to their customers. Simply put, they beat the competition and achieved high reputation because they provided quality in the eyes of customers.

Today the quality movement has spread from business to many others areas, including health care, education, government, and many services. Many general aspects of quality, as defined in the quality movement are fully applicable to the search for quality in libraries and information centers, databases, information services, and mediated information processes, involving intermediary -user - computer interaction, (or human - human computer interaction).

In this paper I will first summarize some general approaches to quality widely pursued today and then translate them into requirements for achieving quality in processes involving intermediaries in their various and changing roles, as searchers, user guides, user trainers and educators, and information resources managers.

Pursuit of quality in these processes becomes increasingly important for libraries and information centers in general, and intermediary services in particular, because of two factors. First, the growth of "libraries without walls" and of digital libraries that are provided to end-users directly through various networks, such as the Internet, poses for libraries a challenge, a competition and even a threat. Second, when the end-users navigate and search through those resource on their own they are often lost,

discouraged, or obtain low-quality results even without knowing. They need help. Libraries and information centers have to build confidence in users through quality services that they are the agency from which help can be obtained.

What is Quality?

Of course, the concept of quality, like so many other concepts related to value, is elusive. There are many connotations of quality, however, all of them in one way or another around excellence, merit, fineness, attainment, high rank and the like. Qualitative products or services are those that are distinguished from others by their positive features, characteristics, or attributes.

In many areas in the past and even today, quality is determined or assessed by the judgment of professionals, craftsmen or pears. For instance, in science quality was and still is established by peer judgment. In engineering the concept of quality revolves around fitness for use, absence of defect and/or improvements. For instance, software is assessed primarily by those criteria.

Traditionally, quality was assessed by examining inherent features or characteristics of a product or service. In libraries this revolved matching a library or related entities to established standards or practices. Of course, such assessments are still necessary, they have not lost their value.

However today, assessment of quality has been extended and even switched to an emphasis on satisfying customers needs. In this view, quality assessment is driven by customers. In the context of intermediaries, assessment of quality is driven by users and potential users.

Ideas behind the Quality Movement

Modern ideas about quality have been mostly formulated under the name of Total Quality Management (TQM), and/or related names such as Continuous Quality Improvement (CQI), or Quality and Communication Improvement (QCI),. These ideas come from many fields including business, engineering, systems theory, statistics, sociology, psychology, communication, and information studies.

One of the main aims in application of TQM is transformation of the goals and orientation of a given organization or service. This has many implications for everything in that organization or service from top to bottom. As such, TQM is complicated, far from easy to figure out and difficult to implement. Nevertheless, TQM is of great importance for evolution, success, and even survival of many organizations including educational institutions, libraries, and information centers.

Below, I have listed seven major ideas of TQM (or CQI or QCI), as extracted from various sources, most important being Whiteley (1991), a popular book on quality actions, Marchese (1993), an article on application of TQM in universities, (the whole issue of Change Magazine of Higher Learning, where this article appeared was devoted toTQM in universities). A further source was Brent Ruben (1993) who is chairing the Rutgers University Program for Quality and Communications Improvement, a university-wide effort.

The first, and the cornerstone idea of TQM is CUSTOMER FOCUS. The organization is responsible toward the customer (e.g. consumer, library user, student). Organizations are effective when they are responsive to customers. The emphasis in everything that an organization does is on customer satisfaction and conformance to customer expectations. Quality is then the degree to which customers needs are met. This has implications for all the ideas that follow.

Second, is the orientation toward INFORMATION AND MEASUREMENT. Decision-making oriented toward quality requires information and measurement on great many aspects. For instance: How do consumers evaluate products or services? What criteria do they use? Who are the competitors How do our services compare to competitors? How do the employees evaluate the organization, products, services?

Third, is the idea of benchmarking. This is a particular type of information and measurement concentrating on operations necessary to achieve quality. It involves, where appropriate, establishment of performance standards an norms, and collection of performance data. But it is much more, in a sense that it is a systematic search for best practice. It involves identification of key processes and establishment of benchmarks to ask questions such as: How good? What is best? Who does it best?

Fourth is the idea of CONTINUOUS IMPROVEMENT. This comes from the adage that in the modern world "if you stand still you are dead." An organization must ever seek and reach higher levels of performance, it must improve whatever it is providing. This forces systematic thinking about what constitutes improvement. Quality does not happen naturally. Improvement teams and methods become a necessity.

Fifth, is MANAGEMENT BY FACT. Continuous improvement requires that quality is specified and monitored. It should be clear what you mean by quality, how you tackle it, and how are you doing. This is summarized in the saying: "be clear, keep track, use data to improve."

Sixth idea relates to PEOPLE. An organization striving towards quality improvements sees their employees and other collaborators as greatest resource. This means in practice providing employees with preparation, Training, tools, initiative to contribute, and requirements to take responsibility and work as team. For leaders, it means providing vision, strategy, couching, mentoring, and team-laying. It also requires

organizational learning.

Seventh idea is the STRUCTURE. To deliver value and quality the work and even the whole organization has to be organized around the needs and preference of customers, rather than those of the organization. For most organizations, particularly educational institutions and libraries this implies change - a most difficult proposition. Compartmentalization needs to be loosened, work reorganized, redistributed and team-oriented. Collaboration is the key ingredient in all this. But is there enough heat to change? And when the heat is actually felt, may it be to late?

Providing Quality: Two Dimensions

It is important to distinguish between and pay attention to two dimensions of quality. One is PRODUCT QUALITY; what customer actually gets. In terms of intermediaries this involves that which is given to customers: a set of retrieved items, a bibliography, value-added aspects, such as rank-ordering, etc. Here the questions are of reliability, general excellence, on the target, absence of errors, and the like, mostly concerned with tangible aspects that are often quantifyable.

The second is SERVICE QUALITY: how the customer received or obtained the product or service. These are mostly intangible aspects perceived and felt by the customer, such as success in communication, perception of caring, confidence established, timeliness, courtesy, enjoyment, ability to proceed afterwards, etc.

Product quality is what the customer got, and service quality is the manner in which the customer got it. A product could be of high quality, but if the service is not, the customer is more likely dissatisfied than not. Think of a restaurant with great food and terrible service. Thus, when talking of any intermediary processes, if provision of quality is desired it requires high degree of both, product quality and service quality.

