Strengthening U.S. Air Force Human Capital Management: A Flight Plan for 2020-2030

The U.S. Air Force (USAF) is facing critical challenges on many fronts, and it must reshape itself for a new great power competition. That competition, involving both Russia and China, will be more complex and challenging as the United States faces peer adversaries that pose different military problems and possess advanced technologies. To meet these challenges with a numerically smaller force than it enjoyed in the past, the Air Force will pursue technological advantages. However, there is no guarantee it can count on the same technological margin that once provided a solid foundation for American air and space dominance.

Fortunately, the Air Force enjoys another advantage from which it has long benefitted—the high quality of its people. It continues to attract and retain some of the country's best talent, providing a rich resource of "human capital," giving the Air Force an advantage over its opponents. The competition for such talent is, however, fierce. This puts the Air Force at a critical crossroads: if it continues its traditional approaches to human capital management (HCM), it risks losing high-quality talent. Alternatively, it can embrace and implement needed changes in the way it recruits and manages its workforce.

To address how best to move forward, the Air Force requested that the National Academies of Sciences, Engineering, and Medicine (the National Academies) conduct a study to examine how to strengthen the USAF HCM system in support of optimal mission capability. In response, the National Academies convened a committee of key experts in various fields, including industrial and organizational psychology, economics, human-systems integration, computer sciences, cybersecurity, and human capital management practitioners, including some with expertise in Department of Defense and USAF HCM operations.

The committee's report, *Strengthening U.S. Air Force Human Capital Management: A Flight Plan for 2020-2030* (2020), offers a strategic approach, along with specific action items, to assist the Air Force to forge a path for a successful and connected HCM system into the mid-21st century. Although some elements of the needed system now exist, this report and its Flight Plan, which offers the committee's roadmap of actionable recommendations, point to a number of critical gaps that will need to be filled to ensure the Air Force attains excellence in its HCM system.

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UNDERSTANDING AND MODELING THE USAF HCM SYSTEM

In addressing the task, the committee focused on understanding the opportunities and challenges associated with related interests and needs across the USAF HCM system. To capture this, the committee developed an ecosystem model (see Figure 2-2 in the report), using a modeling method called a Causal-Loop Analysis. This type of analysis is used in the systems dynamics community to capture how changes propagate in a system and is helpful in illustrating how a single action might have far-reaching and unanticipated effects across a system.

The committee's model shows how variables across the Air Force ecosystem, including elements under direct control of the Air Force (such as recruiting selectivity standards and optimizing person-job matching) and external factors (such as the current state of the economy or technology innovation), can influence ecosystem dynamics. The committee overlaid this model with major USAF HCM focus areas: recruiting, selection, classification, utilization, promotion, retention, and attrition (see Figure 2-3). This overlay shows how these various HCM efforts interact, visually demonstrating how small changes that improve performance in one area can have large impacts in other areas. It also allows visualization of potential systemic impacts from actions such as sharing data and increasing transparency across the entire ecosystem. Importantly, the model demonstrates that making human capital decisions in isolation, with limited or no consideration of strategic needs or impacts across other elements, has the potential to result in major, potentially negative, consequences that cascade across the Air Force. Ultimately, the model allows visualization of the impact of recruiting the right people and placing them in a job that is a good fit in strengthening the workforce available to meet the needs of the Air Force.

THE FLIGHT PLAN: THREE PRIORITIES

To assist the Air Force in preparing for the challenges its Airmen[1] will face in the future, the report includes a Flight Plan, informed by the models described above, to strengthen the USAF HCM system. The Flight Plan offers three priorities, described below, each with the committee's overarching recommendation and specific implementable action items.

THE DATA PRIORITY

Human capital data is the most important strategic asset to optimize Airmen to fly, fight, and win in uncertain futures.

In designing the Flight Plan, the committee concluded that valid and appropriate data are an absolute necessity to ensure the continued strength and vitality of a successful HCM system. In fact, the Air Force will not succeed in placing the right Airmen in the right jobs at the right time if it does not have access to the right data. Until critical systems can seamlessly share and use data across the human capital system, any efforts to reform or improve HCM are going to be slow, costly, and ineffective. As such, the committee recommends:

The USAF should deliberately manage Airmen through a connected HCM system, using data-driven decisions based on data systematically collected and analyzed.

A vast amount of human capital data are already being collected to inform personnel decisions and develop policies, but such data are being collected in a variety of structures, formats, and methods. In some cases, human capital data are either insufficient or not effective in informing personnel decisions. In other cases, new approaches to data analysis, such as text mining, make it possible to use data that were simply not usable before, creating new opportunities. The report further describes specific actions the Air Force should take in data management, data collection, and HCM operations both to improve current data usage and to enable better data usage across the entire USAF HCM system.

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[1]In the Air Force context, "Airman" is a gender-neutral term inclusive of both men and women who serve the U.S. Air Force, and this report adopts its use as such. Furthermore, in accordance with the Human Capital Annex to the USAF Strategic Master Plan, Airmen "includes uniformed and civilian Airmen from the Regular Air Force, Air Force Reserve, Air National Guard, and contractor/contracted workforce." However, for the purposes of this report, unless otherwise noted, the committee generally intends Airmen to mean the men and women of the USAF active duty enlisted and officer corps.

