Business Process Reengineering (BPR)

Center of Excellence (CoE)

Army Shared Services Center

BPR Playbook

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Introduction

The United States Army is often confronted with fiscal pressures while continuously ensuring readiness to accomplish current and future missions. Readiness at best value requires exceptional teamwork, creativity, and a focus on innovation, particularly in the Army's Business Mission Area where processes, and their supporting IT, must be optimized. One avenue for overcoming constraints while still delivering needed capability is through the reengineering of business processes. This enables the transformation of processes, better technology utilization, and significant cost savings while preserving optimum operational performance.

Business Process Reengineering (BPR) is defined in Army Regulation 5-1, Management of Army Business Operations, as a "logical methodology for assessing process weaknesses, identifying capability gaps, and implementing innovation and optimization opportunities to achieve breakthrough improvements in operational performance." In order to optimize cost savings and to improve the Army's ability to deliver readiness at best value with the highest possible product and service quality, the BPR Center of Excellence (CoE) developed the standard Army Approach for conducting BPR. While the principles of this approach are taught in the BPR Training Curriculum, the Army Certified BPR Professional may benefit from supplementary information to guide them as they lead BPR efforts. The Army Playbook for Executing BPR takes core BPR practices, tools, and techniques and outlines these in a how-to guide for the Certified BPR Professional to reach back to for reference beyond classroom training.

The Playbook follows along the Army Standard Approach for BPR, highlighting key actions that must take place and best practices for conducting those actions, regardless of the scope or objectives of the BPR effort. The Playbook also provides tools and templates to be used to conduct these actions, and advises the BPR Professional on the optimal tool to leverage depending on the type of effort being performed. The Playbook is not intended to be overly prescriptive or to encompass all possible scenarios, but rather to guide the BPR Professional on conducting the tasks necessary to achieve successful outcomes in any BPR, regardless of size or scope.

Additionally, a Desktop Cheat Sheet and links to the various tools, techniques, and templates referenced throughout each phase are available on the BPR CoE milSuite site: https://www.milsuite.mil/book/groups/bpr-coe

Chapter 1: **BPR Overview**

1.1 **WHAT MAKES A GOOD BPR**

The Army BPR Approach is designed to ensure that each BPR conducted, regardless of size and scope, is conducted with standard principles and objectives, and a common toolset from which to apply these principles. By leveraging this approach, the BPR Professional is already on the path to conducting a quality reengineering effort. Nevertheless, a good BPR is not only performed well in practice, but results in cost, quality and operational benefits. Beyond just leveraging the Army Standard BPR Approach, a good BPR will result in the following:

- To-Be processes that are aligned to strategic guidance and, where practical, were reengineered to adopt commercial best practices
- Improvements resulting from the reengineered processes can be measured over time by way of measures of effectiveness (MOE) and measures of performance (MOP)
- Reengineered processes that leverage or align to the Army Enterprise Resource Planning (ERPs) and the ERP infrastructure where practical
- Process that can be easily discovered, understood, and performed by the employee(s), and are documented and available to the Army Enterprise; and
- A mechanism in place to continuously monitor and assess opportunities for future reengineering and continuous process improvement

1.2 WHAT ARE THE TRIGGERS FOR A BPR

Most BPR efforts will be conducted to ensure business processes match best commercial practices in an effort to minimize customization of commercial business systems in an acquisition and capability support, as required by Title X Section 2222 and the DoDI 5000.75, but there are a number of events that may also trigger the need or opportunity to reengineer business processes.

- There is a capability need or gap that cannot be satisfied with current business processes and enabling technology
- Changes to enabling technology cannot or should not be made in order to meet user or operational needs, and business processes must be changed instead
- Operational performance has not been meeting standards or objectives with current state processes
- New requirements or mission changes necessitate a change in business processes
- A change in process performers, enabling technology, guiding policy, or interacting data requires a change to the way a process in performed
- Funding cuts or changing priorities mean finding a way to sustain operational performance without sacrificing quality
- Strategic changes are coming and you must prepare the workforce to adopt these changes

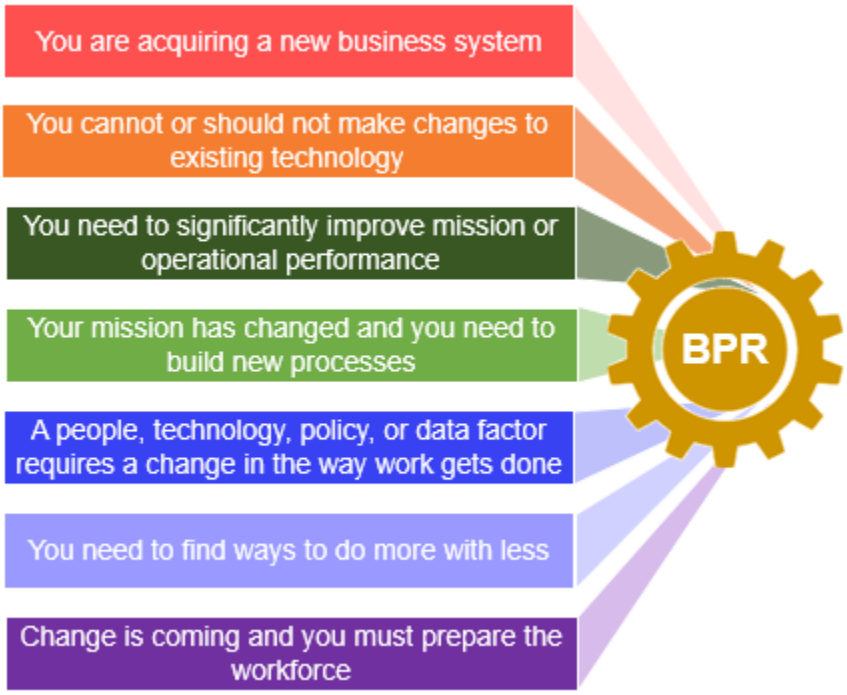
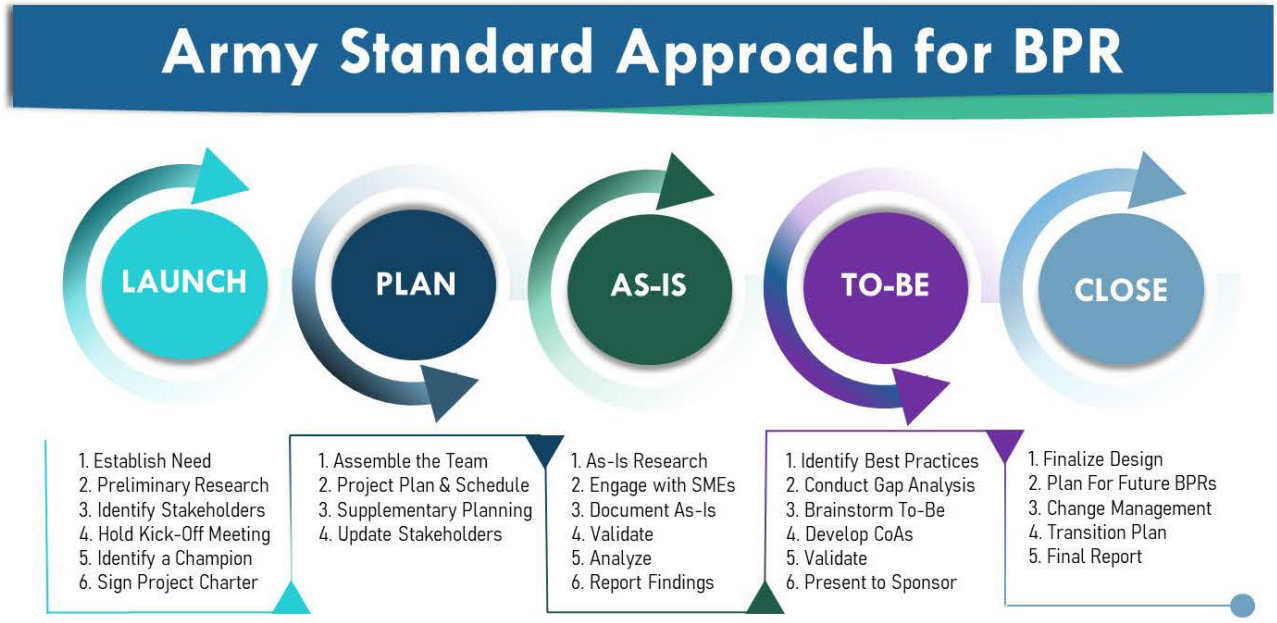


Figure 1. Triggers for BPR

1.3 OVERVIEW OF THE ARMY STANDARD APPROACH FOR BPR

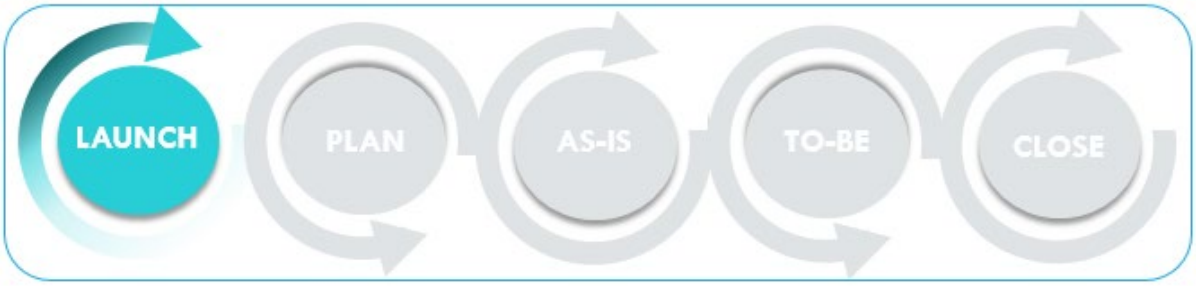
The Army Standard Approach for BPR provides the BPR Professional with an overarching framework consisting of five phases: Launch, Plan, Discover & Analyze the As-Is, Design the To-Be, and Close. Within each of these phases, there are several significant actions that should be taken in order to consistently achieve a successful BPR, regardless of scope or size of the effort. These actions ensure:

- Leadership and stakeholder involvement;
- Foster buy-in for the BPR project and resulting process changes;
- Best practices are assessed and leveraged as part of the process design; and
- BPR sufficiency and quality is achieved and documented in order to comply with policy and regulatory requirements



Throughout the Playbook, details are provided to guide the BPR Professional on how to conduct the significant actions within each phase of this approach, along with the potential tools and techniques that may be useful as the BPR Professional and their team progress through the Approach.