Quality and Intermediaries

There are a number of ways that the quality of the products and services provided by intermediary can be assessed. One way is to translate the set of basic ideas of TQM (the seven ideas previously discussed and other ideas from cited and other TQM sources) into the context of intermediaries. I will attempt such a translation in a general way. However, each specific library or information center involving intermediaries will have to go much further, and provide a much more detailed specifications or perceptions about quality of intermediaries.

Consumer Focus. A basic decision has to made to be indeed customer oriented not only in words, but in practice. Then, the intermediary and the library should ask several classes of questions about users. First, are demographic and socioeconomic questions such as" Who are the users and potential users? Within what context they

function when asking questions? Second are user information behavior questions, such as: How do these users communicate? Obtain information? What value do they place on information? Third are information context questions, such as: Within what problem area do they need and ask for information? What tasks are they performing requiring information? How much do they know about that problem area? What information resources have they used? Fourth, are specific information need questions, such as: What information they perceive as needing? What can fill this need? A number of methods can be used to obtain answers, such as: questionnaires, observations, focus group interviews, surveys, etc. The results should form the basis for orienting intermediary services toward specific groups of users, the problems they are facing, the tasks they are performing, and their information behavior patterns, values and needs.

Information and Management. This idea follows directly from the first one, but adds much more specific information geared toward decision-making by intermediaries and library management. Involved are questions such as these: How do both users and intermediaries asses products and services involving mediation? What criteria do each of them use? Who do users and who do intermediaries see as competitors? How do products and services provided by this library of information center compare with others, be they or be they not competitors? What enhances user confidence and satisfaction and what distracts from them? This information becomes critical for specification, structure and benchmarking of given information product and service, and together with information gathered from customer focus questions, for specification of need competencies for intermediaries and needed structures.

Benchmarking. This involves clear specification of key elements and processes in both, information products and information service provided by intermediaries. On products, specifications involve among others: effective and appropriate use of information resources' conduct of the search process' choices of search outcomes and deliverable' types and use of feedbacks' types of value added' costs and effective use of resources; measures and methods of product evaluation by users; and the like. On services, specifications involve among others: methods for user contact; interviewing techniques; conduct of the communicative process; enhancement of user understanding; provision of follow-ups and/or next steps for users; and the like. Standards, guidelines, or measures of each of these can be established, together with tool-kits to continuously monitor degree of achievements. In essence, benchmarking involves finding answers to this question: What is the best practice in providing information products and services to users? Of course, availability of resources has to be taken into account. If available resources are inadequate for provision of quality products and services, benchmarking can be used for justifying requests for higher or different resource allocation.

Continuous improvement. Information resources, technologies and services available for mediation by a library are constantly changing and even exploding in sizes and variety. One aspect of continuous improvement is to keep abreast, and as they change or as new ones appear to incorporate them as fully as possible into products and services provided by a library. Another aspect is to continuously improve the product. Among others this means improvements of : search performance and outcomes, filtering techniques, packaging and arrangement of outcomes, provision of value-added aspects, and the like. On the service side improvement involves increasing measures to keep increasing user confidence, increase of reliability, and enhancement of a variety of communicative aspects.

Management by fact. This aspect requires that decisions related to management operations and improvements of information products and services be made on the basis of data collected. Another requirement is continuous collection of data about products and services and continuous reevaluation of decisions. Requirements and expectations for quality products and services by intermediaries should be clearly specified. In addition, management requirements and responsibilities should be equally clear.

People. After all is said and done quality of information products and services will depend on people, intermediaries and their management. To achieve quality by people, among others these area a necessity: achievement of a set of competencies by intermediaries; proper recognition for intermediary work; provision of necessary tools and working conditions; provision and requirement for training and continuous educations; delegation of authority and expectation of responsibility; provision for team-work and cooperation. It should also be expected of management to provide a vision and strategy for achieving the vision for the information services.

As mentioned, quality performance requires a set of competencies of intermediaries. Among these are knowledge of and competency in application of:

1. Information resources in a given domain or domains.
2. Subject, structure, and terminology of a given domain(s).
3. Operation of information technology, systems and networks.
4. Interpersonal communication, interviewing.
5. User training and guidance in use of information resources.
6. Ethical principles related to information products and services.

Structure. The work of intermediaries and the management of information centers or libraries within which they function should be organized around the needs of users and potential users. Among others, this requires breaking barriers for users in approaching the library - the best way to attract and satisfy users is to make it easy for them. In

addition, resource allocation and investment should reflect a commitment to all the other aspects describe. Quality and improvement requires changes in structures to enable them and to reflect a belief in them.

Linking Quality and the Nature of the Mediation Process

Human-human and associated human-computer interactions, of which intermediary-user interactions are a part, are very complex cognitive processes. A number of research efforts tried to explore the nature of these processes and the variables affecting them. Efforts to establish quality and improvements in these processes need to take into account their nature and the research about them. It is not the intent here to provide a summary of findings of this interactive research, which can be found in the excellent book by Ingwersen, (1992), but to point out the necessity for a connection between quality requirements and the nature of the process.

Here is but one example. In several research projects, including the large study reported by Saracevic et al (1988), it was found that different searchers searching large databases for the same question have relatively low overlap in selection of terminology and in retrievals of answers. In the mentioned study, the overlap in selected search terms was about 25% and in retrieved items that were both relevant and not relevant about 18%; overlap in retrieval of relevant items only was about 17%. Other studies found similar and even larger individual differences. It seems that large databases contain a number of sets of relevant documents and a given user may no require all of them. However, if a comprehensive search is required then quality criteria should require searching with a number of varied search strategies with extensive feedback between them. In this sense, the nature of the process and the criteria for quality will work hand in hand.

Conclusions

In this paper I have attempted two things. First, to provide a classification and description of some of the general ideas behind the modern quality movement, as exemplified by TQM. Second, to translate these ideas into the environment of intermediaries in information centers and libraries. The cornerstone of the quality movement is customer (users and potential users) focus. Everything else flows from that. However, the nature of the intermediary processes must also be taken into account.

It is important to realize that achievement of quality requires achievements in both of the two dimensions: provision of quality information products - what is delivered to users, and provision of quality information service - how it is delivered. Users assess high quality only if both match their expectations and their needs.