Importantly, change must be data-driven and requires a "Human Capital Data Superstructure" to enable exploitation of data in a purposeful way across a connected HCM system. Only this can ensure that those making human capital decisions can reach the evidence-based standard to which the Air Force properly aspires. As such, in the committee's judgment, many elements within this Data Priority must be addressed very early in the process to provide accessible and accurate data that do not now exist and that are fundamental to the Airmen Priority and the Research Priority.

THE AIRMEN PRIORITY

Ensuring the right Airman is in the right job at the right time is the best way to maximize performance and retention of the most effective Airmen.

In its analysis, the committee acknowledged that the methods used to manage people for industrial era jobs are unlikely to be effective for managing people for information age innovations. As technology, speed of operations, and mission flexibility increase, human capital management approaches need to change to keep up. Airmen are individuals with unique experiences, which should play a larger role in job assignment to maximize their contribution to the mission and to ensure the Air Force remains a competitive employer. To address this need, the committee recommends:

The USAF should ensure Force effectiveness through evidence-based practices across a connected HCM system to optimally match Airmen to career fields, training, and job assignments.

The USAF HCM system exists to ensure the readiness of Airmen to fulfill the mission of the Air Force. It impacts the quantity and quality of personnel, promotion and retention processes, training and professional development programs, job classification and job assignment policies and processes, and other human capital matters. To better serve its purpose and the needs of the Air Force, as well as those of its Airmen, the Air Force should expand and coordinate data-driven capabilities in foundational elements, Airmen testing and learning, job analysis and competency modeling, the Talent Marketplace, and HCM operations.

THE RESEARCH PRIORITY

The Air Force aspirations of an effective talent management vision will not succeed without support from a robust research program that provides cutting edge human capital research. The world is changing and moving too fast to expect that the USAF HCM system will keep up without data-driven collaboration and research, including leveraging advantages of artificial intelligence.

A connected and effective research system that informs USAF human capital decisions is critical to develop the future force and will provide substantial return on investment.

Without integrated research programs connected to strategic priorities, isolated research efforts will die out, parallel or highly similar efforts are undertaken with duplication of resources, and assessments and other tools become operational because of high advocacy rather than validated science-based quality. To address the key need for an effective research system, the committee recommends:

The USAF should invest in research that ensures that decisions about Airmen from accession to separation reflect professional best practices, evolve with changing technology and mission demands, and are integrated across the HCM system.

To ensure the current and future effectiveness of the USAF HCM system, the Air Force should implement systematic research initiatives to leverage routine data collection and analysis processes for accurate and effective sustainment of the system. As that research identifies the need for changes in the existing system, and as professional best practices suggest alternatives to the existing system, the Air Force should also maintain an active research program to build upon its successes with incremental improvements. Simultaneously, the Air Force should invest in innovative, high-risk/high reward research critical for future HCM approaches that keep pace with the competitive market.

STRATEGIC CHANGE

This report identifies a strategic approach to assist the Air Force to identify how to improve human capital decisions across an Airman's career from accession through separation. Successful implementation of the report's recommendations will require an integrated approach, including a need to:

- **Align with future needs** by identifying and acting on potential mismatches between future needs and capability expectations;

- **Inspire bold experimentation** within limitations of the state-of-the science to ensure scientific validity;

- **Promote coordinated scientific innovation** that blends HCM research and development with Air Force operational needs;

- **Identify, collect, protect, and use critical data** to improve human capital decisions; and

- **Leverage the research community,** including the expertise of internal and external human capital experts.

The committee acknowledges that there is a wide range of possible implementation activities, including both immediate and long term activities, and each carry differing risks, costs, and potential returns on investments. As such the Air Force should ensure that when human capital decisions are made, they are implemented with the appropriate consideration of their impact on strategic needs and across other elements of the Air Force.

The recommendations and action items of this report's Flight Plan offer the Air Force a strategic approach, across a connected HCM system, to develop 21st century human capital capabilities essential for the success of 21st century Airmen. The committee recognizes that executing the agenda laid out by the Flight Plan will be demanding, but the rewards will be commensurate with the investment made into the USAF HCM system.

COMMITTEE ON STRENGTHENING U.S. AIR FORCE HUMAN CAPITAL MANAGEMENT

JULIE J.C.H. RYAN (*Co-chair*)**,** Wyndrose Technical Group, Pasadena, MD; **WILLIAM J. STRICKLAND** (*Co-chair*), Independent Consultant, New Braunfels, TX; **TERRY A. ACKERMAN,** University of Iowa; **DAVID S.C. CHU,** Institute for Defense Analyses, Alexandria, VA; **LT. GEN. GINA M. GROSSO,** USAF (Retired); **BRIG. GEN. LEON A. JOHNSON,** USAFR (Retired); **JUDITH S. OLSON,** University of California, Irvine; **DAN J. PUTKA,** Human Resource Research Organization (HumRRO), Alexandria, VA; **ALVIN E. ROTH,** Stanford University; **ANN MARIE RYAN,** Michigan State University; **STEPHEN STARK,** University of South Florida; **CHERIE CHAUVIN,** *Study Director;* **ELIZABETH T. CADY**, *Senior Program Officer;* **DANIEL TALMAGE***, Program Officer;* **MARGARET KELLY,** *Senior Program Assistant;* **TINA M. LATIMER** *Program Coordinator.*

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