Chapter 2: **Launch Phase**



2.1 ESTABLISH THE NEED FOR BPR

Any BPR effort must first begin by identifying the need for reengineering. For BPRs conducted as part of the Business Solutions Analysis Phase of the Business Capability Acquisition Cycle (BCAC), the BPR need was established during the previous phase, Capability Need Identification. During BPRs conducted as part of capability support or as part of general continuous process improvement, the need of trigger for the BPR may vary. It is important that the BPR Professional discuss the need for BPR upfront with the Project Sponsor. The Project Sponsor is the senior leader to whom the BPR Professional or BPR Team is accountable to delivering a reengineered process and often oversees the BPR to ensure successful outcomes that meet larger strategic objectives. Whether it is a capability gap, need for operational improvement, reorganization, or another trigger, discussing this need and overarching expectations of the effort upfront with the Project Sponsor will ensure that all parties are working toward the same goal. This is also the first step toward establishing buy-in for the BPR. The Project Sponsor must be engaged in the beginning to determine the need for process changes and support the BPR Professional in setting the project up for success and removing any potential roadblocks ahead.

2.2 CONDUCT PRELIMINARY RESEARCH

After meeting with the Sponsor and agreeing on the need for the effort, the BPR Professional must now do preliminary research in order to have an understanding of the capability gap or other circumstances triggering the need for BPR. This preliminary research will lay the groundwork for the more extensive information gathering that is performed in the Discover & Analyze the As-Is Phase.

This research should include identifying any overarching laws, regulations, and policies (LRPs) that pertain to the need and whether these enable or constrain the current process. The BPR Professional will also identify which Business Mission Area (BMA) Domain the capability falls

within and associated End-to-End (E2E) business processes, as well as any current linkages to the Army Enterprise Resource Planning (ERP) capabilities or other enabling technology. This information is critical in order to determine the scope of the BPR and what activities, organizations, roles, and technology may be impacted as you move forward through the Approach.

Please note, if the BPR is being conducted as part of the BCAC, this preliminary research would be conducted as during Phase 1, Capability Need Identification, and may be revisited during the BPR conducted in Phase 2.

2.3 IDENTIFY KEY STAKEHOLDERS

Once the BPR Professional understands the various process, roles, and organizations impacted by the BPR effort, they can begin identifying stakeholders. Stakeholders are those, both internal and external, that are currently involved in the process or will be impacted by any process changes, or that have an operational or strategic interest in participating in the effort. The BPR Professional will work with organization leadership, generally with the support of the Project Sponsor, to begin identifying stakeholders and specific individuals that will be supporting the BPR. These stakeholders should include subject matter experts (SMEs) that can assist with defining the current environment and validating any proposed reengineered business processes.

2.4 HOLD THE KICKOFF MEETING

Now that the need for the BPR has been solidified, initial scoping is underway, and the key stakeholders identified, the BPR Professional can hold a kickoff meeting for the effort. This meeting is critically important as it allows a collaborative approach to lay the groundwork for the BPR project. Schedule time for a working session with Sponsor and key stakeholders; this is not something that can be performed over email. There are several objectives of the kickoff and outcomes will help guide the BPR effort throughout its lifecycle. The objectives of the kick off are:

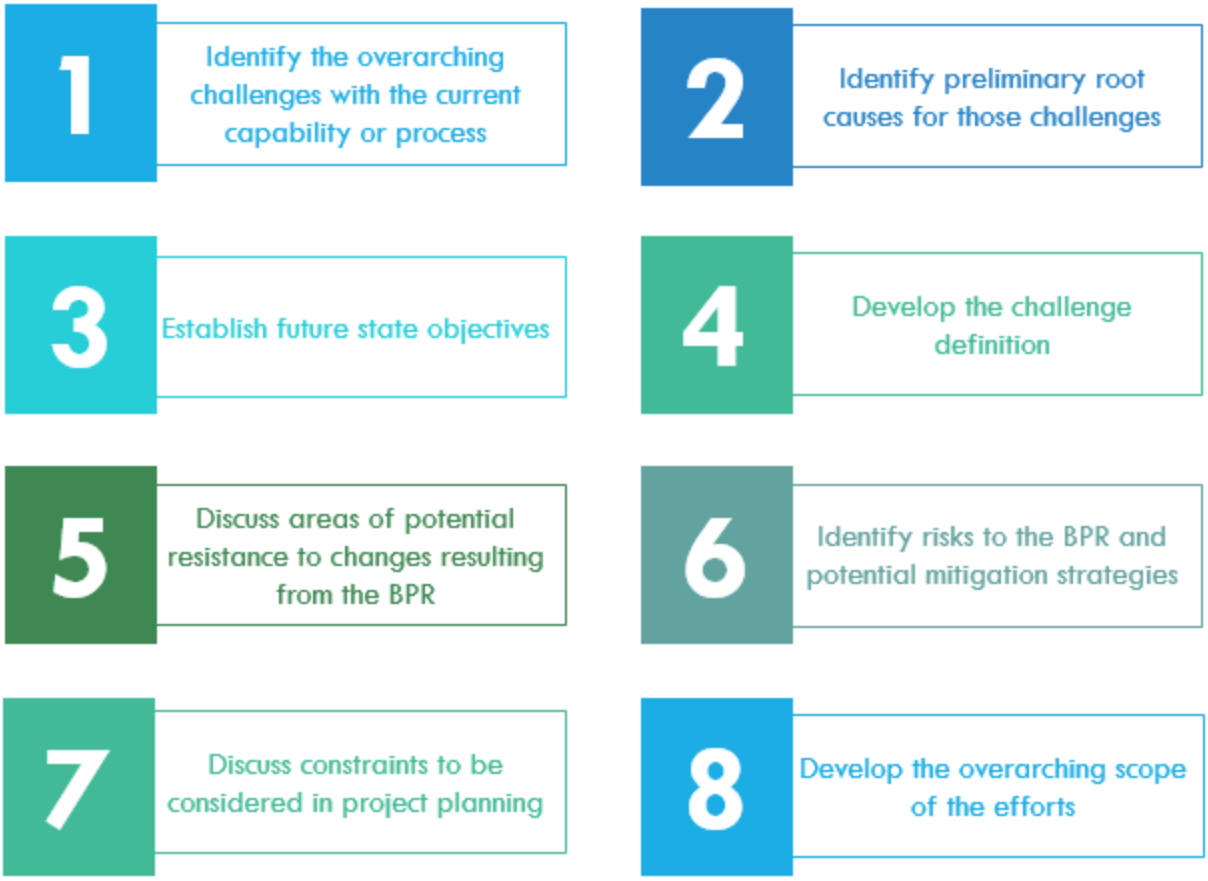


Figure 3. Objectives of the BPR Kickoff

Many challenges will be identified during the kickoff, including the overarching challenge to be addressed during the BPR, areas of resistance, and project risks. While many of these can be mitigated with a solid project plan, some can be mitigated through the engagement of a good Project Champion. A Project Champion is typically someone with authority and influence; a charismatic leader that has the ability to clearly articulate the need for process changes and the benefits that those changes will yield. The role of the Project Champion is to break down barriers to the effort, get stakeholders excited and engaged, and help drive forward any changes that result from the effort. While the BPR Project Sponsor can certainly fulfill the role of Project Champion, as well, as long as that Sponsor is able to keep actively engaged in the effort and is committed to rallying stakeholder participation and working actively with the BPR team.

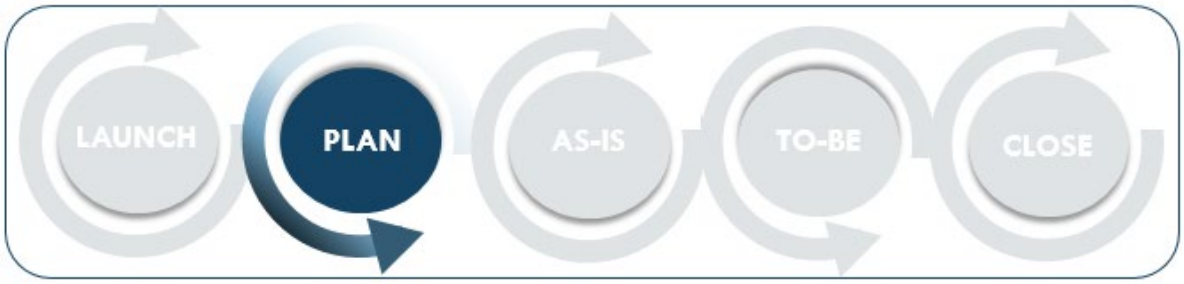
2.6 SIGN THE PROJECT CHARTER

All of the information gathered during the initial meeting with the Project Sponsor, preliminary research, and outcomes of the kickoff meeting can now be used to develop the Project Charter. The Project Charter will serve as the single, succinct, accessible source that describes all pertinent information regarding the scope, objectives, and other relevant characteristics of the BPR. The level of detail contained in the Project Charter may vary based on the scope of the BPR effort, but should always strive to be as concise as possible to ensure a common understanding across all

stakeholders. The BPR Professional will document all of this information and review it with the Sponsor. Upon concurrence, the Project Sponsor will sign the Charter and the BPR can begin.

