MANPOWER, PERSONNEL, AND TRAINING IN SYSTEM ACQUISITION: A BIBLIOGRAPHY

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This paper has been reviewed and is approved for publication.

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Manpower, Personnel, and Training in System Acquisition: A Bibliography

This is a bibliography covering literature relevant to manpower, personnel, and training (MPT) analysis and planning during the weapon system design cycle. It covers documents produced by all Services, with particular emphasis on the HARDMAN (Hardware vs. Manpower) Comparability Analysis Method.
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This publication is primarily a working paper. It is published solely to document work performed.
This bibliography lists references to the literature on manpower, personnel, and training (MPT) and human factors analysis related to the system acquisition process. The list encompasses research reports, guides, handbooks, and case studies issued by all three Services and by Department of Defense contractors. The HARDMAN (HARDware vs. MANpower) Comparability Methodology of the Army and Navy, and HARDMAN's antecedents in the Air Force, are emphasized. Documents distributed since 1980 are featured, but important earlier work, going back to the 1960s, is also included.
PREFACE

The integrated analysis and evaluation of manpower, personnel, and training (MPT) issues in the system design and acquisition process has been an abiding interest of the Air Force Human Resources Laboratory. That interest is reflected, in part, in two research and development efforts currently underway within the Logistics and Human Factors Division: Task Identification and Evaluation System (TIES) - Work Unit 1710-00-31; and Small Unit Maintenance Manpower Analyses (SUMMA) - Work Unit 1710-00-04. Literature searching and cataloging efforts supporting both of these Work Units have produced large document files. It seemed timely to put together a bibliography tailored to the problem of MPT planning and analysis in system acquisition to aid other researchers in this topic area.

Susan Stiller, University of Dayton Research Institute, helped to track down documents and to verify bibliographic data. Terri Kerr, Universal Energy Systems, also helped in cataloging, typing lists, and kindred chores. Dr. William B. Askren gave valuable advice on the content of the bibliography. To all, all thanks.
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INTRODUCTION

Making better, earlier estimates of the manpower, personnel, and training (MPT) impacts of new systems has been an important goal of the Air Force Human Resources Laboratory (AFHRL) for many years. Consequently, several useful methods, models, and procedures - which together comprise the MPT technology base - have been developed. The other Services, too, have made important contributions to this field and have recently moved ahead in packaging and proceduralizing MPT technology for practical application in military acquisitions.

This bibliography lists source documents relevant to MPT requirements estimation and design interaction during the weapon system acquisition process. The bibliography emphasizes Service literature - published, not-yet-published, and unpublished - on HARDMAN (HARDware vs. MANpower) applications in the Army and Navy. Also emphasized are AFHRL technical publications going back as far as the late 1960s which allow one to trace the lineage of HARDMAN to the Air Force's Coordinated Human Resources Technology (CHRT), and, later, to the Acquisition of Supportable Systems Evaluation Technology (ASSET). Also included, though less thoroughly, are human factors studies and technical publications relevant to the system design and acquisition process. The myriad of Department of Defense Directives, Air Force Regulations, and Military Standards and Specifications related to MPT, human factors, and logistics in acquisition are excluded since they have been cataloged elsewhere. Refer to the four Akman Associates' (1983a, 1983b, 1983c, 1983d) studies for example lists.

An attempt has been made to cover the field comprehensively since 1980, and to include the very latest literature. Meeting this latter goal has meant, in some instances, citing works that are not, as this is written, in final published form or available to the public. Meeting the former goal has meant, especially in the HARDMAN area, including documents whose information content duplicates or substantially overlaps information found in other documents. In choosing items for inclusion, the urge to be thorough often overruled the need for discrimination.

The renewed emphasis in the Air Force on better, earlier MPT planning for developing weapon systems is taking several forms. One is the establishment of an MPT focal point within the Aeronautical Systems Division (ASD) of the Air Force Systems Command to integrate and manage MPT analysis efforts. Another is the call for more coordinated, concerted applications of existing MPT technology, and for improved MPT technologies with greater transition potential. The proposed Air Force Manpower, Personnel, and Training Information System (MPTIS) for tracking MPT requirements and resources for all new weapon systems is an important new application that will build on existing knowledge and technology.

These new efforts should benefit greatly from ready access to the accumulated knowledge and experience in MPT analysis embodied by this bibliography. To be sure, a review and analysis of this accretion of literature would be even more beneficial and should be done. In particular, the potential utility of the HARDMAN approach in meeting Force MPT analysis needs now and in the future must be determined. The present effort is a small but perhaps important step toward that larger goal.


Akman Associates. (1983b, April). Enhancing manpower, personnel, and training planning in the USAF acquisition process (AD-630 514). Report for AF/MPXXX. Silver Spring, MD.


Askren, W., & Lintz, L. (1975). Human resources data in system design trade studies. Human Factors, 17(1), 4-12.


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1All documents listed have been deposited in the Technical Documents Center at the Logistics and Human Factors Division (AFHRL), Wright-Patterson Air Force Base, Ohio, and will be maintained there as a service to interested and qualified researchers.


U.S. General Accounting Office. (1981, December). Guidelines for assessing whether human factors were considered in the weapon system acquisition process (FPCO-82-5). Washington, DC.


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