



WORKING PAPER
ALFRED P. SLOAN SCHOOL OF MANAGEMENT

Research Program on the Management of
Science and Technology)

Technological Forecasting Bibliography 1:
An Annotated Listing of Associated TF References

#448-70

Alan R. Fusfeld*

Feb., 1970

MASSACHUSETTS
INSTITUTE OF TECHNOLOGY
50 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS 02139



(Research Program on the Management of
Science and Technology)
Technological Forecasting Bibliography 1:
An Annotated Listing of Associated TF References

#448-70

Alan R. Fusfeld*

Feb., 1970

* The author is a special student at MIT's Sloan School of Management, E52-530, 50 Memorial Drive, Cambridge, Mass. 02139, while on leave of absence from his senior year at The Johns Hopkins University, Baltimore, Maryland.

Technological Forecasting Bibliography 1

The following lists of references have been arranged as follows:

1. published books.....2
2. published articles.....4
3. unpublished articles, includes company reports that are not readily available to the public.....12

Each listing includes as much useful information as possible.

Author, title of work, publisher, reference code, or file code, place, date.

Comments: philosophical discussion/description of techniques/case study application of techniques/ potential for integration with advanced concepts/ examples/ useful reference listings.

The codes used in this reference are:

1. Bright, 1968 = Bright, James R. (ed.) Technological Forecasting for Industry and Government. Prentice-Hall. Englewood Cliffs, N.J. 1968.
2. TF V.1,2,3.=Technological Forecasting Notebook. Vol. 1,2,3.(unpublished files of author)
3. TF = technological forecasting or technological forecast, depending on context.

Please note that this reference listing is intended as a summary of selected material and not as an exhaustive catalogue.

Technological Forecasting

-Books-

Ayres, Robert U. Technological Forecasting and Long-Range Planning. McGraw-Hill, Inc. New York. 1969.

Most cohesive text on TF methods and applications (written entirely by author/contains definitions of terms/references for additional information at end of each chapter/contains material that is easily linked to O.R. and economic analyses.

Boston Consulting Group. Perspectives on Experience. The Boston Consulting Group, Inc. Boston. 1968.

Discussion and presentation of data relating to MEPP/contains strong potential for additional TF research re: the technological progress function/data on solid state components, TV receivers, electric power, plastics, metals.

Bright, James R.(ed.) Technological Forecasting for Industry and Government: Methods and Applications. Prentice-Hall, Inc., Englewood Cliffs, N.J. 1968.

A collection of articles on all major TF topics and techniques, written by all major contributors/based on papers presented at early TF conference, (May '67)/includes work by Ayres, Bright, Cetron, Darracott, Gordon, Helmer, Isenson, Jantsch, Lenz, Linstone & Martino.

*

Jantsch, Erich. Technological Forecasting in Perspective. Organization for Economic Cooperation & Development (OECD). Paris. 1967.

A comprehensive and encyclopedic discussion of TF in its broadest sense/includes excellent lists of bibliographies and sources contacted for research/full discussion of TF work as an international concern.

Mansfield, Edwin. The Economics of Technological Change. W.W. Norton & Company, Inc. New York. 1968.

An overview of the integration of the processes of R&D, innovation, economics, and education.

Mansfield, Edwin. Industrial Research and Technological Innovation. W.W. Norton & Company. New York. 1968.

Considers equations derived and cases from a managerial economics point of view of R&D innovation, rate of diffusion, size of firm, market structure/ large amounts of R&D -- innovation data.

* Cetron, Marvin J., Technological Forecasting: A Practical Approach. Gordon and Breach. New York. 1969.

A useful book length collection of the various methods and

-Books-

techniques used by Cetron in his technological forecasting work for the U.S. Navy/ summarizes his articles on TF and resource allocation/ considerable detail re: examples of TF and the integration of methods into planning structures/ includes an extensive bibliography on TF and related OR areas/ includes examples of TF for lubricants, computers, materials, aircraft, nuclear weapons, solid state components, propellents, communications and lamps.

Technological Forecasting

-Published Articles-

Ayres, Robert U. Envelope Curve Forecasting. Bright. 1968.