Figure 4. BPR Charter Elements

Chapter 3: **Plan Phase**



The Plan phase shapes the project management efforts to ensure a successful outcome from the BPR effort. This includes developing a schedule, forming the BPR project team, identifying and preparing to manage risk, and applying other key project management principles. This phase helps the BPR Professional and his or her team to plan the project work set forth in the Project Charter, ultimately setting the stage for effective and efficient execution. The duration and outputs of this phase vary depending on the complexity of the project. BPR projects with a larger scope may require extensive project planning in order to adequately capture all tasks and milestones, project risks, communication needs, and deliverables, whereas smaller efforts may require minimal preparation. As with all phases of the Army Standard Approach to BPR, the Plan phase may prove to be iterative.

3.1 ASSEMBLE A PROJECT TEAM

The first step to begin planning for the BPR effort is to assemble the project team. Like any project team, the BPR team should be carefully chosen to create a synergistic, high performance environment. Using the information discovered in the Launch Phase, the BPR Professional should now know the expected level of effort for the project and the expertise needed to staff the team, While subject matter expertise, especially in BPR, is important, soft skills, adaptability, and personality have a major impact on the success of the project. A list of some of the soft skills beneficial to a BPR team are listed in the figure below.

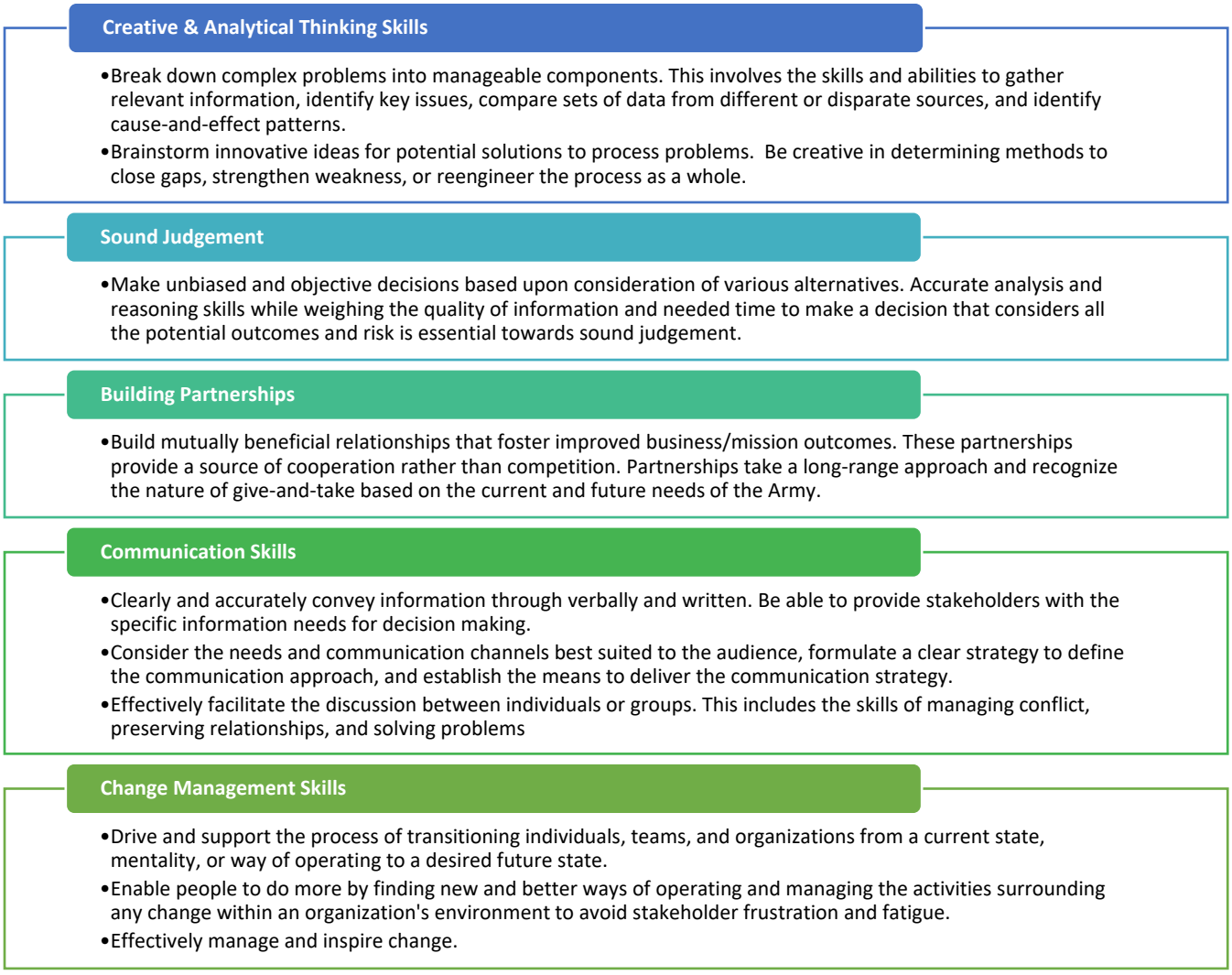


Figure 5. Critical Soft Skills for the BPR Team Member

Well-designed project teams clearly assign roles and responsibilities to their members. Role clarity and KSAs enhance collaboration and maximizes the likelihood of matching the right team members to the right tasks. For a BPR effort, there are some roles and responsibilities that must always be represented within the team at a minimum, specifically a Project Manager and Subject Matter Experts. For larger efforts, the BPR team roles may be expanded to include technical experts like Solutions Architects that understand the technical capability that enables the business process, or Business Analysts that can bridge the gap between user needs and existing capability. Below is a list of the most common roles on any BPR team.

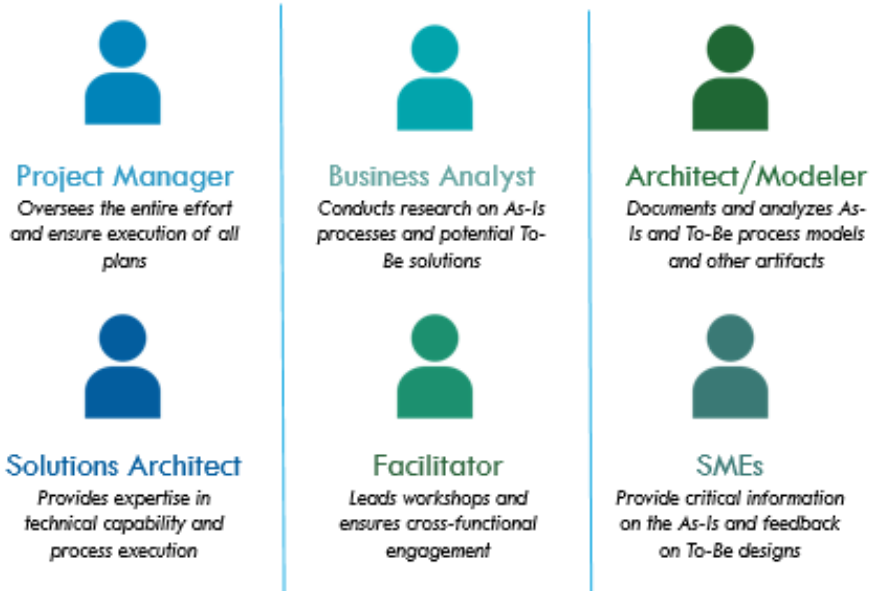


Figure 6. Typical BPR Project Team

3.2 DEVELOP A PROJECT PLAN AND SCHEDULE

Effective project scheduling plays a crucial role in ensuring the success of any project, including a BPR. Well-designed schedules enable projects to stay on track, increase quality, and decrease errors and oversights. During the Launch Phase, the scope of the BPR effort was determined and approved by the Project Sponsor and now can be used to begin building out the project plan and schedule. All BPR projects plans will use the Army Standard Approach to BPR as its basis and can build tasks and sub-tasks within it. Smaller BPR efforts may leverage each phase of the approach as its project milestones, while larger efforts will treat each phase in broader terms, with many milestones in between.

Once established, the schedule should be carefully monitored and revised if necessary. This is particularly true in BPR efforts as a significant portion of any effort is information discovery. While some preliminary research is performed in the Launch Phase, the depth and breadth of information discovered during the As-Is Phase may steer the BPR in new, unforeseen directions. In fact, it may change the Challenge Definition altogether. The BPR Professional must be prepared to change course and re-baseline the project plan and schedule as the underlying causes for challenges are revealed.

3.3 DEVELOP SUPPLEMENTARY PLANS

BPR Project Planning activities may vary depending on the needs of the effort. Longer term or Enterprise BPRs may require additional planning, beyond what may be necessary for a small-scale or local BPR. This is particular true for a BPR conducted as part of the BCAC. The BPR Professional will develop more thorough plans for managing the cost of the effort, managing risks to both the project and to implementation, and organizational change management. Many of these plans will either be part of or tie into overarching plans for the acquisition and as such, must be developed and monitored accordingly. The list below outlines some examples of potential supplementary project management plans. Templates may be found at the BPR CoE milSuite site.

Supplementary Project Management Plans	
Cost Management Plan	Identifies costs of activities and tasks within the project plan, including both fixed and variable costs and enables continuous monitoring and control of project costs.
Communications Plan	Defines the communications requirements for the project and dictates how information will be provided to stakeholders.
Organizational Change Management Plan	Used to systematically plan for and introduce change to the workforce, including new methods, processes, or approaches to doing business.
Risk Management Plan	Identifies and enables monitoring of risks associated with the project. The risk register aids the team in understanding all of the risks, their likelihood, and potential impact. Risk Responses provide a means to capture potential mitigation or avoidance opportunities and allow the team to track which actions will take place surrounding each risk.
Staff Development Plan	Describes how skills and experience of the project team will be developed to enable task execution and ensure continued growth.
Stakeholder Management Plan	Defines the approach and tasks that will be leveraged to ensure support and participation from key stakeholders and SMEs.