Quality has also some very human dimensions, paraphrased here from Marchese (1993). Trying to achieve quality is also based on our inner motivation to do our best. We like work that gives us a sense of belonging, and contributing, that provides us with opportunity for growth and commitment, and that gives us some control of what and how we do. We like building a community with those we work with and those that use our works. And we like someone to say "thank you".

Achievement of quality in intermediary, and any other library operations is a complex and difficult proposition. I requires commitment, change and resources. But an opposite question needs to be raised by each library: what will happen to the library, particularly in the long run, if movement toward quality is not pursued?

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Mesa IV. Calidad en los productos dirigidos al usuario final por Elizabeth Davenport.

LATINBASE 93: ROUND TABLE ON QUALITY FOR END USERS
Chair: Elisabeth Davenport, Indiana University

WHAT IS QUALITY?

Quality means at least two things in the context of information provision: it can refer to performance measures (or measures for quality control) like accuracy, coverage, value for money and it can refer to the experience of interacting with a particular system where it will be discussed in terms of ease of use. Ease of use will depend on both the design features of the given system, and on the technology and documentation which supports interaction. This briefing paper explores the issue of quality for end-users in the context of academic document and data supply. The points made are intended as stimuli to discussion; they are not offered as a definitive summary of the topic. The author proposes four focal areas for discussion:

1. The reference environment - primary documents identified through secondary services
2. Data sources which are not journal articles - text archives, for example
3. Networked information - the matrix
4. Local and indigenous sources
5. The findings of her own recent research on the Information Science community in the UK

The participants will decide whether all of these, or which of these, are relevant to their needs.

A HIERARCHY OF USER NEEDS

Whatever the context, expectations of quality will vary according to the circumstances of the interaction with a given database. Kolovich (1993) presents a hierarchy of information needs, with examples of appropriate sources: a new alert service acts as a filter, a CD-ROM database will satisfy the needs of those who wish to find a specific item, a stimulation will help those who wish to learn, a hypertext will be the source for those who wish to explore and so on. The context of this paper is assumed to be the search for research materials, and the author proposes a simple

hierarchy of user needs. A novice, for example, who wishes to orient her or himself may find simple combinations of keywords adequate. An experienced searcher wishing to identify a specialist niche may require complex search statements and feedback. Though there is a range of possibilities, the author would like to suggest a basic set of reasonable expectations. These can be classified into four sets. The first content-related and an indicative list might include the following:

1. Accurate bibliographic details
2. Comprehensive coverage within a clearly stated time range
3. Meaningful surrogates (keywords abstracts) for complete documents
4. Accurate text in the delivered document

The second set relates to document delivery:

1. Does a given secondary service lead to document delivery?
2. What mode of delivery is available?
3. What will be the format of the delivered material?

The third set relates to documentation, manuals, guidelines;

1. Is there a clearly defined minimum set of instructions to allow me to use this system?
2. Is it available in print, online, can I download and print it?
3. Who can I contact if the instructions do not make sense?
4. Are their local users who can help me?

THE REFERENCE ENVIRONMENT: SEARCHING

How can users find out which systems are likely to meet such expectations? Few vendor will offer details of all four sets - they are unlikely for example, to admit to lapses in accuracy or coverage. Information Centre staff will have to supplement commercially supplied documentation, and, on occasion, a commercial help-desk may be called on. Recent work by Jacso and Tenopir (Jacso, 1992, 1993; Tenopir and Jacso, 1993) reveals how varied coverage and accuracy can be. There are also considerable cost differences for both search fees and document supply. (Gregory, 1993). The Internet, subsidized by central resourcing in many institutions at present., offers in many cases the cheapest route. (Jackson, 1993)

ADVANCED SEARCHING

What about more advanced techniques? Is it possible to combine complexity in searching with ease of use? Many expert searchers work intuitively, rather tan through systematic analysis and sequencing. (Basch, 1993) Tradeoffs must be made here between deep knowledge of the subject which can allow a researcher to place findings in the framework of existing knowledge, and this allow the feedback principle to be maximally effective), and aptitude in searching techniques. For some researchers, nested Boolean queries may seem second nature. In some circumstances, time will be the determining factor on who searches in a time-dependent research project, the deployment of specialist searchers is a form of parallel processing, and efficient allocation of human resources, rather than a response to inherent difficulties in system structure.

AUTOMATION

The role of intelligent systems in retrieval will vary according to circumstance. They may be a necessity in the large database environment (Harman, 1993). Recent developments in personal workstation design have produced friendly metaphors for such agents; the Macintosh Rosebud system offers the user the services of a 'reporter' who owns a 'news column' in a 'newspaper' (Kahle et.al., 1993). Designs for automated retrieval based on SDI principles ('proactive searching') are under development by vendors and publishers (Pijnenborg, 1991; Roes, 1993). where these are used to supplement other modes of searching, the can enhance the quality of user long-term interaction with commercial systems.

WHAT ABOUT BROWSING?

For many researchers, browsing in the stacks of a printed holding is an important stimulus to original thought. The library as an institutions is often justified in terms of this activity, and because it offers a secure and stable record of research. Can browsing happen in the electronic environment? Something comparable is offered in the expand features offered by existing systems (like SSCI, for example, which allows the user to explore citations of citations, related terms and so on, and assess the likely content of material through abstracts). Inspection must be an important feature of any electronic surrogate for physical browsing, but abstracts, as noted above, may vary greatly in quality (Tenopir and Jacso, 1993). Only a few systems offer the ability to link to a text from a likely-looking citation (BRS link command in Medline, for example; and cost implications may make this a dangerous practice.

The rapid reading which is a feature of browsing behavior is constrained by the currently available surrogates for text-title, keyword, abstract, and citations. Recent studies for reading show a wide range of skimming habits -headings and conclusions are important signposts of relevance. It may be that mark-up can offer and expanded range of access points to text which will enrich browsing online. Other features of searching behavior are listed by Ellis (1990); starting, chaining, differentiating, monitoring, extracting, Bjorkland (1990) describes a catalogue gateway which also serves as a personal workstation that supports all of these functions.