Envelope trend forecasting/includes high energy particle accelerators, computers, external combustion engines, batteries/rules, methods, and limiting variables in TF.

Blonstein, J.L. The Application of Decision Impact Analysis to the Solution of Multi-Variable Problems. NATO, Defense Research Group Seminar, United Kingdom. November 12-14, 1968.

O.R. type of cross-impact analysis.

Bouladon, G. Aviation's Role in Future Transportation. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June, 1969.

Trend analysis.

Bright, James R. The Manager and Technological Forecasting. Bright. 1968.

Whys and wherefores of TF/trends of lift technology.

Buttner, F.H.; E.S. Cheaney. An Integrated Model of Technological Change. Bright. 1968.

Cross-impact of needs and effects.

Cetron, M.J.; et.al. A Proposal for a Navy Technological Forecast-Part I. Defense Documentation Center. AD 659 199. May, 1966.

Summary of proposed organization and formalized procedure for making and using TF/basically, an outline of a TF.

Cetron, M.J.; et. al. A Proposal for a Navy Technological Forecast-Part II --- Back Up Report. Defense Documentation Center, AD 659 200. May, 1966.

Excellent document discussing uses and format of a possible TF procedure/materials and electronic components trend forecasts.

Cetron, M.J. Forecasting Technology. International Science and Technology, Conover-Mast, New York. September, 1967.

Review of philosophy and TF techniques, utility of TF, role of TF in military and industrial planning/Delphi on scientific breakthroughs.

Cetron, M.J.; H.F. Davidson. Macro R & D. Industrial Management Review. MIT. Cambridge, Mass. Winter. 1969.

Elements of a quantitative resource allocation technique for exploratory development funds.

-Published Articles-

Cetron, Maivn J. Prescription for the Military R & D Manager, Learn the Three R 's. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research, United Kingdom. November 12-14. 1968.

TF and resource allocation.

Cetron, M.J.; A.L. Weiser. Technological Change, Technological Forecasting and Planning R & D -- A View From the R & D Manager's Desk. George Washington Law Review. Washington, D.C. July. 1968.

Overview of TF, planning and resource allocation/includes Delphi of 'social technology'.

Cetron, M.J. Technological Forecasting Bibliography. Bright. 1968. Excellent annotated reading list.

Cetron, Marvin J./G.B. Bernstein. SEER: A Delphic Approach Applied to Information Processing. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June, 1969.

Trends/delphi/relevance trees

Cetron, M.J./T.I. Monahan. An Evaluation and Appraisal of Various Approaches to Technological Forecasting. Bright. 1968.

Discussion of techniques/trend analysis for strengths of materials; fuels, communication band width, hovercraft, microwave tubes/full discussion of normative technology.

Chatham, George N. Toward Aircraft of the 1980's. Journal of Astronautics and Aeronautics. AIAA. New York. July. 1968.

Monitoring/goal setting/ identification of aviation forecasting articles/ discussion integrates issues of technological, social, and economic importance with the necessity for long range planning.

Darracott, H.T./J.R. Bird. Developing and Using the U.S. Army Long Range Technological Forecast. Bright. 1968.

Discussion of system, trends for frequency standards, solid state amplifiers, metals.

Darracott, H.T. et. al. Report on Technological Forecasting. Defense Documentation Center. AD 664 165. June. 1967.

Multiple trend forecasts/good discussion/excellent bibliography.

-Published Articles-

Durand, H.L. La Prospective Vue par un Group Industriel: Exemples et Methodologie. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14. 1968.

A description of one form of economic planning network.

Fedorenko, N.P. Planning of Production and Consumption in the USSR. Technological Forecasting. Vol. 1. Nol 1. Elsevier, New York. June. 1969.

Pure economic planning.

Floyd, A.L. A Methodology for Trend-Forecasting of Figures of Merit. Bright. 1968.

Discussion.

Fusfeld, Alan R. The Technological Progress Function: A New Technique for Forecasting. MIT. Sloan School of Management Working Paper. #438-70. January, 1970. Technological Forecasting. Elsevier. New York, Winter, 1970.