Table 1. Examples of Supplementary Project Management Plans

3.4 UPDATE STAKEHOLDERS

The BPR Team is now assembled and has developed the project schedule and necessary plans to guide the effort as it progresses through the Army Standard Approach. It is now time to engage, if not re-engage with the key stakeholders. Many stakeholders were identified during the Launch Phase of the effort and were included in the kickoff. The BPR Professional must now update those stakeholders with the high-level details of the project plan and schedule to set their expectations. It is also the time to begin engaging with stakeholders that had not been previously identified or were only identified by role and not individual. Updating and engaging with these stakeholders is crucial prior to entering into the As-Is Phase to ensure maximum participation.

Chapter 4: **Discover and Analyze As-Is**

The Discover and Analyze the As-Is phase focuses on understanding the current state of the business process, including the key roles, tasks, activities, supporting technologies, data, policies, and challenges. This phase focuses on three primary objectives: information discovery, documentation, and analysis of the current state process. The BPR Professional will use a variety of resources to discover information about the current environment, including working directly with subject matter experts and stakeholders. As information is gathered, it must also be documented in standard language and used to asses, monitor and control the process(es) as it moves through the remaining phases of the approach. Once the process is documented, it can then be analyzed through different viewpoints called the Five Lenses of BPR. This analysis will lay the groundwork for the BPR Professional to begin developing designs for the reengineered process in the To-Be Phase.

4.1 CONDUCT AS-IS RESEARCH

The BPR Professional and team has completed necessary project planning and is now ready to put the plan into action in the As-Is Phase. The BPR Professional will begin this phase by researching the current state environment. During the Launch Phase, the BPR Professional conducted preliminary research in order to better understand the need for BPR and the overarching challenges associated with the process. The BPR Professional will now perform more in-depth information discovery, researching the current state process from many aspects, including finding existing process documentation, conducting more extensive research on enabling or constraining LRPs, and gaining general knowledge about the capability the process supports.

Which sources the BPR Professional uses to inform the As-Is will vary from BPR to BPR, but some should consistently be used for certain efforts. Specifically, a BPR being conducted as part of BCAC should always include the Army Enterprise Knowledge Repository (EKR) in its information discovery. The EKR is an integrated set of tools that provides modeling, knowledge management, analytics, and decision support capabilities to support architecture development, portfolio management, and business transformation across the Business Mission Area (BMA). By leveraging the EKR, the BPR Professional will have access to existing As-Is process models, insight into business initiatives across the Enterprise, existing measures associated with the process or capability, and active roles supporting or surrounding the As-Is.

The BPR Professional will also seek other source to discover information about the current state process. This research can be performed using both Army enterprise resources like Army Publishing Directorate, or through local sources like shared drives and document management tools. Below is a list of possible sources for information discovery.

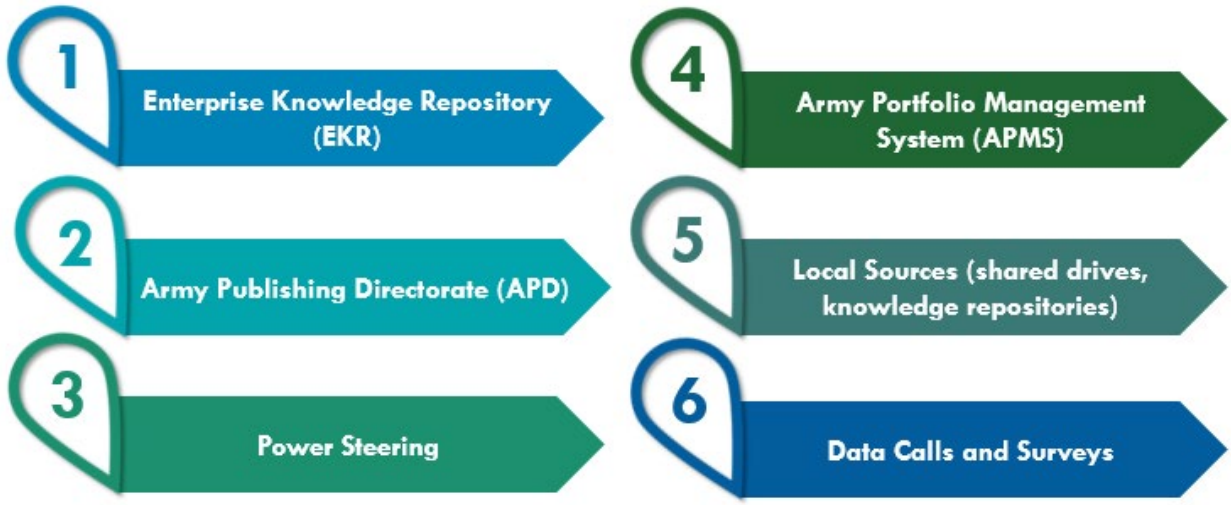


Figure 7. As-Is Discovery Methods

This research will not only form the basis of the analysis and enable reengineering, but will also prepare the BPR Professional to engage with stakeholders and SMEs as information discovery continues. The BPR Professional may not always enter into a project with any subject matter expertise themselves; this research will provide sufficient context and background so that the BPR Professional will understand the basics of the process. The SMEs and stakeholders will help fill in information gaps.

4.2 ENGAGE WITH SUBJECT MATTER EXPERTS (SMES)

Another crucial part of information discovery is engaging with Subject Matter Experts (SMEs) and key stakeholders. SMEs have a wealth of information to share about current state processes, both in terms of how the process is executed, but also (and perhaps more importantly) what challenges exist with the process. SME engagement will ensure that the BPR Professional understands how the process is intended to be executed and how it is executed in actuality.

SME engagement can take a variety of forms, including one-on-one interviews and surveys, particularly for smaller efforts. But the most fruitful means to engage SMEs and stakeholders is through workshops. Workshops are when SMEs from all aspects of the process, internal and external, gather together to discuss the process and its challenges. Workshops are ideal opportunities to gain information about the As-Is because it enables real-time communication between SMEs, stakeholders, and leadership directly involved in the process. Process performers can discuss the activities and tasks they perform and how these may differ from performer to performer. They can also share and perhaps even resolve current gaps in information or capability. The SME workshop will assist the BPR team in validating their understanding of the current process or capability based on previous research and initial root cause analysis. The SMEs can also validate any existing As-Is documentation that has been done by the BPR team.

The most important factor for the SME workshop is that all areas of subject matter expertise are represented in the workshop and that SMEs are fully engaged in information sharing. This requires skilled facilitation on the part of the BPR team. A good facilitator will consistently take actions that ensure that SMEs understand the purpose of the workshop, are actively engaged in communication,

and asks the right questions that lead to a better understanding of the As-Is environment. The facilitator can follow these common steps to ensure a successful SME workshop:

- Plan the workshop far enough in advance to ensure maximum participation using the stakeholder list developed during the Plan phase. Include an agenda with objectives and plan for adequate time meet all objectives.
- The facilitator must take ownership of the workshop and ensure that all objectives are met. The facilitator may or may not have any subject matter expertise in the process itself, but must show expertise in meeting facilitation and management of the tasks at hand.
- All workshops should begin with ground rules that participants develop and agree to. Examples of ground rules may be comments are non-attribution, off-topic items are added to a parking lot, or attack the problem, not the person.
- Listen to SME as they discuss the current environment. A facilitator only speaks to ensure the conversation continue to be productive. Even discussions that may not seem relevant to the topic at hand may be useful for understanding the As-Is at a later time.
- Maintain a positive attitude. Workshops can be lengthy and discussion can be heated. Participants are looking to the facilitator to set the tone and a positive facilitator will encourage the group to remain positive, as well.
- Facilitators should engage participants by asking the right questions and knowing when to ask them. Being an inquisitive facilitator will focus participants on the right topics and elicit valuable information to understand the As-Is.
- Always close the loop on topics or conversations. Ensure that parking lot items are addressed before the workshop closes out, outstanding questions are answered (either immediately or in the future) and objectives for the workshop are met.

4.3 DOCUMENT AS-IS PROCESSES

By now, the BPR team should have all information necessary to begin documenting the As-Is process. Documentation requirements will vary based on the BPR. For example, a BPR conducted as part of BCAC will require specific DoD Architectural Framework (DoDAF) capability and operational diagrams, including a High Level Capability Process Map Diagram (OV-5b) and Future State Process Models (OV-6a), and updates to artifacts produced during Capability Needs Identification. These specific architectural requirements can be found in the Army Implementation Guidance for the DoDI 5000.75. More information on DoDAF can be found on the DOD's Chief Information Officer's website.

In general, all BPRs, regardless of scope or size, should include some documentation of the As-Is state, whether this is in narrative form or architectural models. The purpose of documenting the As-Is is to validate the BPR team's understanding of the process, have a basis to analyze, and to have something from which to compare the To-Be design in the next phase. More often than not, process documentation will be in the form of a process model, with supplementary materials to articulate the As-Is where appropriate. Process models must be developed in Business Process Model and Notation (BPMN) – a standard set of specifications for process modeling used by the Army. By modeling the process, the team is able to see a visual representation of the process and come to an agreement that it is an accurate depiction and captures all of the relevant activities and tasks of the process. This model can be used to conduct analysis later in this phase. For more information on BPMN, visit bpmn.org.

4.4 VALIDATE THE AS-IS

Once the current state process has been documented, the BPR Professional must now ensure that it accurately portrays the As-Is state. As the BPR team gathers information from different sources, it may change the make-up of the As-Is from their perspective. It is crucial that the BPR team validate their understanding with the SMEs and key stakeholders to ensure that the As-Is, as documented, truly represents how the process is executed. The BPR Professional may find it helpful to document the As-Is in real-time during a SME workshop. This enables the BPR Professional to iteratively discover information, document, and validate while the experts are all available at once and will save time and limit any back-and-forth validation.

