



SYSTEMS ENGINEERING
Research Center

Army Systems Engineering Career Development Model

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OVERVIEW

This is the final report on SERC Research Task (RT)-104, which seeks to develop a Systems Engineering Career Development Model (SE-CDM) for a system that will provide the Army with a pool of qualified candidates to fill Key Leadership Positions (KLPs), as required by OUSD(AT&L) Memorandum of 8 Nov 2013, “Leadership Positions and Qualification Criteria.”

The system, called here the Improved Army SE Career Development System (IASE-CDS), is envisioned to be continuous, deliberate and progressive. As proposed, it would be built, as much as possible, utilizing existing Army career development assets, modified as required, and integrated into a single, coherent system that can be implemented within the Army Civilian Training Education and Development System (ACTEDS).

INPUTS AND OUTPUTS

A “black-box” model of the IASE-CDS is shown in Figure 1.

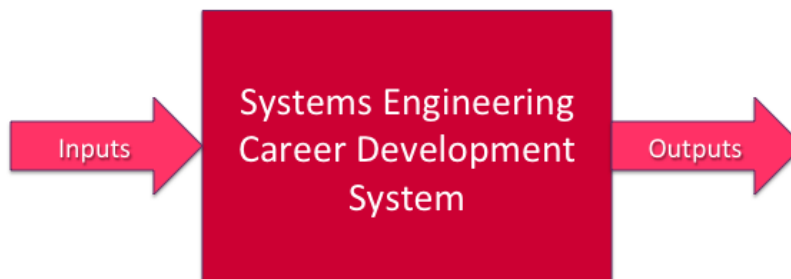


Figure 1: Input-Output Model

The inputs to the system are the more than 9000 Army Engineering Acquisition Career Field members.¹ The outputs are a pool of qualified candidates to fill the 22 Army Systems Engineer/Chief Engineer Key Leadership Positions (KLPs).² In addition, the system is expected to significantly enhance the capabilities and skills of the “diverse cadre of highly capable, high-performing, and results-oriented civilian leaders” required to fill approximately 1000 Army Engineering Acquisition Career Field Critical Acquisition Positions (CAPs).³

SYSTEM ARCHITECTURE

The OUSD(AT&L) memo identifies five factors as essential requirements for qualified KLP

¹ “SPRDE SE Demographics” slide, ACDD (Acquisition Career Development Division) Dashboard briefing of 30 September 2013. The actual number shown in the briefing is 9,381.

² “Key Leadership Positions (KLPs)” slide, *ibid*.

³ DoD Instruction Number 1430.16, November 19, 2009.

candidates: Education, Experience, Cross-functional Competencies (defined as Executive Leadership, Program Execution, Technical Management and Business Management), Tenure, and Currency. In order to ensure that the output pool of KLP candidates meets all these requirements, the IASE-CDS must address each of the five factors. A preliminary top-level architecture for the system is therefore shown in Figure 2. Each of the five components is discussed in turn.

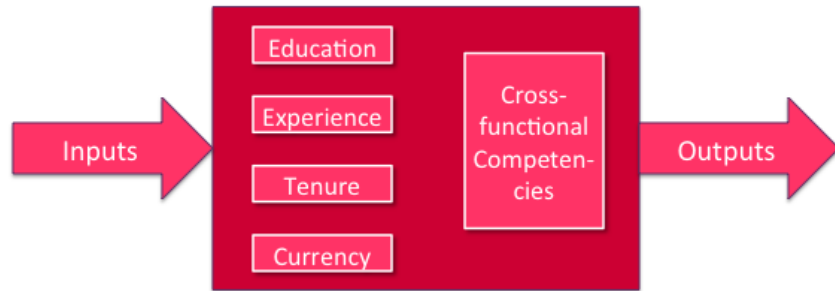


Figure 2: Initial Top-Level Architecture

EDUCATION

As defined in the OUSD(AT&L) memo, the education requirement calls for “advanced or related college degrees relevant to [the candidate’s] functional area.” Currently, more than 82%(TBR) of acquisition career field engineers have Bachelor’s degrees and 36%(TBR) have advanced degrees.⁴ The U.S. Army Acquisition Support Center (USAASC) administers the Acquisition Education, Training, and Experience (AETE) program to assist AL&T Workforce members in attaining career progression and the Acquisition Tuition Assistance Program (ATAP) to provide support for acquisition personnel pursuing educational opportunities consistent with this requirement.

Recommended Action: Examine AETE and ATAP to ensure that they are focused on relevant advanced and related degrees and that they provide adequate opportunities and resources to support the KLP development mission.