Summary report of TPF/ cases included are jet engines, electric lamps/ a computer program development/ production, progress, learning curves. (TPF = technological progress function)

Gabor, Dennis. Normative Technological Forecasting. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June, 1969.

Description.

Garrett, T. Illustrations of Technological Forecasting Techniques in Britain. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

U.K. TF data/ trend forecasting.

Geradin, M.L. Prevision Technologique et Action Prospective: Definition et Essais d'une Methode de Travail pour l'Organisation de la Recherche Appliquee. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

TF planning structure.

Gilfillan, S.C. A Sociologist Looks at Technical Prediction. Bright. 1968.

Process of innovation/ roots of monitoring as a TF.

Gordon, T.J. The Delphi Method - An Illustration and New Approaches to Delphi. Bright. 1968.

Procedure of Delphi/ transportation Delphi/ cross-impact

-Published Articles-

Hacke, James E. Whatever the Mind of Man Visualizes. Stanford Research Institute Journal, Stanford, Calif. June. 1969.

Summary view of forecasting.

Helmer, Olaf. Analysis of the Future: The Delphi Method. Bright. 1968.

Description/ no data.

Horowitz, Irving Lewis. Engineering and Sociological Perspectives on Development: Interdisciplinary Constraints in Social Forecasting. International Social Science Journal. UNESCO: France. 1969.

Discussion of cross-impact theme.

Husic, Frank J. Techniques for Measuring Uncertainty in Technological Forecasting. Bright. 1968.

Discussion.

Isenson, R.S. Factors Affecting the Growth of Technology as seen through Hindsight. NATO Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14. 1968.

Process of innovation as seen in evaluation of hundreds of R&D projects (PROJECT HINDSIGHT).

Isenson, R.S. Technological Forecasting Lessons from Project Hindsight. Bright. 1968.

Micro-factors in analysis of R&D/considers needs and R&D environment as prime stimuli of technological growth.

Jantsch, Erich. Integrating Forecasting and Planning Through a Function-oriented Approach. Bright. 1968.

Relevance trees/ industrial dynamics/ philosophy of planning

Jantsch, Erich. The Organization of Technological Forecasting in the Soviet Union. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June 1969.

TF aspects of USSR economic planning structure.

Kiefer, David M. The Futures Business. Chemical and Engineering News. Washington, D.C. August, 1969.

Excellent review article of what? why? how? and who?

Ledermann, Leonard L.; M.L. Windus. An Analysis of the Allocation of Federal Budget Resources as an Indicator of National Goals and Priorities. NASA Report Number BMI-NLVP-TR-69-1(Part 1). February 10, 1969.

Trend analysis of government R&D funds by functional areas.

-Published Articles-

Lenz, Ralph C. Forecasts of Exploding Technologies by Trend Extrapolation. Bright. 1968.

Trend Forecasts of automobiles, aircraft.

Lenz, R.C. Practical Application of Trend Forecasting. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

Aerospace examples of trend forecasting.

Lenz, R.C. Technological Forecasting. Defense Documentation Center. AD 408 085. June, 1962.

Basic document on trend forecasting, based on MIT Sloan School masters thesis, 1958/ aircraft trend forecasts.

Lien, Arthur P.; Paul Antou; Joseph W. Duncan. Technological Forecasting: Tools, Techniques, Applications. AMA Management Association. New York. 1968.

Good short over view of TF/descriptions of techniques and needs for such information/ good schematic of TF relation to other elements of firm's planning and operational structure.

Linstone, Harold A. On Mirages. Bright. 1968.

Framework for environmental analysis.

Linstone, Harold A. When is a Need a Need? The Problem of Normative Forecasting in a Changing Environment. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June, 1969.

Framework for long-range planning.

Lisichkin, Vladimir Alexandrovitch. The Process of Making Forecasts. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June, 1969.

A view of Soviet forecast procedure.

Maestre, C.J. Experience Française en matière de préparation des Décisions dans le Domaine de la Politique Scientifique Nationale. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

Discussion of decision process.