Once the As-Is has been validated, the BPR Professional or the team's Enterprise Architect will document the As-Is in EKR, per Army Implementation Guidance of DoDI 5000.75 for BPRs conducted as part of BCAC. All other BPRs should add new or update existing architectures in EKR.

4.5 CONDUCT ANALYSIS

Information discovery is complete and the As-Is process has been documented. Now, the BPR Professional can begin to analyze the process to determine what gaps, weaknesses, bottlenecks, redundancies, and other opportunities exist for potential reengineering. Analysis of the business process goes beyond just identifying challenges related to process tasks and activities. It is important that the BPR Professional examine the process from many perspectives to gain a holistic view of the process environment and determine the true challenges. As-Is analysis begins with examining the process through the Five Lenses of BPR: People, Process, Technology, Policy, and Information.

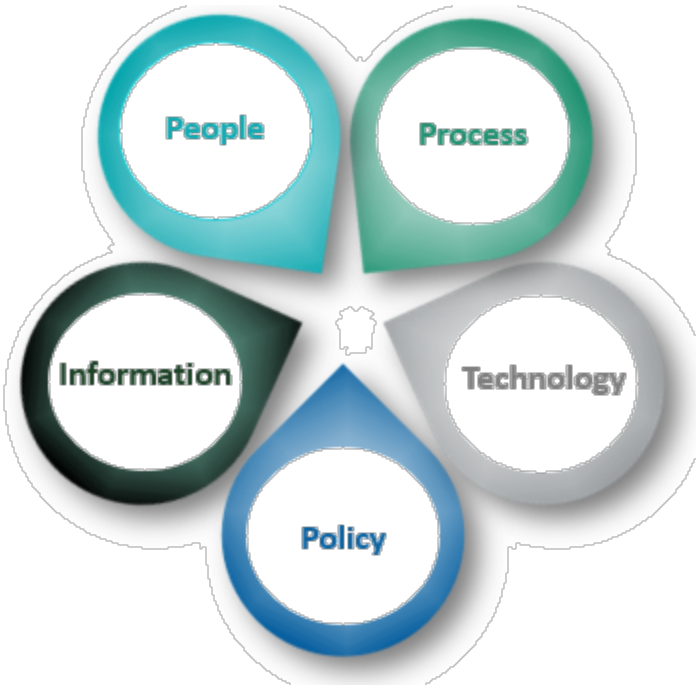


Figure 9. Five Lenses of BPR

4.5.1 People

People, the organization, and the design of how people interact enable the execution of a process. People are the performers and stakeholders of processes and must understand the crucial role they play in successful operations. Often, process performers are unaware of the big picture and the impacts their actions have on the overall workflow. It is also common that processes are designed without regard to accountability, creating a lack of oversight and no guarantee or assurance tasks and activities have been performed as intended. There is often a gap between intended actions and outcomes and how this is executed for a variety of reasons, including training, communication, and organizational siloes. Examining the process from the People Lens will help uncover much of this information and inform the BPR Professional on weakness that are both internal and external to the process itself. The following is a list of some of the key items to consider when looking through the People Lens:

- Are the right people involved in the process?
- Do people have the right skills and training?
- Do people understand their role in the process?
- Who is formally held accountable for the process?
- What change resistance is present in the current process?
- Who are the 'early adopters'?
- What are the cultural norms?

4.5.2 Process

The Process Lens focuses primarily on examining the activities, tasks, swimlanes, and information exchanges that occur during the process. Typically when examining the As-Is through the Process Lens, the BPR Professional is examining the process models developed during process documentation. The process models offers a visualization of the process and flow of work that enables the BPR Professional to quickly and easily identify process redundancy, duplication, hand-offs, gaps, cycle times, and other important factors related to the flow of work in the process. The BPR Professional can identify process challenges and key areas to target for reengineering. The following is a list of some of the key items to consider when analyzing through the Process Lens:

- Is the process standardized and consistently followed?
- Is the process documented? If so, where?
- Is the process manual or automated?
- What is the process trigger?
- What are the pain points, bottlenecks, gaps, and/or redundancies?
- Is this an enterprise or local process?
- How is the process monitored and controlled?

4.5.3 Technology

Technology is an enabler of Army business processes and should be examined as a contributing factor to process challenges and solutions – not the challenge itself. While it is important to consider how technology supports the business process in the current environment, and how it can best be leveraged in the To-Be design, it is not the panacea for Army business challenges. Rather than merely inserting newer technologies into existing processes, the Army must rethink the work and how it is best accomplished to ensure the maximum value of the newly reengineered process. The BPR Professional must be sure to examine technology as just one of many potential contributing factors to the business challenges experienced in the As-Is. The BPR Professional should analyze the process to understand how technology enables the flow of work, its effectiveness in doing so, and how it fits into the Army Business Enterprise Architecture (ABEA).Some key items to consider when analyzing a process through the Technology Lens are:

- What technology enables the process?
- Is the existing technology meeting process performer needs?
- Can this technology be replaced or changed to enable the process?
- What plans exist for enhancements, improvements, or other changes to the technology?
- Is there an end of life or sunset planned?
- Is there an existing enterprise technology that can enable this process? To what degree?
- Is there an external COTS product that can enable this process?

4.5.4 Policy

Policy and regulation are the primary means of governance across the Army, and governance is a crucial factor in enabling organizations to execute on their operational and strategic goals. Thus, it is important that the BPR Professional understand the governance structures in which the process resides. This includes an analysis of the laws, regulations, and policies (LRPs) as well as Army doctrine, executive and operational orders, and memorandums or understanding or agreement. Understanding which LRPs impact the policy will uncover pain points that may not be otherwise understood by examining the process alone. LRPs can constrain and place boundaries on how, when, and by whom processes are performed, but they can also enable processes and provide performers and organizations with the tools needed to execute. It is also important to note the policy can and does change. Understanding the contributing factors behind the development of a policy may aid the BPR Professional in understanding other pain points related to the process. The following lists some factors to consider when analyzing the process through the Policy Lens:

- Are there existing policies that guide the process?
- How do LRPs constrain the process?
- Are new policies or changes necessary to enable the process?
- What factors contributed to the development of the LRP?
- Where are policies posted? Are they accessible?
- How are LRPs and their changes communicated?

4.5.5 Information

As it relates to a business process, information is the representation of the inputs, outputs, and activities performed during the execution of the process. Information about the process may start as data (raw, factual, without context or meaning), become contextualized and meaningful, and evolve into knowledge, where that information is learned and understood by process performers and other stakeholders. The BPR Professional will use the Information Lens to analyze the business process and the data and information surrounding it. Examining the process through the Information Lens can uncover challenges that exist with data or information that is consumed during the process and the quality and confidence associated with that information. It will also aid in understanding the context and purpose of the activities performed in the process and how these fit into larger processes or Army strategy. Key items to consider when analyzing through the Information Lens are listed below:

- What information surrounds the process?
- What data is consumed and generated throughout the process?
- How is information used to inform decisions during or as a result of the process?
- Are there standards related to the information? Are they followed or enforced?
- Where is process data stored?
- How is information governed and managed?
- Does enabling technology meet all information storage, analysis, and presentation needs?
- Is there confidence in the quality of the data?

Once the process has been analyzed through the Five Lenses of BPR and pain points or challenges have been identified, the BPR team can now begin to conduct root cause analysis (RCA). The RCA is intended to identify the reasons or underlying causes for surface level or more obvious pain points. By analyzing down to the root causes of the challenges, the BPR team will have a clear understanding of what challenges must be overcome in the To-Be Design and are able to prioritize those challenges based on level of impact. The techniques used for RCA will vary depending on the scope of the BPR or the participation of the SMEs, but ultimately will always be done to the lowest level practical given the objectives and schedule constraints of the BPR.

A word of caution to the BPR Professional: As-Is discovery is crucial to understanding the process in its current state and avoiding any potential pitfalls of leaping immediately to a solution. However, the documentation and analysis of the As-Is should only be done to the degree necessary in order to validate the As-Is and understand the pain points. Once the BPR team and SMEs agree on the challenge and how the process is conducted today, there is no need for further analysis.

4.6 REPORT FINDINGS

After pain points and challenges have been identified and analyzed, the BPR Professional must now report these findings to the Sponsor and other key stakeholders that were perhaps not part of the analysis. This will keep stakeholders informed of progress made in the BPR and will prepare all parties to move into the To-Be Design Phase. It may even be evident at this time that based on analysis, the initial Challenge Definition no longer reflects the true challenge experienced in the current state process. During this time, the BPR Professional can communicate any potential scope changes, organizational impacts, or changes to the BPR objectives to the Sponsor and key stakeholders so that agreement can be reached on a path forward and any necessary changes to the Project Charter addressed.

Chapter 5: **Design To-Be Phase**

Once the As-Is process has been identified, documented, and analyzed, the BPR Professional is now equipped to move forward into the next phase, Design the To-Be. Understanding current state processes and all the challenges that exist is a fundamental part of the BPR Approach; however, upon reaching the Design the To-Be phase it is important to now suppress much of this knowledge. The BPR Professional should move into designing the To-Be process with fresh perspectives, unbeholden to the activities and ideas that defined the As-Is. Designing the To-Be requires limitless thinking, adaptability, and challenging the norms that have encumbered the current process. The To-Be design should leverage commercial best practices whenever practical and allow deviations from these only when absolutely necessary in order to enable the Army mission. This often means applying creativity in order to re-think how the Army currently conducts business operations.