EXPERIENCE

Qualified KLP candidates must be Level III certified and have 6-8 years of acquisition experience, depending on the targeted position. Today’s career development system reliably produces competent, Level III certified Engineering Acquisition Career Field Engineers to fill positions at the GS 13 level. At GS 14/15, the Army’s Senior Enterprise Talent Management (SETM) program is designed to prepare participants for positions of greater responsibility through advanced senior-level educational and developmental experiences.

⁴ Civilian AL&T Workforce Demographics dated 31 Mar 2013.

Recommended Action: Ensure that the Enterprise Placement Program supports the KLP acquisition experience requirement.

TENURE

Under the provisions of the OUSD(AT&L) memo, “each assignment to a KLP shall be supported by a written tenure agreement based on the unique requirements of the program or effort to be performed, such as significant milestones, events, or efforts,” and that these “agreements shall be between individuals and the Component Acquisition Executive (CAE).” Such agreements are not commonplace today, and where comparable agreements exist, they are more often time-bound rather than based on the achievement of key program milestones.

Recommended Action: Establish a process for securing tenure agreements for all KLP appointments consistent with the requirement, and for monitoring and managing these agreements to ensure they are carried out.

CURRENCY

KLP candidates must be compliant with the current AT&L continuous learning policy, which requires 80 hours of continuous learning points (CLPs) every 2 years. Currently, 95%(TBR) of acquisition professionals are estimated to regularly meet that standard.⁵ It is not known, however, the extent to which available CLPs represent advanced training targeted at KLP requirements.

Recommended Action: Ensure that the AT&L continuous learning program provides sufficient numbers of advanced CLPs suitable for KLP development and that they are clearly identified as such.

CROSS-FUNCTIONAL COMPETENCIES

While today’s successful KLP leaders benefit from broad experience in the four cross-functional competencies identified in the OUSD(AT&L) memo, anecdotal evidence suggests that the process through which they acquire these competencies is often ad hoc, rather than formal, systematic and actively managed.

Recommended Action: Establish a designated proponent who will actively manage developmental experiences across the potential KLP population and who will be accountable for ensuring that the required cross-functional competencies are achieved.

INTEGRATED CAREER MANAGEMENT

In addition, to the components identified above, two others can play significant roles in the IASE-CDS. The first is integrated career management. While the Army has many career

⁵ Estimate based on data contained in the ACCD Dashboard of 30 September 2013.

development programs, it appears that these were developed independently and are managed by separate organizations. The Army Career Tracker (ACT) is the Army's first comprehensive leadership development and career management tool and it integrates training, assignment history, and formal and informal education into one personalized, easy-to-use portal. ACT can potentially be used to integrate the different career development assets into a single, coherent system focused on developing qualified KLP candidates and more qualified CAP leaders.

Recommended Action: Modify ACT to more explicitly focus on the development, management and assessment of potential KLP candidates. While preserving its emphasis on individual responsibility for career development, consider adding an active management component to identify KLP candidates and direct them toward appropriate training, education and developmental experiences.

MENTORING

In addition to the elements described above, mentoring can be a powerful force for supporting, coaching and guiding the development of Engineering Acquisition Field Engineers. The Army has an excellent mentoring program, The Army Mentorship Program, that is designed to establish and sustain voluntary, developmental relationships between a person of greater experience and one of lesser experience, characterized by mutual trust and respect. This program can serve as the platform for the widespread development and utilization of effective mentors and mentoring focused on the development of KLP competencies. However, despite being in existence for nearly a decade, only 13% of the civilian workforce recognize that they have had help from a formal or informal mentor in planning their career paths.⁶

Recommended Action: Determine why the Army Mentorship Program is not more widely utilized and take appropriate steps to increase participation, for example through encouragement, recognition or by making participation mandatory for those seeking leadership advancement.

With the addition of these two components, the proposed IASE-CDS architecture is shown in Figure 3.

⁶ Ibid.