DOCUMENT DELIVERY

The purpose of online searching is to obtain documents. The bibliographic resource can no longer be considered as a closed set (except in special circumstances like sicentometric research); a growing number of joint ventures between utilities and document supply services are based on the assumption that what is identified as a relevant must be obtained. (Day et. al, 1993) At a recent conference in London, several commercial operators described their vision of the near future (ALPSP/UKSG, 1993). Speakers noted the emergence of spate of current alerting and individual article supply (CASIAS) services, though notably not from publishers with the exception of Elsevier, whose computer aided production plus current awareness service (CAPCAS) is make business sense: the publisher can increase revenue by supplying article headings and abstracts which lead into document supply (Roes, 1993).

A second important development in document delivery is Internet lists, offering files of articles an pre-prints that by-pass publishers, though commercial operators are now involved. A possible path for development is for publishers to develop several product/service groups: the traditional product, the product in new formats, the document delivery group, wide area network services like WAIS and superJANET, and secondary services. Catering for the personal electronic library (PEL) will provide business opportunities. Wide area networks already offer a range of document delivery services. (Brandt, 1992; Fullton, 1993; Jackson, 1993)

It is clear that publishers may be prepared to undergo a major transformation. Senior executives at Elsevier (Pijnengborg, 1991) are aware of dysfunctions in what currently exists in access and delivery systems (multiple sourcing databases with different commands and separate indexes which require specialist searchers, dissimilarities in structure between CD-ROM and online bases) and are preparing for changes in the production process to make information available simultaneously in paper and electric formats with improved access and quality control The company intends to exploit global academic networks to implement the concept of the digital library, which involves:

*direct interaction between information provides and users
*navigation and links between different sources of information

with assistance from specialist who can offer four main sets of information skills:

*cataloguing, indexing, thesaurus building, referencing (the traditional "information professional portfolio")
*conversion and transformation functions to link different sources of information
*user interfaces, packaging, customizing
*recording and accounting functions for bilingual and market feedback.

The company recognize that advanced publishing technology will be required for such developments: high resolution screens, image, audio/text integration, hypertext, value added networks. All of this will require appropriate licenses for protection of property, privacy and other legal issues identified above).

DELIVERY MECHANISMS

Such a market implies a confusing array of joint ventures and value-added partnerships, and user may require advice on which service is optimally suited to a set of specific needs. It is here that information centres have a possible role as consultants (rather than as searchers). (Jackson, 1993). There is a range of potential delivery mechanisms: online (pioneered by FirstSearch) fax, 24-hour mail, regular mail (all offered by RLG), involving a range of investment costs. Whether users benefit directly from such advice will depend on the configuration of the institution; in some cases the intelligence work and resource allocation may be transparent to the user.(Keays, 1993; Khalil, 1993)

COSTING

Widely variant pricing regimes and costing mechanisms are a feature of the online industry (Tenopir, 1993). It is unlikely that users themselves will want to make pricing decisions., unless what is offered is clearly explained (Jackson and Buchanan, 1993). Simple fiscal arrangements like that of UNCOVER (clear up-front price per item, payment on a personal basis) may emerge as the most convenient. Bibliographic payment apart, there is confusion on many campuses about charges for document delivery. Some vendors are offering subscription charges with unlimited access on the basis that such mechanisms are familiar to librarians; though such arrangement may be revised if the do not prove cost-effective. The ISI initiative in the UK is a case in point; heavy usage is making the initial subscription-based service uneconomic for the supplier. (Naylor, 1993).

DOCUMENTATION

There are numerous evaluative texts on documentation; what is clear is that user participation is important. (Worrell, 1993). It may be that local information services may wish to provide their own sets of documentation which encompass ergonomic points like the following:

*What formats meet readers' needs? What balance of electric and hardcopy?

*At what level, of aggregation (the section, the paragraph, the graph) do people read?

*is printout from existing bandwidth adequate? How important are high resolution graphics?

*How important is time?

*How do readers search? - by keyword, by mark-up structure, by graphical representation?

*How much does current support cost, (money, time, opportunity) and will networking improve this? Can the current delivery path be improved by networks?

*Where do readers work? Are they tied to a physical location by instrumentation? Can the virtual workspaces which networking allows help them to define and perform their tasks more effectively?

*How easily can clients obtain non-published material (company reports, in-house analyses etc), and can networks improve integration of the published resource with such material?

*What tools are available for assessing needs - bibliometric? cognitive? ergonomic?

*How can insights from auditing electronic usage and diffusion be built into service?

*What technologies are available to deliver such capabilities?

*What can we learn from other research groups in our area?

Methods to elicit information on the ergonomic features listed above are describe by Borgman (1933). The other issues might be addressed in a more general approach to quality measures for information in working environments. Specific performance criteria are offered by Broadbent (1992) and Brockman (1993).

ARCHIVAL DATA SOURCES

One area which is often left out of discussion of database quality is the large dataset or data source, textual, numerical, graphical. What source of quality control can be applied to these materials? There is little in the literature to suggest that much formal work has been done in this area; a recent issue of the Bulletin of the America Society for Information Science describes current practice in several institutions. (McGovern and Ruller, 1993). Unless adequate descriptions are provided of edition, date and so on, scholars may find such resources less than useful. Some of the problems of textual archiving are discussed in Landow and Delany (Landow and Delany, 1993).

Social Science data have been the subject of bibliographical attention for more than a decade in both the Us and the UK: the ESRC in the UK offers exemplary documentation, with details of ownership, format, access terms, version, delivery terms. A recent development in the UK is the Bath ISI Data Service, which offers, on the basis of a license, access to electronic ISI data to any academic campus which subscribes. The data bases are leased on behalf of the academic community by the Combined Higher Education Software Team (CHEST). The purpose is to allow "a complete computer-novice end-user to access the ISI databases and to effect meaningful searches" (Scanlon, 1992). Other large datasets which are available through the Joint Academic Network (JANET) in the UK are the Birkbeck Computer Literature Database the Durham Rutherford High Energy Physics Archive, and Bartholomew' Digital Map Data.

NETWORKED DATA: WAIS, WORLD WIDE WEB

World-wide networks are altering the pattern of user interaction with databases in two major areas. The first is in the area of existing services of reference work and document supply. In the past two years, use of the Internet for reference work by both intermediaries and end-users has expanded; this is partly due to the connection of commercial operators like DIALOG and STN, who can be accessed at charges of one half to one third of those of SprintNet, Tymnet of Dialnet. (Keays, 1993). Document delivery has also expanded with commercial operators like RLG, CARL, and BLDSC offering query by Internet (online delivery at the time of writing is only possible through RLG (Day et.al, 1993; Jackson, 1993).