5.1 IDENTIFY BEST PRACTICES

The core purpose for reengineering business processes in the Army is to ensure that commercial best practices are adopted to the maximum extent possible, to minimize customization of commercial business systems, both in acquisition and in capability support. Processes should be built upon proven methods used in industry, so that when an enabling technology is chosen and development begins, there is little to no need to customize that technology. This is true in technology sustainment, as well. Throughout the life of the technology, new requirements will be added in order to address user needs and operational changes. Before making changes to the technology in order to address these needs – changes that may increase the cost of sustaining the technology – changes to the business process should be considered first. Identifying best practices used in industry to support new requirements will ensure that the technology can continue to function as intended out-of-the-box.

Best practices can be identified through a variety of sources. Typically, the best place to start is through market research of vendors that manufacture technology that enable the capability need. Often, vendors will supply documentation of business processes and workflows used by the business system. These can serve as a blueprint for building similar business processes here in the Army. Industry best practices can also be identified through quality and standards-setting organizations. Resources like the International Organization for Standardization (ISO), National Institute for Standards and Technology (NIST), American Productivity & Quality Center (APQC), and countless others can provide a wealth of information on how processes should be performed and expectations of performance in terms of quality. These standards can be applied when designing new processes or reengineering existing processes in order to function in a manner that will enable the adoption of commercial technology.

Best practices need not only come from industry. For smaller local processes, organizations should leverage existing Army processes and their enabling technologies. In these cases, the BPR Professional should look to EKR to discover processes and enabling technologies already used within the Army portfolio. Best practices used by other Services within DoD can and should be leveraged where practical, as well.

It is also important for the BPR Professional to look to the existing Army ERPs to fulfill the capability need, and where it cannot, to align any new or reengineered processes to those existing ERPs and their infrastructure. The To-Be design should not duplicate any capability that can already be fulfilled by an Army ERP.

5.2 CONDUCT GAP ANALYSIS

Once industry best practices have been discovered, the BPR Professional must now assess the feasibility of applying these best practices to the Army environment. There may be only a small variation between the As-Is process and the best practice used in industry, or there may significant differences. A gap analysis must be performed to determine the variance between the As-Is and the best practice.

Using the As-Is process maps and the 5 Lenses as an analysis tool, compare the current state processes to the industry best practices and/or standards. Note the differences between not just the activities and tasks in the process, but by whom the process is performed, where the process is executed, and what data feeds into and out of the process. Many of the same questions used to analyze the As-Is process can also be used to identify the key differences between the current state and the "should-be" state of the best practice. Where possible, use the Five Lenses as a starting point for measuring key differences. Some opportunities for measurement include:

- The number of process steps
- The number of roles and role types performing the process
- Time to execute process steps
- Process length, in time, from start to finish
- Number of hand-offs
- Number of cross-functional areas or activities

The gap analysis also enables the BPR Professional to discover key differences in terms of operational requirements. The unique operational requirements of the Army may differ

significantly from its industry counterparts. The gap analysis will reveal where these differences lay and will serve as the baseline to establishing feasibility of applying these best practices to Army business processes.

5.3 BRAINSTORM THE TO-BE

Once industry best practices have been discovered and compared to current state processes, the BPR Professional will begin the act of reengineering the business process. BPR always seek to apply innovation and optimization in designing the To-Be process, and as such, the BPR team should apply limitless thinking to start the design process. The team should set aside adequate time to develop, test, and refine a variety of potential new business process designs. The more complex the business process, level of dependent processes, and amount of stakeholders, the more time needed for the business process design.

Designing the To-Be typically begins with brainstorming and idea workshops. The BPR team, including any SMEs and other stakeholders, gather together to develop innovative ideas for process changes. The team should first begin with the industry best practices and brainstorm to how these can be applied in the Army environment. Though this may seem simple, applying industry workflows and practices may be challenging given the unique nature of the Army environment. Identifying similar roles, organizations, and functions can be challenging. Often, the BPR team must brainstorm ideas to break through the siloes and norms that have long been in place. The team may also find that some requirements are so unique to the Army they may not be met by assuming industry best practices without significant changes to current operations, if at all. This is where true innovation must be applied.

The BPR team must use creative approaches to determine how to apply industry best practices to typically military operations. At this point in the To-Be Design, the BPR team may need to expand its group of SMEs to ensure the right people with historical information and tacit knowledge are included that can speak to the cultural norms, policies, and nuances that drive the unique requirement and provides ideas on how to overcome this without deviating from the best practice. As new ideas emerge, the BPR team should continuously present or otherwise communicate these ideas to key stakeholders to ensure buy-in along the way.

As the To-Be Designs are developed, the BPR Professional will continue to lead the analysis of these using the Five Lenses, as well as to conduct viability assessments to determine whether these designs can be feasibly implemented. The Five Lenses will focus more on tactical feasibility, whereas viability assessments will be focused more strategically (i.e. Does the design align to Army and DoD strategy? Will the design be met with resistance from leadership or process performers?). There are many tools and techniques that can be used to determine viability of the design and which to use will depend on the nature of the design.

There may disagreements amongst the team as to whether the solution is practical. Instead of attempting to reach consensus on a single solution, the BPR team is best served to develop several Courses of Action.

5.4 DEVELOP COURSES OF ACTION

A single approach for the To-Be process is often not achieved at the end of the design session. More likely is that there are several designs with varying degree of viability, relevance, cost, and ease of implementation. Once these initial designs are vetted, the BPR Professional will lead the BPR team to develop distinct Courses of Action (COAs) for the Sponsor to choose. Beyond just stating the characteristics of each design, the COAs should also include:

- Identified risks with implementing the process design and any potential mitigation strategies
- Proposed costs for implementation and operation of the process
- A cost-benefit analysis to determine whether the associated costs provide benefit to the process, organization, or Army that outweigh that cost
- Identified schedule constraints that may prohibit implementation

This level of analysis is not needed for every design; only those designs that were deemed viable after the Five Lenses analysis and viability assessments. During the course of the COA development, this analysis may also be done at a somewhat high-level to distinguish between each design. However, once a COA is ultimately selected, more in-depth analysis to determine and justify costs and risks may need to be performed, particularly for those BPRs conducted as part of an acquisition.

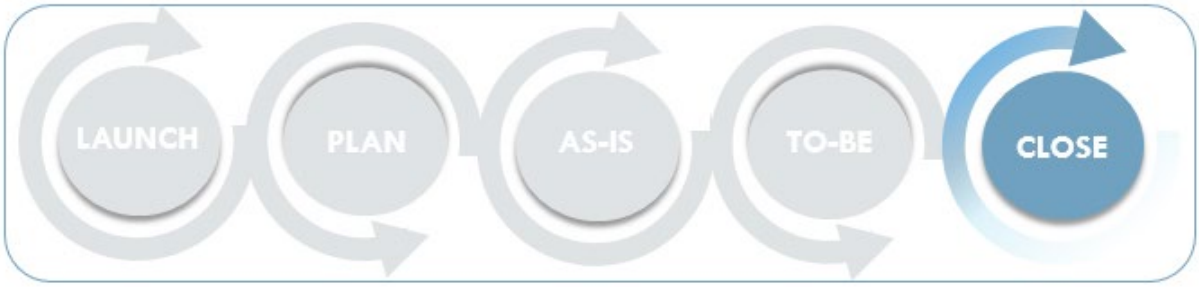
5.5 VALIDATE WITH STAKEHOLDERS

Along the way, the BPR Professional has engaged with key stakeholders to ensure maximum participation and buy-in to the reengineering effort. Because the design process is so often iterative and may require participation from multiple SMEs and stakeholders at varying degrees of involvement, it is easy to forget that some stakeholders may be unaware of, or even opposed to, potential To-Be designs. It is important that the BPR Professional first present the COAs to the key stakeholders and allow them the opportunity to provide feedback. This is a crucial step to ensuring that the COAs will be accepted and ultimately implemented. Any feedback from the stakeholders should be assessed and incorporated into the final designs for the COAs.

5.6 PRESENT TO THE SPONSOR FOR SELECTION

The COAs for the final To-Be process, along with their analysis, will now be presented to the Sponsor for consideration and selection. The Sponsor, as a senior leader, will use the analysis performed by the BPR team to make a determination of the best path forward. Once a COA is selected, the BPR Professional can move into the final phase.

Chapter 6: **Close Phase**



The objective of the Close Phase is to finalize the To-Be design and prepare the newly reengineered process for transition to implementation. The Close Phase marks the end of the BPR, but the beginning of the work to put the process changes into place and anchor these changes with key stakeholders and process performers. The plans and decisions made during the Close Phase will contribute to the success of implementation of process changes, so it is important that the BPR Professional consider implementation factors, including Organizational Change Management, when finalizing the design and developing close-out deliverables. This is also an opportunity for the BPR Professional to develop lessons learned that may help as he or she prepares to lead future BPRs.

6.1 FINALIZE THE TO-BE DESIGN

The Project Sponsor has selected a Course of Action and now the BPR Professional must put the final touches on the design and prepare it for transition to implementation. This means providing additional content to the design that outlines how the reengineered design will deliver on the future state objectives of the BPR: a) developing business and high-level functional requirements; b) developing metrics/key performance indicators (KPIs) to show achievement of future state objectives; and, c) developing other architectural artifacts.

6.1.1 Develop Business and High-Level Functional Requirements

The BPR team will begin developing business requirements to support the new process by identifying/confirming business needs, and determining solutions to findings. Solutions often include a technology development component (applications, software-systems, platforms, robotic process automation, etc.) but may also consist of process improvement, organizational change, strategic planning, and policy development or retirement. Business requirements describe the characteristics of a proposed system from the viewpoint of the system's end user. This might mean informing leadership of potential changes in organizational structure, the need to bring on or reduce certain roles, or maybe what users need to be able to do in the solution, like "first line supervisors can approve hiring selections." There are a number of methods that can help to translate the Voice of the Customer (VOC), and in our case the characteristics of the COA, into specific implementable business requirements, e.g. Quality Function Deployment (QFD), Kano, Critical to Customer/Critical to Quality (CTCs/CTQs), Theory of Inventive Problem Solving (TRIZ), Axiomatic Design, etc. High-level functional requirements are what leadership can understand and leverage in order to make changes to enable the solution. Functional requirements describe how the system must behave, examples including "it should store all closed invoices for 30 days" or "notifications will be pushed for late invoices" or "the system will be able to calculate locality pay."