Martino, Joseph P. Technological Forecasting and the Autonomy of Technology. Technological Forecasting. Vol. 1. No. 1. Elsevier. New York. June, 1969.

Discussion of feedback effects of TF.

-Published Articles-

Martino, Joseph P. The Use of Technological Forecasts for Planning Research. Bright. 1968.

Description of an R&D planning structure.

Meadows, Dennis L. Estimate Accuracy and Project Selection Models in Industrial Research Industrial Management Review. MIT. Cambridge, Mass. Spring. 1968.

Success and cost information that has potential for interface with TF.

Mottley, Charles M. The Application of Strategic Forecasting to the Coal Industry. Bright. 1968.

Trends of coal industry.

Mueller, George E. The New Future for Manned Spacecraft Developments. Journal of Astronautics and Aeronautics, AIAA. New York. March, 1969.

Trend analysis/discussion of case.

North, Harper Q. Technological Forecasting in Industry. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

Overview of TRW Delphi technique/includes detailed logic development tree for 3-D TV or Holographic movies.

Nutt, A.B. An Application of Goal-Oriented Forecasting in a Laboratory Environment. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

Process of planning goals and optimizing R&D.

Pardee, Frederick S. Technological Projection and Advanced Product Planning. Bright. 1968.

Trend forecasts for electrical propulsion, thermal protective materials.

Pyke, Donald L.; H.Q. North. Technology, the Chicken--Corporate Goals, the Egg. Bright. 1968.

TRW Delphi on solid state physics.

Quinn, James Brian. Technological Forecasting. Harvard Business Review. Cambridge, Mass. March-April 1967.

Brief overview/cases discussed include U.S. highways, television.

-Published Articles-

Rea, R.H.; P.S. Miller. The Multiple Contingency Concept of Long-Range Technological Planning. Bright. 1968.

O.R. type of stochastic planning model.

Roberts, E.B. Exploratory and Normative Technological Forecasting:; A Critical Appraisal. NATO. Defense Research Group Seminar. Technological Forecasting and Its Application to Defense Research. United Kingdom. November 12-14, 1968.

Brief description of trend and resource allocation TF/ describes R&D dynamics approach to TF/ describes possible use of more sophisticated methods to upgrade TF.

Rohan, T.M. Crystal Ball Gazing is a New Corporate Game. Iron Age, , June, 1969.

Sketchy review of TRW and Delphi.

Rubin, Theodore J. Technology, Policy, and Forecasting. Bright. 1968.

Network planning.

Schmidt, A.W.; D.F. Smith. Generation and Application of Technological Forecasts for R&D Programming. Bright. 1968.

Cross-impact, relevance tree trend forecasts/ includes trends of gas turbines.

Seamans, Robert C., Jr. Action and Reaction. Technological Forecasting. Vol. 1. No. 1. Elsevier, New York. June, 1969.

Descriptive approach emphasizing progress through competition.

Solow, Robert M. Technical Progress, Capital Formation, and Economic Growth. The American Economic Review. The American Economic Association. May, 1962.

Basic economic discussion of a theory relating progress, capital, labor, and growth/ revolves primarily around economic growth.

Solow, Robert M. Technical Change and the Aggregate Production Function. The Review of Economics and Statistics. Harvard University Press, Cambridge, Mass. August, 1957.

Economic growth discussion of technical change related to production function, $Q = F(k,L,t)$ /his "technical change" includes many economic types of change in addition to those usually understood as representing technological progress.

-Published Articles-

Sula, Oto. A Methodological Approach to the Integration of Technological and Social Forecasts. Technological Forecasting. Vol. 1. No 1. Elsevier, New York. June, 1969.

Delphi plus cross-impact.

Thiesmeyer, Lincoln R. Technological Forecasting for the Canadian Pulp and Paper Industry. Bright. 1968.

Discussion.

Wells, Howard A. Technological Forecasting in Product Planning, with Emphasis on Systems Development. Bright. 1968.

Analytic product resource allocation.

