

Development and Implications of the U.S. Army Human Resource Management System

Authors: Liu Guangda, Pan Yu, Pan Lin, Yao Feng

Date: 2023-07-28T00:00:00+00:00

Abstract

[Purpose/Significance] The Integrated Personnel and Pay System-Army (IPPS-A) is a human resources management system of the U.S. Army that integrates various independent personnel and payroll management systems. Understanding and analyzing its development history and functional characteristics provides reference and lessons for the construction of our military's human resources management system. [Methods/Process] This study employs the literature research method to review the development history of IPPS-A and analyze its features and functions. [Results/Conclusion] Understanding the development and application of the U.S. Army's human resources system is of important reference and enlightenment significance for promoting the construction of our military's human resources management system and the development of human resources management systems.

Full Text

Development and Implications of the U.S. Army Human Resource Management System

Liu Guangda¹, Pan Yu^{1,2}, Pan Lin¹, Yao Feng¹

¹School of Systems Engineering, National University of Defense Technology, Changsha 410073, China

²Unit 31461, Shenyang 110000, China

Abstract

[Purpose/Significance] The Integrated Personnel and Pay System-Army (IPPS-A) is a comprehensive human resources management system that consolidates various independent personnel and payroll management functions within the U.S. Army. Understanding and analyzing its development

trajectory and functional characteristics can provide valuable reference and inspiration for constructing our military's human resources management system. **[Method/Process]** This study employs literature review methods to systematically outline IPPS-A's development history and analyze its features and functions. **[Result/Conclusion]** Comprehending the development and application of the U.S. Army's human resources system offers important lessons and insights for advancing the construction of our military's human resources management system and developing related management platforms.

Keywords: U.S. Army, human resource management system, IPPS-A, implications

Major military powers worldwide face the practical demands of building informationized forces, have proposed visions for future intelligent force development, and are taking proactive measures in talent team construction to secure initiative in future warfare [1]. In recent years, to win the so-called "war for talent" and maintain competitive advantage, the U.S. military has leveraged modern information technology to fully exploit the unique knowledge, skills, and behavioral characteristics of military personnel, implementing digitalized and market-oriented mechanisms for talent acquisition, selection, and utilization. This approach has significantly enhanced the modernization and readiness levels of military personnel [2].

In January 2023, the U.S. Army launched a new human resources platform across the entire force—the Integrated Personnel and Pay System-Army (IPPS-A) [3]. This system represents the U.S. Army's 21st-century human resources, payroll, personnel, and talent management system, enabling the transition from human resources management to talent management for over one million U.S. Army service members [4]. Its development and implementation offer important reference and enlightenment for promoting the construction of our military's human resources management system and developing related management platforms.

2. Development History of the U.S. Army Human Resource Management System

In the 1980s, the U.S. military developed the Standard Installation/Division Personnel System (SIDPERS) and began using information systems for human resources management. SIDPERS provided human resources management functions to the U.S. military, but the system utilized different databases across various units. For instance, the U.S. Army Active Duty, Reserve, and Army National Guard each maintained independent databases, each designated as SIDPERS or its variants, resulting in incompatible data across systems.

In September 2003, the U.S. Department of Defense signed a \$281 million contract with defense contractor Northrop Grumman to begin research, develop-

ment, and integration of human resources systems. In September 2005, the Office of the Secretary of Defense approved a restructuring plan to support the development of the Defense Integrated Military Human Resources System (DIMHRS) architecture, which aimed to provide more accurate and timely payroll services. The Department of Defense originally planned to deploy DIMHRS beginning in October 2008. However, a September 2008 report from the U.S. Government Accountability Office indicated that DIMHRS might not meet requirements in design and implementation, identifying significant problems. The Department of Defense had already delayed DIMHRS deployment four times, and by May 2009, outstanding issues remained unresolved. The Department of Defense finally determined that DIMHRS would not undergo unified deployment and implementation, announcing the program's cancellation in February 2010. Nevertheless, the U.S. military's efforts to implement human resources management through information systems continued, with the Army shifting its focus toward developing the Integrated Personnel and Pay System-Army (IPPS-A).

The first version of IPPS-A was successfully deployed in 2015, covering Army Active Duty, National Guard, and Reserve components, achieving interconnectivity with 15 personnel systems and establishing a reliable foundational database for storing personnel data. IPPS-A's second version was released to the U.S. Army National Guard in February 2019, providing service members with online mobile self-service capabilities and ensuring information security for soldiers and commanders through commercial networks. This version effectively integrated approximately 160 major business processes and workflow modules across the U.S. Army, encompassing human resources management, payroll calculation and distribution, and related functions.

The third version of IPPS-A was originally scheduled for release in December 2021, with plans to integrate Active Duty and Reserve components into the system, expand human resources, talent, data, and payroll functions, and maintain compatibility with legacy systems. However, due to technical issues during development and feedback from National Guard usage, certain system components failed to meet expected completion targets, resulting in delays to the IPPS-A Version 3 release schedule [5]. Full-scale implementation across the U.S. Army was not achieved until January 2023 [3].