Where the Internet is simply an interface to commercial services, the search process may be familiar, and quality issues will be those addressed in the literature of online and CD ROM retrieval. Searching for non-commercial material need not be as problematic as some have claimed, if the user is familiar with existing Internet access

services like WAIS or Gopher (Kahle 1993, 1992, Kahle and Medlar, 1991; Nickerson 1992; Fullton, 1993; Berners-Lee, 1992). WAIS, for instance, was originally designed as a joint commercial venture by Apple, Dow Jones, Thinking Machines and Peat Marwick "to allow computer illiterate users on different platforms to access and search databases". The role of standards and directories is important in this context, (Lynch, 1992; Lynch and Preston, 1992).

LOCAL AND INDIGENOUS DATABASES

An important feature of the Internet is the emergence of nonmediated publishing, of journal articles, of datasets, of semi-structured conference material, all of which are as deserving of scrutiny in terms of quality control as formal commercial services and products. Quality in e-journals does vary widely, but most are explicit about their aims and contents (Strangelove and Kovacs, 1992; Brandt, 1992), and the user thus knows what to expect. That material that has not been peer-reviewed may dilute the quality of science is a commonly expressed fear- those who disagree claim that the larger community who access the material represent a more judicious peer review process. One way round the problem is for institutions to become recognized centres for quality control - it will be recognized, for example, that material from the X campus server has undergone rigorous refereeing. Something similar lies behind the quality control in RENCIS, a medical network for Mexican health workers, which aims to make available local material that escapes the net of the formal commercial databases, but only on condition that it satisfies certain criteria in terms of refereeing and stability. (Beaumont, de Faba Davenport, 1993). The system combines quality control in the supply side with improved delivery of indigenous material.

Production matters apart, the Internet offers different paths for local or indigenous access and delivery of data and articles. Ohio State has implemented a network Fax project which combines Group III fax with PCs to transmit material over the Internet (Jackson, 1993); at North Carolina, the twelve land universities have combined in a digitized document transmission project (DDTP) to provides an electronic document delivery service. At locally held journal material (in cooperation with Elsevier who supply SGML-coded document headers), personal profiling, and intelligent retrieval to match profiles across campus. (Roes 1992).

STANDARDS

Telecommunications and bibliographic control apart, how general are expectations of quality and can they be made the basis of standard? Can we extrapolate from this simple hierarchy of user needs, and the motley collection of possible tools to a user-oriented interface standard, which might complement the fundamental Z39 50 suite for data exchange? Several emergent services might serve as benchmarks; First Search, or Right Pages, for example. (Jackson and Buchanan, 1993; Hoffman et. al.1993)

THE AUTHOR'S OWN EXPERIENCE

The author has recently completed a study of new media and the journal article. Her chosen field group was information scientists in the UK. Their observations on search habits, and reading and writing were unexpected.

Writing was simply one of many tasks, regardless of the status (teacher of researcher) of the interlocutor. Other tasks included accounting, searching, mentoring. For many, technology was related to a change in work habits: personal online searching, for example, at the individual desk, allowed speakers to access the literature in spare moments, though given time, browsing would be a welcome option. Technology had changed the writing practices of many interlocutors: it allowed them to practice what the author calls "interrupted composition": they can compose a fragment, take it up as time allows, cut and paste and modify on an ad hoc basis more easily than is possible with paper (the space to arrange fragments of paper for work in progress is problematic for those whose desks are in a state of flux). In many cases, speakers' altered habit of composition was a response to a disjointed task set, rather tan an adoption of techniques or tools which are inherently attractive to writers. What was originally a response to a constraint, can of course become an entrenched working practice. Single article supply is clearly what most writers require in terms of work-in-progress, though the inter-library loan system that the are familiar with is perceived as unwieldy and slow.

For some of those who were interviewed personal workstations of the kind described above would greatly improve the quality of their working environment. Speakers' ability to work in abstract space varied widely: for some of the interlocutors, electronic surrogates (trash, desktop) are insufficient substitutes for physical texts. For these speakers, walking to the library is not an inefficiency, but a way of breaking up the day.

In addition to other (well-documented) advantages, the use of papers as an interface (replacing the 'printed word' with 'print out' word) was an important feature of some speakers' work habits. The importance of print-out and photocopy as scratch-pads is not stressed in the literature, where economic problems which attach to electro-copying and not ergonomic factors are emphasized.

The comments on searching were one of the major surprises -to an outsider the information science community might appear to be au fait with searching, and a heavy advocate of its use. Those interviewed were surprisingly lax in their search habits, with some expressing suspicion of formal tools (ISI,BIDS) and of professional intermediaries (though these are the very professionals whom they train). The author would like to explore the perception that an intermediary would not know what was required with researchers in other disciplines. Many of the speakers described their acquisition of material as a matter of course; material came their way by virtue of the niches in which they operate.

CODA

In a recent paper, Ford and Ford (1993) point out that it is important that comments on quality are not made out of context, and that absolutes in terms of precision and recall do not obscure the usefulness in terms of precision and recall do not obscure the usefulness of other criteria for measuring user satisfaction. Physical and cognitive ergonomics and do as much to inform quality as precision of retrieval. A future role for information specialists may be to design congenial working environments for users who search for themselves in addition to enhancing the productivity of searches with effective documentation, or advice on technique.

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Estos documentos fueron presentados tal como se previó en cada una de las cuatro mesas. Al final de las presentaciones, los participantes de las mesas se abocaron a exponer sus puntos de vista y sus experiencias con respecto al tema. Algunos de ellos aportaron documentos por escrito, los cuales están disponibles en la Dirección de Bibliotecas Universidad de Guadalajara. Tels. (52-3) 626 8330,Fax: (52-3) 626 4736. El relator de cada mesa recogió el contenido de cada una de las exposiciones de los participantes y las ideas surgidas a partir de las preguntas y comentarios que se suscitaron por parte del público.Con este material se desarrolló una sesión de trabajo en la que se reunieron los relatores, los conductores de las mesas y el conductor del panel final, en la cual los primeros presentaron un resumen de las ideas más relevantes, lo que permitió analizar los puntos surgidos tanto de las presentaciones de los invitados como de los participantes del auditorio. Una vez analizados, el Dr. Saracevic propuso un modelo o esqueleto de temas para abordar en el panel. Después de discutirse y enriquecerse se aprobó por los demás conductores, dando como resultado la mecánica del panel a partir del siguiente objetivo y marco de referencia:

OBJETIVO:

Enriquecer el marco de referencia que presentarían los conductores en el panel, a partir de las intervenciones en las mesas de discusión, para facilitar la labor del grupo ad-hoc que elaborará el documento final de la reunión.