Technological Forecasting-Unpublished Materials-

Abramowitz, J.G.; G.A. Shattuck. The Learning Curve: A Technique for Planning, Measurement, and Control. IBM Report No. 31.101. Data Processing Group. Harrison, New York, 1966.

Progress function work book/examples, techniques/leads for link up with TF.

Blackman, A. Wade. The Use of Technological Forecasting in an R/D Planning and TF. V.2. Sept. 1969.

Costs, R/D planning, jet engine forecasts.

Bright, James R. A Working Outline Introduction to Technological Forecasting. TF V.3, February 1970.

Excellent outline discussion of why? what? rationale? concepts? Cautions in use?

Bright, James R. Monitoring the Environment for Technological Change. TF V.1. Sept. 1969.

Discussion and examples of monitoring.

Bright, James R. Some Insights From the Analysis of Past Forecasts. TF V.1. Sept. 1969.

Process of innovation.

Burkhart, Robert E. Cost Estimating Relationships for Turbo-jet Engines. Air Force Institute of Technology Masters Thesis. GSM/SM/65-3. December 1965.

Costs, characteristic data development/learning curves, MEPP.

Cardullo, Mario W. Technological Forecasting in a Social System. TF V.2. September 1969.

Analysis of long range planning in the Catholic Church.

Cetron, M.J. Material Support Technology. TF V.1. June 1969.

Materials trend forecast, strength, heat steel, concrete, social-political forecast.

Cetron, M.J.; D.N.Dick. Technological Forecasting: Practical Problems and Pitfalls. Draft article for European Business. Jan. 1969.

General TF discussion, U.S. Navy trend forecasting examples.

Davis, Richard C. Forecasting in the Multi-product Company. TF V.3. February 1970.

Delphi and trends on fabrics.

-Unpublished Materials-

Edwards, David V. Political Forecasting. TF V.1. June 1969.

Philosophy of monitoring political spheres of interest and considering cross-impact effects.

Edwards, David V. Political Forecasting: Approaches and Application. TF V.2. September 1969.

Esch, Maurice E. PATTERN (Planning Assistance Through Technical Evaluation of Relevance Numbers). TF V.1. June 1969.

Sophisticated discussion of relevance trees.

Esch, Maurice E. Relevance Tree Methodology. TF V.3. Feb. 1970.

Discussion

Fusfeld, Alan R. Project Report-The Technological Progress Function: A New Technique for Forecasting. Independent Project. The Johns Hopkins University. Dept. of O.R. & I.E. Dec. 1969.

Complete documented report re: TPF as part of TF and MEPF/ contains survey of current TF methods/cases include aircraft speed, aircraft engines, electric lamps, automobiles, hovercraft, and a computer program. (MEPF= micro-economic progress function)

Gordon, T.J. An Experiment in the Use of Simulation Gaming for Social Policy Studies. TF V.1. August 1969.

Use of Cross-impact with Delphi and trends on social issues

Gordon, T.J.; O. Helmer. Generation of Internally Consistent Scenarios Through the Study of Cross-Impact. TF V.1. June 1969.

Description of Institute for the Future's methodology.

Gould, R.P. Turbo-jet Engine Procurement Cost Estimating Relationships. Air Force Institute of Technology masters thesis, GSM/SM/65-10. August 1965.

Costs, characteristic data development/learning curves, MEPF.

Haney, Robert L. Impact of Future Technology on Navy Business Management. TF V.2. Sept. 1969.

Integration of TF with business planning/food industry example discussed in detail.'

Jantsch, Erich. New Organizational Forms for Forecasting. TF V.1. June 1969.

Philosophical overview of TF and planning viewed in perspective of needs and goals.

-Unpublished Materials-

Jeckovich, Stephen, Managerial Planning Beyond Statistical Forecasting. TF V.a. September 1969.

Product growth as reviewed in glass industry trends.

Johnson, Howard E. An Experience in Teaching the Delphi Technique. TF V.1. June 1969.

Delphi on management education.

Johnston, Denis F. The Evaluation of Forecasts. TF V.1. June 1969.

Discussion of needs, goals, and TF.