IPPS-A System: Main Functions and Features

IPPS-A is a comprehensive human resources management system developed for the U.S. Army that integrates various independent personnel and payroll systems. Through digitalized and automated processes, the system reduces the complexity and cumbersome nature of human resources management while improving data accuracy and timeliness [6]. IPPS-A adopts a "data-driven" decision-making model that fundamentally improves military personnel management, effectively addressing problems from previous system versions such as excessive version proliferation, weak data compatibility, complex interfaces, and high labor costs. The system significantly enhances the efficiency of information-

ized human resources management and elevates talent development standards, representing a revolutionary leap in U.S. Army human resources information technology.

IPPS-A System Main Functions

Developed on Oracle's PeopleSoft platform, IPPS-A encompasses functions including talent management, payroll calculation and distribution, training and education records, statistical analysis and reporting, and personnel deployment and allocation [8-10].

Talent Management. IPPS-A integrates the Career Management/Succession Planning Tool (CM/SP-T), which leverages artificial intelligence and machine learning technologies to provide data support for talent management. This tool accurately captures service members' educational backgrounds, skills, and experience information to build individual military talent profiles and presents talent inventory overviews to commanders at all levels. CM/SP-T data facilitates more intelligent talent-related decision-making within units, enabling commanders to understand talent availability within their formations and make more informed decisions.

Payroll Calculation and Distribution. IPPS-A supports automated payroll calculation, detailed pay statements, and report generation, facilitating payroll analysis and statistics for managers. Additionally, the system supports automated and standardized performance management processes that stimulate service members' motivation and creativity through performance management mechanisms.

Training and Education Records. IPPS-A provides functions for recording and tracking service members' training and educational experiences, including course completion, qualification certifications, and professional development information. The system also offers career development planning tracking and recording functions that assist in talent identification and retention for the military.

Statistical Analysis and Reporting. IPPS-A provides powerful data analysis capabilities for integrated data, enabling the generation of various visual statistical analysis reports that assist leaders in better understanding service members' capabilities, potential, and development needs. This functionality establishes a foundation for the U.S. military's implementation of refined talent management.

Personnel Deployment and Allocation. IPPS-A can process matters related to service member deployment and allocation. Through the platform, managers can query and arrange deployment situations and conduct appropriate deployments based on service members' skills and qualifications.

IPPS-A System Main Features

IPPS-A is not merely a conventional information technology system display; rather, it applies and empowers digital technology across all functional domains of human resources management to achieve data-driven management effectiveness improvements and continuous development.

Automated Workflow. IPPS-A integrates various business processes into workflows that span the entire data chain, ensuring smooth and efficient processes. Through digitalized and automated processes, the system simplifies human resources and payroll management. Business departments can approve and process various personnel, welfare, and financial matters according to hierarchical authority. Commanders at all levels can independently set tasks within their respective areas of responsibility and distribute them to involved units and individual node accounts through integrated workflows. Non-classified portions of service members' personal information connect directly with relevant civilian departments, enabling complete, accurate, and timely transfer of personal information to civilian systems when service members transition to civilian life.

Audit Trail Supervision. Workflow plays a critical role in IPPS-A, standardizing and constraining human resources and payroll transaction processes to ensure compliance and accuracy. By defining processes, utilizing workflow engines to control transaction execution sequences, and activating corresponding steps, the system effectively manages the entire transaction process. Audit traceability represents an important IPPS-A feature, as the system records date and timestamp information for user operations to ensure transaction traceability and auditability. Timestamp records provide complete audit trails that offer reliable data foundations for further audit analysis. IPPS-A's audit trail function ensures compliance for military and audit entities, meeting audit preparation standards and providing auditability.

Enhanced User Experience. IPPS-A provides access through mobile terminals, enabling service members to conveniently obtain and manage personal information, request leave, and view pay statements on mobile devices. Managers can more conveniently track and manage service member status and promotions. The entire process is automated, paperless, and transparent, significantly improving user experience.

Intelligent Career Planning. The integrated CM/SP-T tool can utilize machine learning algorithms and big data technology to comprehensively weigh unit organization and staffing situations based on military talent assessments. This provides personnel departments with better talent information flows for developing individual career plans, training and education programs, and succession plans, while increasing transparency in selection, assignment, and promotion decisions. These capabilities help recruit and retain high-quality talent, thereby achieving the transformation from personnel management to talent management.

Unified Database. IPPS-A establishes a unified, real-time human resources database that centrally stores and manages service members' educational backgrounds, promotion histories, and other information, providing data support for statistical analysis and decision-making. IPPS-A's full implementation across the U.S. Army will replace over 30 outdated human resources and payroll systems and eliminate more than 300 data exchange interfaces, integrating personnel and payroll management into a single "digital transaction."

4. Implications and Considerations

The U.S. military emphasizes service member development and growth, focuses on strategic military human resources planning, values service member participation and motivation, and encourages talent mobility and diversity within the military [2]. The development and application of the integrated personnel and payroll system IPPS-A represents an important breakthrough in U.S. military human resources management, offering significant reference and enlightenment for promoting the construction of our military's human resources management system and developing related management platforms.