MARCO DE REFERENCIA

1. CONCEPTOS GENERALES DE CALIDAD

LIMITACIONES
IMPLICACIONES
NIVELES

2. PAPEL DEL USUARIO

EXPECTATIVAS
PARTICIPACION
SATISFACCION
CONTEXTO

3. RECURSOS HUMANOS

ESTRUCTURAS ASOCIADAS
CARACTERISTICAS
CAPACITACION
ADMINISTRACION

4. PROCESO DE DISEÑO E IMPLEMENTACION

FUENTES
PRODUCTOS Y SERVICIOS
DISTRIBUCION

5. COSTOS

INSUMOS
PRECIOS
BENEFICIOS

IV. PANEL DE CONCLUSIONES Y RECOMENDACIONES

Antes de iniciar el panel, el Dr. Isidro Fernández-Aballí, conductor del mismo, se dirigió a la audiencia para hacer las siguientes propuestas:

1.- Propuesta de mecánica de participación. (Aceptada).

2.- Propuesta de objetivo. (Aceptada).

3.- Propuesta del marco de referencia sobre el cuál se haría el debate. (Aceptada).

IV.1 MECANICA DE PARTICIPACION.

Se dieron tres tipos de participación por parte de la audiencia.

1.- Preguntas por escrito dirigidas a un panelista determinado.

2.- Preguntas por escrito dirigidas al panel en su conjunto

3.- Presentación verbal de un comentario o argumentación.

Para todo comentario o presentación verbal se concedió una duración máxima de tres minutos y se enfatizó que toda participación era relevante y bienvenida.

Se recomendó que trataran de promover con sus intervenciones la discusión y participación de los demás y que trataran de resumir al final lo dicho para efectos de ayudar a la relatoría.

Se expuso que no se pretendía agotar los temas, sino lograr un conjunto de ideas que dieran continuidad a la actividad.

IV.2. Desarrollo del Marco de Referencia.

Como ya se mencionó, al inicio del panel final se presentó el marco de referencia a consideración del público asistente, el cual fué aprobado. A continuación, los conductores de las mesas constituídos como panelistas desarrollaron y presentaron en forma esquemática el contenido de cada uno de los cinco temas incluídos en el marco de referencia, a saber:

Tefko Saracevic.

CONCEPTOS GENERALES DE CALIDAD

QUE ES CALIDAD

QUE ES Y QUE NO ES GESTION DE LA CALIDAD TOTAL (TQM)

QUIEN DETERMINA LA CALIDAD:

USUARIOS

PROFESIONALES DE LA INFORMACION

EVOLUCION DEL PAPEL DE LOS PROFESIONALES DE LA INFORMACION

EVOLUCION DE LA ESTRUCTURA Y ADMINISTRACION DE LAS BIBLIOTECAS Y CENTROS DE INFORMACION

LA INTERNACIONALIZACION ACELERADA

CONSIDERACION DE LA BIBLIOTECA, EN PARTE, COMO UN NEGOCIO

Elisabeth Davenport.

EL PUNTO DE VISTA DEL USUARIO

1. EXPECTATIVAS DEL USUARIO, BARRERAS E INCENTIVOS

ACTITUD DEL PERSONAL
GRADO DE CONOCIMIENTO DE LA ESTRUCTURA DE LA BASE DE DATOS
FLEXIBILIDAD EN LOS FORMATOS
MATERIAL APROPIADO EN EL MOMENTO OPORTUNO

2. PARTICIPACION EN EL DISEÑO

INVOLUCRAR A LOS USUARIOS DESDE EL PRINCIPIO DEL PROCESO
INVOLUCRAR A LOS USUARIOS EN CADA UNO DE LOS ASPECTOS EN EL CONTROL DE CALIDAD

3. ANALISIS DEL MERCADO Y SATISFACCION DEL USUARIO

ASPECTOS DEMOGRAFICOS
ANALISIS COGNOSCITIVOS
DESARROLLO DE NICHOS DEL MERCADO
DIFERENCIACION DEL PRODUCTO "A LA MEDIDA"

- CONTENIDO
- INTERFASE
- DISTRIBUCION

PAPEL DE LOS CENTROS LOCALES EN LA ESPECIFICACION DE NECESIDADES DE LOS USUARIOS

4. CONTEXTO CULTURAL

NIVEL MACRO - LATINOAMERICA
NIVEL MICRO - LA INSTITUCION
- AREA TEMATICA

RECURSOS HUMANOS

PRINCIPAL FACTOR EN EL EXITO O FRACASO DE LA CALIDAD

IMPORTANCIA DE LA CAPACITACION

- DE PROFESIONALES
- DE USUARIOS

PROBLEMAS

- OMISIONES EN GESTION DE LA CALIDAD TOTAL
- INNOVACION MUY RECIENTE
- RESULTADO FINAL MAS ALLA DE LOS REQUERIMIENTOS DEL USUARIO
- CONFLICTOS POTENCIALES
- PERDERSE EN EL CAMINO