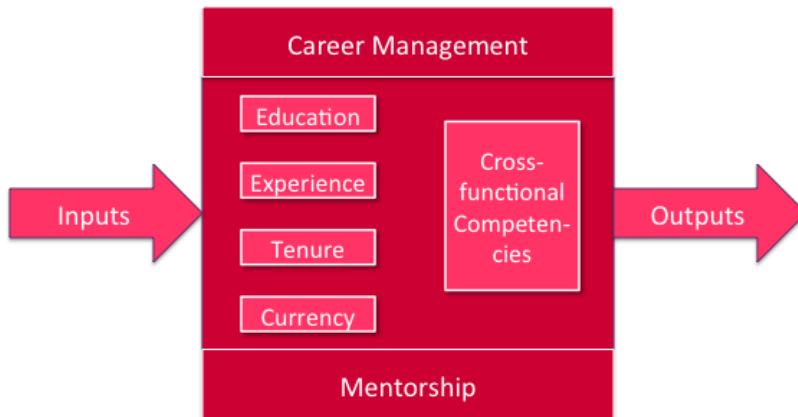


Figure 3: Final Proposed Top-level Architecture

SYSTEM INTEGRATION

As indicated in the discussion above, the Army already has a career development asset that matches each of the components required to build an effective IASE-CDS. These elements have been separately developed, however, and do not appear to be coordinated and integrated into a coherent whole -- a common situation, not only with career development processes but with business processes more generally, both in Government and in commercial enterprises. Turning these elements into a comprehensive system will not require the invention of new processes, but rather the refinement of existing processes and programs to assure consistency across them, their integration within a common framework, and active management to ensure that they produce the desired results.

CAREER DEVELOPMENT CONTEXT

As important as a well designed SE Career Development System is, equally so is the context in which that system operates. An appropriate context will have to be created and sustained if the improved system is to be effective. There are several enabling factors that can help propel system adoption and help to sustain its momentum, and several inhibitors that must be countered to ensure they do not act as a drag.

ENABLERS

For the proposed IASE CDS to perform effectively, it is not enough that it be a good system. That system must also be part of a widespread continually reinforced conversation about the importance of improving the skills and competencies of the civilian workforce. The following are examples of enablers that can be leveraged to provide additional thrust to people the system:

- The OUSD(AT&L) memorandum of 8 Nov 2013 can itself be used to anchor the improved system and provide a sense of urgency. The memo defines DoD Key Leadership Positions

(KLPs) and establishes clear requirements for qualified candidates. It further calls for the creation of Joint KLP Qualification Boards to identify qualified KLP candidates.

- The uniformed Army’s culture has always emphasized the importance of career development. For example, Army doctrine requires that leaders “accomplish the mission, develop individuals, improve the organization,”⁷ and the Army Capstone Concept calls for “modifying personnel management policies” to “maximize individual potential.”⁸ This culture does not appear to be as well deployed within the civilian workforce, however.
- Human capital development is a major DoD research thrust and can be expected to produce results supportive of both the KLP requirements and the importance of having qualified individuals in KLP positions. For example, the SERC Systems Engineering Transformation Project identified the need for new SE approaches to address the challenges posed by the continued growth and complexity of today’s systems.⁹
- The Army’s civilian workforce is highly committed and energized. In the most recent attitude survey, for example, 90% of respondents said the work they do is important and 86% said they like the kind of work they do.¹⁰
- Many career planning and development assets already exist and can be utilized to develop the IASE CDS.

Recommended Action: Design, deploy and sustain a broad conversation about the importance of developing the Engineering Acquisition Career Field Engineers and the steps being taken to do so. Elements of this conversation might include, but not be limited to: widely publicizing the Qualification Boards as they are stood up, explaining their importance and purpose; linking the increased focus on civilian workforce development to the importance of career development within the uniformed Army; linking improvements in the ASE CDS to emerging research results that stress the need for changes in DoD acquisition processes that will be required to develop the complex systems and systems of systems required to meet twenty-first century challenges; positioning the conversation about improvements in the career development system within broader workforce conversations about enthusiasm and commitment.

INHIBITORS

The context within which an IASE CDS will operate also contains inhibitors, factors that unless countered, are likely to act as a drag on efforts to develop and deploy an improved system. Two, in particular, are worth noting:

- Many of the existing system elements were developed independently and are separately administered. While not in opposition, they undoubtedly use different terminology and

⁷ Army Doctrine Publication (ADP) 6-22 Army Leadership, 1 August 2012.

⁸ The U.S. Army Capstone Concept, 19 December 2012.

⁹ Report No. SERC-2010-TR-006, March 31, 2010.

¹⁰ FY 13 Army Civilian Attitude Survey.

their objectives do not share a common frame of reference. They must be aligned and made consistent if they are to produce the synergies required for effective career development.

Recommended Action: Identify and eliminate inconsistencies in existing career development assets and develop a coordinated approach to administer them so that they work together to produce the desired results.

- Organizations always resist enterprise level change. This may be exacerbated in this case because the objectives of the IASE CDS are not new and many of the tools that will be utilized have been around for quite some time, which can produce cynicism within the targeted population.

Recommended Action: Successful change will require ongoing leadership engagement. Senior leaders must make the career development of all their subordinates a priority and ensure that they are aware of that commitment and that leaders at all levels are held accountable for results.