Lenz, Ralph C. Elements of Technological Forecasting by Trend Extrapolation. TF V.1. June 1969.

Good description/ contains Videophone exercise.

Lenz, Ralph C. Technological Forecasting by Trend Extrapolation. TF V.3. February 1970.

Good description.

LTV. Delphi Forecasts as Guides to Corporate Development. TF V.2. September 1969.

90 Delphi forecasts of a general nature/ brief description of production life cycles.

Martino, Joseph P. Evaluating Forecast Validity. TF V.2. Sept. 1969.
Good case study analysis of aircraft industry.

Martino, Joseph P. Technological Forecasting for Planning R&D. TF V.3. February 1970.

Detailed Discussion.

Martino, Joseph P. The Lognormality of Delphi Estimates. Working paper. Winter. 1970.

Presents finding that Delphi responses when statistically analyzed have consistent lognormal patterns.

Martino, Joseph. Trend Extrapolation. TF V.3. February 1970.

Multiple trend analyses/detailed discussion/examples - aircraft, artificial light sources, rocket engines, low temperature capabilities.

McLoughlin, William G. Product Cycle Planning. TF V.2. Sept. 1969.

LTV Delphi and Scenario techniques/includes full discussion on food.

-Unpublished Materials-

Merchant, M. Eugene. Technological Forecasting as an Aid to Equipment and Process Design. TF V.3. February 1970.

Trends and Delphi for machine industry.

Packard, Karle S. Impact of an Emerging Technology on Company Operations. TF V.2. Sept. 1969.

Electronics Forecast.

Pyke, Donald L. TRW's Modified Delphi Technique. TF V.1. June 1969.

Description of 1st and 2nd generation attempts with Delphi as a management tool.

Pyke, Donald L. TRW's Probe II. TF V.2. Sept. 1969.

Detail of TRW Delphi.

Rescher, Nicholas. Value-Considerations in Public Policy Issues of the Year 2000. TF V.1. June 1969.

Discussion, explanation of application.

Russell, John H. Predicting Progress Function Deviations. IBM Report No. TR 22.446. Components Division. East Fishkill, New York. August 1967.

Good discussion of FIFO, LIFO effects on MEPP/computer simulation of MEPP/material may be applied in analysis of TF.

Saltini, Fabrizio. The Future of High-Speed Printers for Computer Systems: Short and Long Range Forecasting. MIT. 15.384. Research Management. Feb. 1970.

Initial trend forecast analysis of printers.

Sens, William H.; Robert M. Meyer. New Generation Engines --The Engine Manufacturer's Outlook. Society of Automotive Engineers Paper No. 680278. Presented at National Air Transportation Meeting of the SAE. April 1968.

Aircraft engine TF.

Simmonds, W.H.C. Anticipating the Future in Industries Characterized by a Stepwise Pattern of Expansion. TF V.2. Sept. 1969.

Discusses progress with respect to managerial cycles, price behavior, and time/examples include oil tankers, aircraft, and chemicals.

-Unpublished Materials-

Singer, Frank A. Educational Technology-An Important New Direction for Research by Management Scientists. TIMS. 10th American Annual Meeting. October 1969.

Contains seeds of material for a TF/ describes an example of current educational technology research.

Smith, Matthew. Organizing for Technological Forecasting: The Small Firm as a Model. TF V.3. Feb. 1970.

Discussion.

Sommers, A.N.; F.F. Leimkuhler. A Nondemographic Factor V/ST02 Prediction Model. TF V.1. June 1969.

Market share analysis.

Utterback, James M. The Process of Innovation and Technological Forecasting. TF V.1. June 1969.

Discussion.

Van Tassel, Alfred J. Forecasting Ecological Changes: Pollution from Rising Industrial Output. TF V.3. Feb. 1970.

Discussion of general pollution problems and trends.

Williams, Charles W. Sources of Information Useful in Technological Forecasting and Planning. TF V.1. June 1969.

Listing/ includes names and addresses of contacts.

Wilson, Ian H. Our Future Business Environment. TF V.3. April 1968.

GE cross impact study of social-political trends.

JUL 8 76