PRODUCCION DE LA INFORMACION

INVESTIGACION/PUBLICACION

SELECCION/COLECCION DE INFORMACION

DISEÑO DE BASE DE DATOS

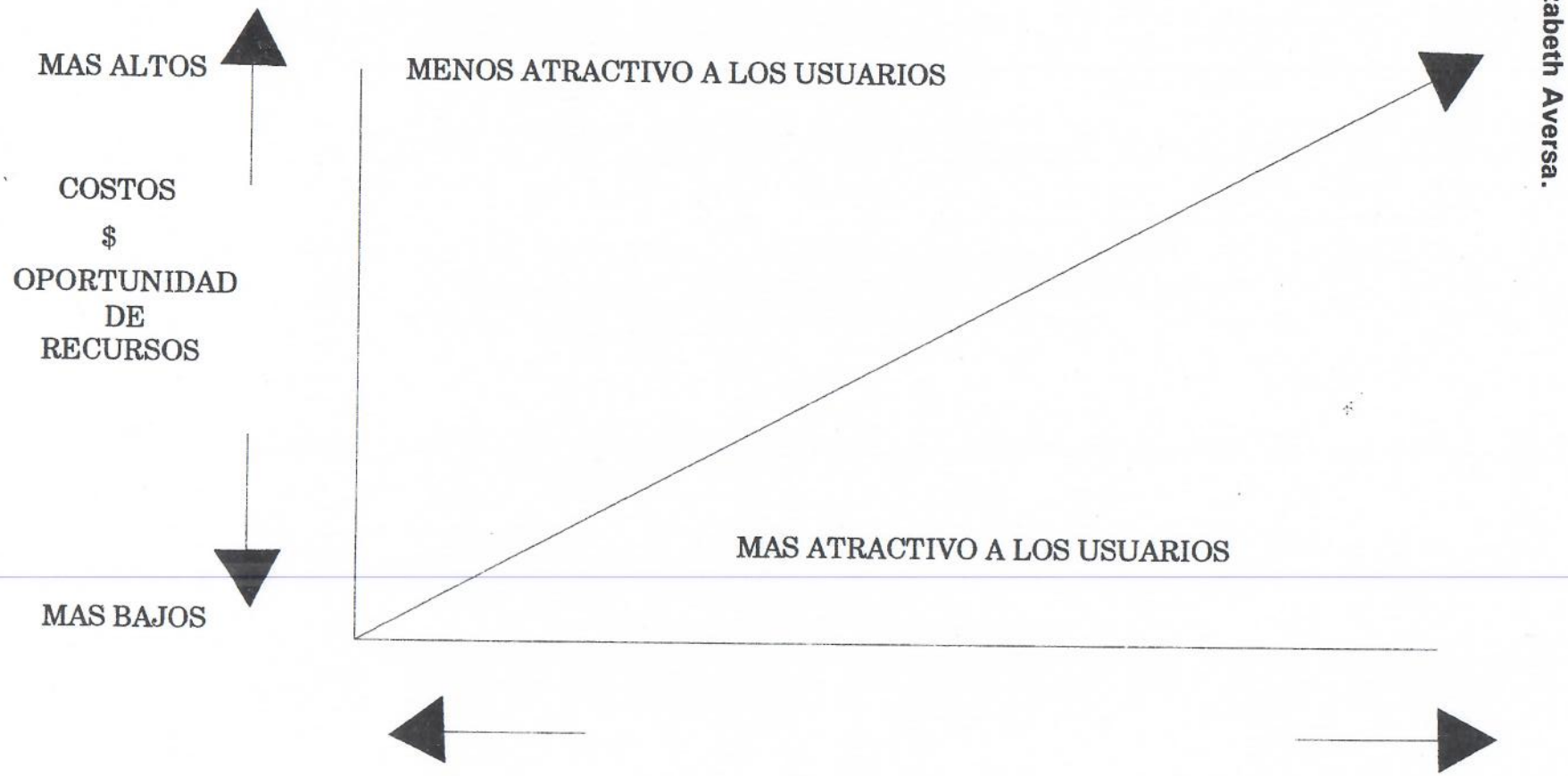
DISEÑO DEL SOFTWARE

DISTRIBUCION

ACTUALIZACION

EVALUACION

RELACION COSTO-BENEFICIO



POCAS	NUMERO DE OPCIONES	MUCHAS
MENOS	PUNTUALIDAD	MAS
MENOS	COBERTURA EXHAUSTIVA	MAS
MENOS	HECHURA A LA MEDIDA	MAS
POCO FRECUENTE	ACTUALIZACION	MUY FRECUENTE
BAJA	CALIDAD TOTAL	ALTA

Elizabeth Aversa.

V. DISCUSION (PREGUNTAS Y RESPUESTAS).

El público expresó a través de diferentes cuestionamientos su peocupación cada vez más generalizada sobre el perfil del nuevo profesional de la informació. Se manifestó el problema común, en América Latina, el en que la mayoría del personal que atiende a los usuarios no tiene formación bibliotecaria por lo que sería necesario implementar programas formales de capacitación en estos niveles. En contraste, se insistió en la necesidad de superar el papel tradicional del bibliotecario en función de la naturaleza de la información. Se planteó la necesidad de definir los atributos técnicos y sociales que un profesional, bibliotecario o no, debería tener para ser generador y motor del cambio social.

Se expresaron inquietudes en torno a si existe una o varias metodologías que permitan evaluar el impacto que tiene en los usuarios el diseño de una base de datos. Asimismo, qué recursos o estrategias se pueden emplear para motivar a la comunidad académica a utilizar los bancos de información, en el entendido de que son herramientas valiosas que ahorran tiempo para las investigaciones o tareas académicas.

Se abordó el aspecto de la ideología y su influencia en la creación de bases de datos, en la selección, análisis y difusión de la información. Cada vez más gente de otras áreas, no bibliotecarios afecta el enfoque de la produccion de sistemas y servicios de información, así como su repercusión en la misma profesión.

Otra preocupación más es acerca de la internacionalización y la adecuación de las bases de datos para uso local. En virtud de ese fenómeno de globalización tanto en procesos y metodologías como su impacto en los usuarios y en el manejo de estos conceptos, es necesario resaltar la importancia que tiene la normatividad.

El hecho de que se reconozca al bibliotecario como intermediario plantea la disyuntiva de si ayuda o obstaculiza en el proceso de diseminación y ofrecimiento de los servicios. En el primer caso habría que revalorar su papel y darle el crédito que esto merece y en el otro replantear el rol del bibliotecario para que realmente sea un facilitador en la provisión de información.

También surgió la interrogante de cómo relacionar la calidad de la información con el desarrollo de las políticas nacionales de información.

Dado que se ha definido que la competencia es un factor que incide en la búsqueda de calidad de un producto o servicio, ante las tendencias actuales hacia la monopolización de los mismos y de cada vez menos opciones para el consumidor, ¿Qué sustituirá a la competencia como motor de impulso de la calidad?.