4.1 Constructing a Modernized Innovative Human Resources Management System for Our Military

Embracing concepts such as talent-driven victory, continuous innovation, and optimized allocation, we should actively construct a modern, innovative military human resources management system that features advanced concepts, complete systems, scientific standardization, effective operation, and intelligent efficiency. This will accelerate the rapid development of human resources management system capabilities and establish a solid talent management foundation for winning future wars. Through innovative management systems, scientific organizational models, institutional arrangements, and operational mechanisms, we can revitalize, mobilize, and unleash the tremendous potential of military human resources, tapping into their latent capabilities and allowing modern military human resources to burst forth with vitality and talent in the practice of strengthening the military.

4.2 Advancing Digital-Intelligent Transformation of Our Military's Human Resources System

With the advancement of information technology projects in the military human resources domain, our military's human resources construction has initially established a foundation in informatization, networking, and datafication. To promote the digital-intelligent transformation and upgrading of military human resources management driven by advanced technologies, we urgently need to leverage artificial intelligence technology through human resources management systems to achieve unified, authoritative, precise, efficient, joint, open, and trustworthy digital-intelligent capabilities, realizing the genuine transformation from

human resources management to talent management.

4.3 Developing a Technology-Enabled Integrated Human Resources Management Platform

We should develop a technology-enabled integrated human resources management platform to achieve centralized and unified management of military human resources. By introducing advanced technologies such as big data, artificial intelligence, and blockchain, we can construct an integrated human resources management system featuring talent data sharing, humanized interfaces, intelligent decision support, cloud-based storage, diversified applications, integrated development, and open collaborative construction. We should fully integrate existing infrastructure including institutional norms, data resources, and information systems, address a series of key scientific issues, and through technology enablement, drive optimization of the policy and institutional system, promote model reshaping and process reengineering, ensure effective development of human resources capabilities across major scenarios, and boost leapfrog development toward specialized, refined, and scientific human resources management.

4.4 Achieving the Conceptual Transformation from Human Resources Management to Talent Management

We should actively transform and establish a talent management philosophy, shifting from “service members” to “talent” and from “managing personnel” to “managing talent.” Taking capability value as the standard and position-talent fit as the goal, we should maximize the potential of service members and gradually achieve the objective of winning the “war for talent.” Relying on the integrated human resources management platform, we should construct a unit-talent matching process, simulate market mechanisms to create an internal military “talent pool,” and configure talent management modules within the “talent pool” including talent recommendations, position-talent matching recommendations, and talent assessments. This will guide talent mobility, achieve flexible and scientific matching of talent supply and demand, and transform toward a demand-driven position-talent matching model, improving the accuracy of talent allocation. By creating a situation where every talent is fully utilized and every ability is fully expressed, we can promote the transformation of military human resources into combat power, converting our military’s political, organizational, and management advantages into talent advantages, development advantages, and victory advantages.

- References:** [1] 王文利. 美国陆军新一轮人才管理创新与经验研究 [J]. 中国人事科学, 2021, (10):
- [2] 李丛禾. 美军人力资源管理现代化举措探析 [J]. 基层政治工作研究, 2022, (9):
- [3] The Army’s Long-Awaited New Pay and HR System Is Here [EB/OL]. (2023-01-17) [2023-07-10]. <https://www.military.com/daily-news/2023/01/17/armys-long-awaited-new-pay-and-hr-system-here.html>
- [4] Johnson, Gregory. Bringing Army HR Into the 21st Century. [J]. Army

Magazine,2021,Vol.71(1): 23-24

[5] Army Delays New One-Stop Personnel and Pay System After Year of Tech Headaches [EB/OL].(2021-10-08)[2023-07-10].<https://www.military.com/daily-news/2021/10/08/army-delays-new-one-stop-personnel-and-pay-system-after-year-of-tech-headaches.html>

[6] Eggers, Rebecca L.New U.S. Army Human Resources System Is the Change the Army and Its Soldiers Need.[J].Military Review,2022,Vol.102(5): 49-51

[7] 崔家堂. 美陆军人事与薪酬综合系统浅析 [J]. 基层政治工作研究,2022,(9):

[8] Johnson, Gregory S..INNOVATION through AGILITY: PEO EIS uses Agile teaming to build the Army's Integrated Personnel and Pay System.[J].Army AL&T Magazine,2019,: 30-34

[9] Hickman, Timothy R..HR, Military Pay Uniting Under Same Umbrella.[J].Army Magazine,2017,Vol.67(8): 44-45

[10] Lee, Jung S..TALENT MANAGEMENT: Career Mapping and Succession Planning Tool.[J].Army Sustainment,2022,Vol.54(3): 36-39

Author Contributions: Liu Guangda: Collected and organized materials and information, wrote the article;

Pan Yu: Wrote some sections, revised the paper;

Pan Lin: Proposed some viewpoints, revised the paper;

Yao Feng: Determined the research topic, 思路与框架 (thinking and framework), revised and finalized the paper.

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.