6.1.2 Develop Measures of Performance (MOPs), Measures of Effectiveness (MOEs), and Key Performance Indicators (KPIs)

The BPR Professional, along with the process owner and sponsor, must identify metrics/KPIs that measure the success of the reengineered business process against intended outcome(s), and to monitor the performance of the business process in action. Metrics are the detailed measures that feed and augment the KPIs. KPIs reflect strategic value drivers while metrics may represent anything that is measurable. Examples may be reduced cycle time, reduced number of users in the process, increased number of error free reports, etc.
Key steps to take in development of metrics/KPIs are:

- Refer back to the challenge definition and future state objectives identified in the Launch Phase to develop metrics that can be used to cascade, define, and measure the success of the work, and consequently the success of the project or program.
- Review the As-Is process to understand what process KPIs/metrics currently exist to see if they should continue to exist or be modified in association to the To-Be process. Reviewing the As-Is process gives the BPR Professional greater perspective of what specifically is changing or is desired in the To-Be process and helps teams be more thorough in developing business requirements.
- Review the reengineered design, along with the highlighted activities and additional details captured for each activity (e.g., inputs, outputs, business rules, etc.) to identify any specific KPIs, service level agreements (SLAs), or other process metrics to be part of requirements development.
- Draft business requirements using the benchmarking/best practices identified in the To-Be phase to ensure that metrics/KPIs are SMART (Specific, Measureable, Achievable/Attainable, Realistic/Relevant and Time Bound.)

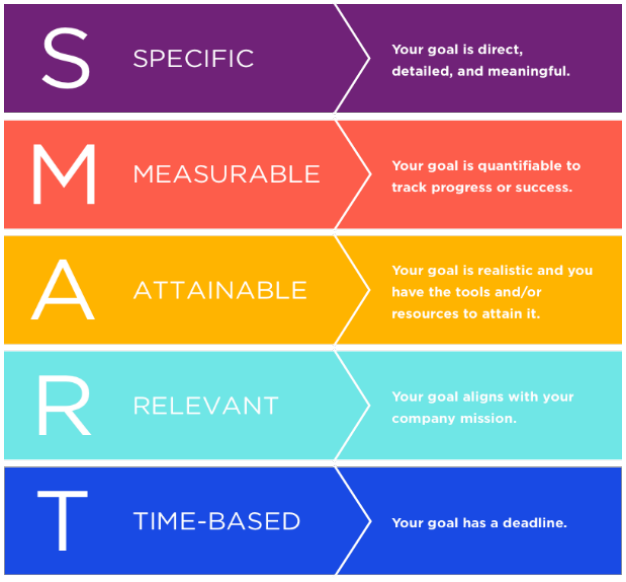


Figure 10. SMART Goals

- Identify the stakeholders who are closely responsible for the activities associated with the To-Be metrics/KPIs (performers of the process) and/or those accountable for monitoring or owning the To-Be metrics/KPIs (non-performers of the process).
- Work with stakeholders to review, refine, and validate/finalize the To-Be process metrics/KPIs. Stakeholders should also provide input into how the metrics/KPIs can be measured and reported in order to monitor and control in the future.

6.1.3 Develop Other Architectural Artifacts

The reengineered process may result in changes to other systems, data, organizations, or LRPs. To articulate these changes and ensure alignment with the ABEA, the BPR team will also need to provide additional architectural artifacts. Depending on the outcomes of the BPR, this may require updates to Operational, Capability, and Data Views. The BPR Professional will work with the Architect on the BPR team to produce these documents, or with the Enterprise Architect in their respective BMA Domain.

6.2 ESTABLISH A PLAN TO IDENTIFY FUTURE OPPORTUNITIES FOR BPR

As the reengineered design moves into implementation, it is important for the BPR Professional to begin planning to address any future opportunities for reengineering as that process matures or opportunities to reengineer other business processes supporting the capability. As the Army environment evolves, there were always be a need to sustain capability relevancy, align to changing strategies and objectives, and meet user needs. These changes may be unpredictable, so it is important that a plan is in place to identify these opportunities and continuously assess whether BPR is an appropriate avenue to meet these needs. This plan can include monitoring the Measures of Performance of Effectiveness and KPIs, evaluating user change requests, or leveraging existing forums where change is already monitored and addressed. The BPR Professional will develop a plan and communicate this to the implementation team.

6.3 FINALIZE ORGANIZATIONAL CHANGE MANAGEMENT PLAN

Part of project planning during the Launch Phase likely included an OCM plan to ensure participation and buy-in from process performers and other key stakeholders. This plan should be updated to reflect the final To-Be Design and change considerations that must be made as a result. If an OCM Plan was not previously established, one must be in order to ensure a successful implementation of the new process. The OCM plan should leverage a proven approach for conducting change management. The approach used will depend on the anticipated change to the community. Some changes may require more detailed planning than others and the BPR Professional should work closely with stakeholders to understand perceptions of change and ability to adopt changes when selecting the approach. A list of proven OCM approaches and frameworks can be found on the BPR CoE milSuite site.

6.4 DEVELOP A TRANSITION PLAN

Transition to implementation plays a crucial role in setting the stage for adoption of the newly reengineered process. Because the BPR Professional may or may not be part of the functional or technical team that will implement changes, it is important to develop a sound transition plan that can carefully monitored and managed. The transition plan should include all necessary business and high-level functional requirements developed earlier in the Close Phase, anticipated roles and responsibilities necessary to develop and execute the reengineered process, and other high-level project management considerations. The transition plan may include the following:

- Formalized continuation of BPR project team as the implementation team.
- Assignment of a Process Owner to oversee the process long-term.
- Implementation and realization of the reengineered process as an organizational priority.
- Endorsement of the owner of the reengineered process and communication of its implementation to the whole enterprise.
- Committed and dedicated resources for the implementation and management.
- Project follow-ups to ensure the To-Be is achieving intended outcomes.
- Continued support of the BPR Leadership Champion to ensure smooth transition to implementation.

6.5 FINAL REPORT

The phases of the BPR Approach have been executed and effort is complete. The BPR Professional must now complete all final documentation in order to close-out. A final report will capture all of the activities and decisions that occurred over the course of the effort and the plans that will guide changes going forward. For BPRs conducted as part of BCAC, the activities that occurred during the BPR will be documented in the Capabilities Requirements Document (CRD) along with other actions completed during the Business Solutions Analysis Phase. For BPRs conducted as part of Capability Support, the BPR Efforts and Outcomes Form will serve as a final report.

In addition to documenting the effort in a final report, the BPR Professional will ensure that all appropriate architectural artifacts show alignment to the Army ABEA are documented in EKR.

Appendix A: BPR REGULATORY GUIDANCE

The need for the Federal Government to reassess its business processes was first recognized in the Clinger-Cohen Act of 1996. Among the provisions of this information management reform, Federal Government agencies and departments are required to determine whether their administrative and mission-related business processes should be improved before investing in major information systems to support them. In addition, the Office of Management and Budget (OMB) reinforced this by requiring that investments in major information systems proposed for funding in the President's budget should support work processes that have been simplified or otherwise redesigned to reduce costs and improve performance.

The specific requirement to practice BPR appears in Title 10 of the United States Code (USC), Section 2222, which states that the Secretary of Defense shall ensure defense business processes are reviewed and, if necessary, revised through business process reengineering. The intention is to ensure that each covered Defense Business System (DBS) developed, deployed, and operated by the Department of Defense (DoD) supports efficient business processes, implements best practices, and minimizes customization of commercial business systems.

In February 2017 the Department published DoD Instruction (DoDI) 5000.75, Business Systems Requirements and Acquisition, which requires a reengineering of business processes in order to fulfill the capability need while minimizing the need to develop unique requirements.

The Army Business Strategy (ABS) 2017-2021 also outlines the requirement to establish the **BPR Center of Excellence (CoE)** to develop and disseminate a standardized BPR approach to the Army, equip end-to-end process owners with BPR expertise, and support the enterprise approaches to portfolio management, investment, system development, and governance.

BPR CENTER OF EXCELLENCE

The Army established the Business Process Reengineering (BPR) Center of Excellence (CoE) to develop and disseminate a standardized BPR approach to the Army, equip end-to-end (E2E) process owners with BPR expertise, and support the enterprise approaches to portfolio management, investment, system development, and governance. The BPR CoE is a collaborative effort between the Communications-Electronics Command (CECOM) Software Engineering Center's (SEC) Army Shared Services Center (SSC) and the Office of Business Transformation (OBT) to provide BPR support to the Army by tackling challenging Enterprise-level problems and training a cadre of BPR professionals to support the optimization of end-to-end business processes across all domains. It is an available resource to Army organizations and BPR practitioners to support BPR initiatives. The following figure outlines the BPR CoE's vision, mission, and services.