La educación de los usuarios también fué una preocupación de la reunión, sobre todo alrededor de la valoración de la calidad de la información que demandan. En torno a esto se manifestaron cuestionamientos sobre cómo crear una conciencia sobre el uso de la información, el proceso en el que se genera y los profesionales que están atrás.

En la medición de la calidad no todos los factores son perceptibles para el usuario final. Existen procesos intermedios y hay que determinar quién define y mide la calidad del producto en ese momento.

Evaluar y determinar los costos de generación y uso de la información también representa un problema. En este sentido, es deseable sugerir o establecer criterios cuantitativos y cualitativos que nos permitan medir la calidad del servicio y su contenido.

No obstante, estas preocupaciones y realidades en torno al procesamiento y los servicios que se ofrecen para el acceso y la consulta de información, existen ejemplos valiosos de los cuales habría que reconocer sus aciertos y los esfuerzos que en la región se estan realizando, con el objeto de ofrecer una visión más objetiva.

A partir de las inquietudes manifestadas por la audiencia los panelistas propusieron respuestas que pudieran englobarse en los siguientes comentarios generales:

La capacitación y la educación de los profesionales abocados al acopio, tratamiento y difusión de la información plantea la reestructuración de los mecanismos y estructuras docentes y cognoscitivas que hasta ahora han regido su formación y desarrollo. La participación responsable del personal dirigido a este tipo de recursos debe responder primordialmente al reto de la calidad por sí misma y de sus propias habilidades y capacidades. En mayor o menor medida, independientemente de los niveles involucrados en ese proceso, los profesionales de la información deben considerar la capacitación como un factor sine qua non.

Al nivel de educación formal, sustentada en instituciones de educación superior que tratan de responder a las demandas y necesidades de diferentes grupos sociales, se plantea el diseño y conformación de programas desde dos grandes perspectivas:

Por un lado, una corriente sugirió la integración de cinco áreas docentes que comprenden: el comportamiento social y humanístico frente a la información; la organización del conocimiento y en función de ello definir los alcances de un nuevo marco teórico; el diseño de sistemas de bases de datos y de redes; los esquemas de interacción de comunicación y uso de la información y, por último, el estudio de los recursos y fuentes de información en diferentes disciplinas.

El otro enfoque propone tres grandes áreas: el diseño de sistemas de información, en el que se involucran aspectos del entorno, del dato o la información por sí misma y del soporte tecnológico que los respalda, considerando en este último los factores de transferencia de información y conceptos ergonómicos; la gestión de los sistemas de información y el estudio de políticas gubernamentales.

La "metodología de los sistemas blandos" (SSM) se cita como una aproximación viable par evaluar el rendimiento de sistemas de información y su capacidad de respuesta a las demandas de grupos de usuarios. Esta metodología comprende seis pasos fundamentales: el análisis de la institución oferente de servicios de información con la participación de los grupos de interés involucrados; la recopilación y análisis de los diferentes puntos de vista que integran el entorno ideal en el que se va a mover la organización; la agrupación y clasificación de ideas como una actividad intelectual; la definición del prototipo o anteproyecto del sistema; la retroalimentación y reorientación del modelo y, por último, la adopción de la solución más viable.

La medición de la calidad es una actividad tan importante como compleja, deben considerarse criterios cualitativos y cuantitativos que dependen de la situación de cada organización. La calidad, como cualquier otro proceso, deberá analizarse dividiéndola en sus elementos principales que deberán relacionarse para su análisis; existen aproximaciones que pueden ayudar, tal es el caso de las normas, las reglas y las recomendaciones de diferente nivel. A manera de ejemplo, se mencionó que Lancaster ha propuesto un conjunto de medidas de evaluación, resaltando que lo importante es la congruencia, la armonía y la adaptación a los usuarios finales, intermedios, etc.

Cada institución deberá de definir sus políticas acordes con las políticas de desarrollo definidas por cada nación. En el caso de la ausencia de ellas las instituciones deberán colaborar para definir esas políticas nacionales de información, las cuales incidirán al largo plazo en la calidad de los servicios que se ofrecen al país. Sin embargo, hay que considerar, que en algunos casos, las políticas que se toman en un país tienen repercusiones en otras latitudes.

VI. CONCLUSIONES Y RECOMENDACIONES.

En el diseño de un producto o servicio de información debe considerarse el entorno cultural del usuario como elemento principal.

En la evaluación de la calidad no existen medidas absolutas, son medidas de calidad relativas a la satisfacción de un usuario determinado.

Uno de los factores más importantes en la calidad son todos y cada uno de los recursos humanos involucrados en el proceso. El entrenamiento, capacitación y formación de los mismos se vuelve un factor que va a incidir en la calidad

La calidad total de un producto o de un servicio es la suma de las calidades de los elementos que intervienen en el proceso.

El concepto de calidad total no significa un producto perfecto, sino al elaborar el producto, en cada uno de sus pasos de elaboración, es necesario que exista un criterio de calidad.

En un mundo que tiende a la globalización e internacionalización de bienes y servicios, la calidad significa entrar y mantenerse en un mercado.

Históricamente, todos los instrumentos normativos han tratado de mejorar la calidad.

La selección de fuentes de calidad determina la calidad del propio banco de información y el factor determinante de la calidad es su utilidad. La información es un servicio sujeto a las reglas del mercado y de la plena satisfacción de los requerimientos de los usuarios.

La calidad en los productos y servicios de información de las entidades latinoamericanas debería constituir un factor de negociación frente a los proveedores de insumos de información.

Una estructura interna de las organizaciones fuerte y eficiente, que soporta, vincula, comunica y da fluidez a las decisiones, sustenta el mejoramiento de la calidad de los productos y servicios de información.

Las políticas nacionales en los países de América Latina deberían propiciar la creación oportuna de bancos de información, para no esperar que se hagan fuera de la región y después consumirlas.

Los factores costo, tiempo y actualización, son también importantes elementos de calidad a considerar en la conformación de los bancos de información.

Hay que tomar en cuenta que siempre habrá factores que no dependen del creador del producto o servicio. No obstante, en la medida de lo posible, hay que encontrar medidas de contingencia que permitan controlarlos.

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