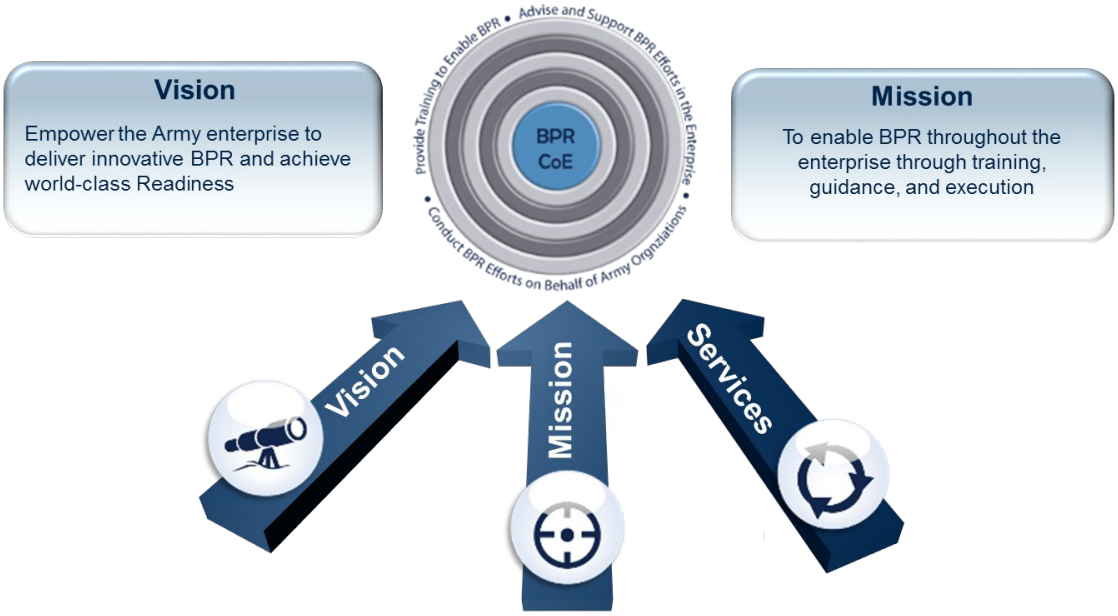


Figure 11. BPR CoE Mission, Vision, and Services

Appendix B: ARMY END TO END BUSINESS PROCESSES

E2E Process	Process Champion
Acquire-to-retire (A2R) – Equipment	ASA ALT
Acquire-to-retire (A2R) – Facilities	ASA IE&E/ACSIM
Budget-to-report (B2R)	F&MC
Concept-to-product (C2P)	ASA ALT
Cost management (CM)	F&MC
Date-to-decision (D2D)	CDO
Deploy-to-redeploy/retrograde (D2RR)	FORSCOM/DCS,G-3/7/5/OBT
Environmental liabilities (EL)	ASA IE7E/ACSIM
Hire-to-retire (H2R)	ASA MR&A
Market-to-prospect (M2P) – Foreign Military Sales	ASA ALT
Market-to-prospect (M2P) – Marketing	ASA MR&A
Order-to-cash (O2C)	F&MC
Plan-to-stock (P2S)	HQDA G-4
Procure-to-pay (P2P)	F&MC
Proposal-to-reward (P2R)	ASA ALT
Prospect-to-order (P2O)	HQDA G-4
Service request-to-resolution (SR2R) - Equipment	HQDA G-4
Service request-to-resolution (SR2R) – Facilities	ASA IE&E/ACSIM
Service-to-satisfaction (S2S)	ASA ALT

Table 2. E2E Processes and Champions

Appendix C: BUSINESS CAPABILITY ACQUISITION CYCLE (BCAC)

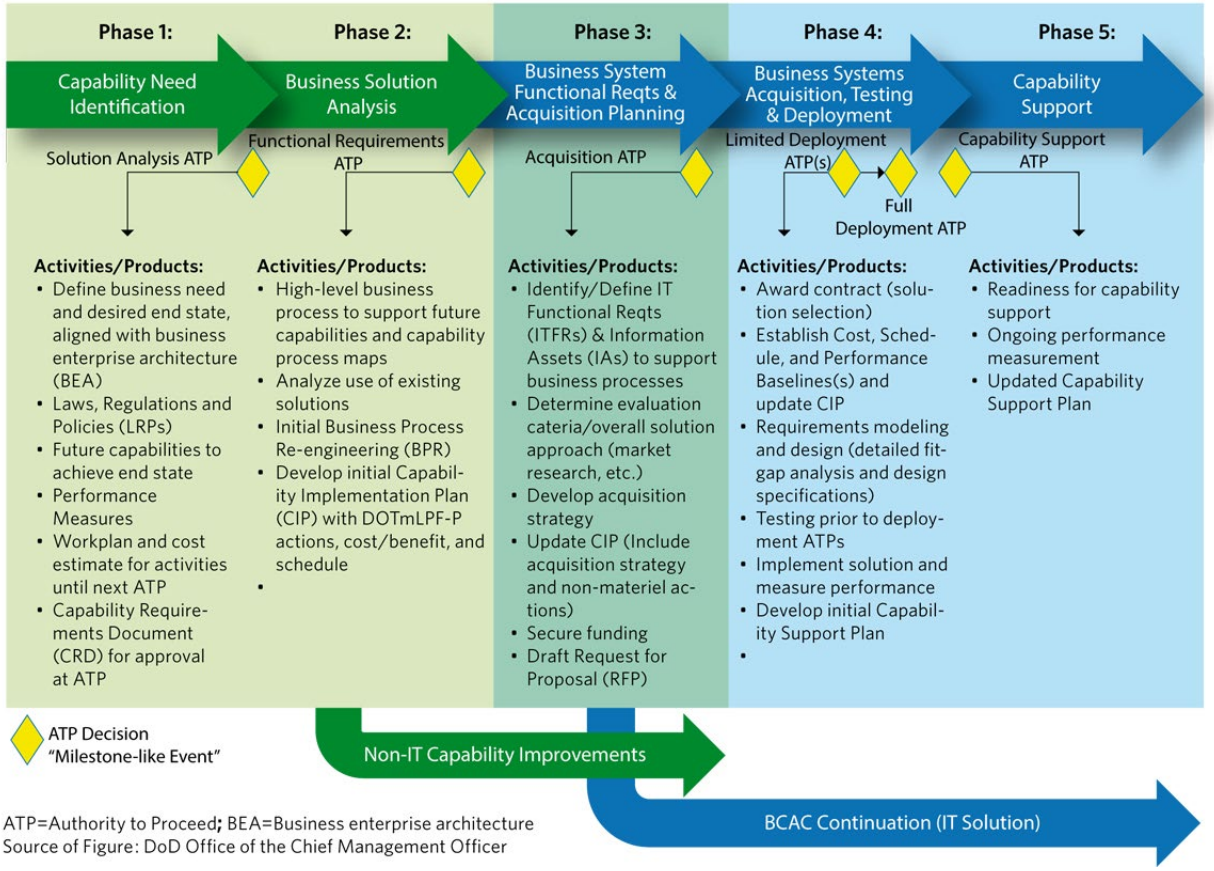


Figure 12. Business Capability Acquisition Lifecycle

1. **Capability Need Identification:** The objective is to establish a clear understanding of needed business capabilities so that the functional sponsor and MDA can decide to invest time and resources into investigating business solutions.
2. **Business Solution Analysis:** The objective of this phase is to determine the high-level business processes supporting the future capabilities so that the functional sponsor and CAE or designee can maximize use of existing business solutions and minimize creation of requirements that can only be satisfied by a business system.
3. **Business System Functional Requirements & Acquisition Planning:** An objective of this phase is to establish the acquisition strategy that will support functional requirements.
4. **Business System Acquisition Testing & Deployment:** The objective of this phase is to achieve organizational change through business process changes and delivery of the supporting business system, with minimal customization.
5. **Capability Support:** The objective of this phase is to provide enduring support for the capability established by the business system. This includes active engagement in both functional and technical opportunities for continuous process improvement to maintain the relevance of the capability, the supporting technology, and the hosting solution.

Appendix D: TOOLS AND TECHNIQUES

Tools, techniques, and templates can be found at the BPR CoE milSuite.

LAUNCH PHASE

BPR tools, methods, and techniques are commonly used for launching a BPR project. There may be other tools that supplement the Launch phased based on the teams experience. Some tools are:

- **BPR Project Charter**

The BPR Project Charter provides a preliminary delineation of roles and responsibilities, outlines the project objectives, and identifies the main stakeholders.

- **BPR Scoping Guide**

The scoping guide is used to help the BPR team understand the potential value and impacts of the BPR project as well as identify any preliminary risks, barriers, and constraints.

- **Stakeholder Register**

The register outlines preferred communication methods, frequency, authority/power levels, and influence on the identified process(s). This involves understanding stakeholder roles in the organization as well as the process in order to cater to those roles.

- **Fishbone Diagram**

Also known as cause-and-effect diagram, it identifies many possible causes for an effect or problem by sorting ideas formed during brainstorming sessions into useful categories.

- **Affinity Diagram**

When confronted with a large number of ideas, the affinity diagram organizes them into their natural relationships by grouping related ideas.

- **Organizational Process Assets (OPAs)**

OPAs are referred to usable plans, policies, procedures, processes, and knowledge repositories that are used by any organization the team is working with. This can include artifacts, lessons learned, pilot projects, and other various historical information deemed relevant.

- **Root Cause Analysis**

RCA is a tool that helps identify what, how, and why an event occurred so that changes can be made to prevent future issues; it usually involves targeting opportunities for system wide improvement.

How do you know when you have identified the root cause?

- There are no more contributing factors
- May be more than 1 root cause
- No more ideas (Dig Deep)
- Use Corrective Action and Preventive Action (CAPA)

Avoid confusing symptoms with causes

- Symptoms let you know that there is a problem, they do NOT tell you the cause
- Root causes are fixable AND preventable

Tips and Tricks to get to the Root Cause:

- Use 5 Why's
- Brainstorm with a group
- Prioritize (multi-voting, ranking, recurring causes)
- No blaming (find the systemic cause)

- Avoid confusing symptoms with causes
- Avoid focusing on a single root cause
- Avoid jumping to quick conclusions
- Focus on systemic issues not individuals
- Avoid bias caused by current knowledge
- Be aware of environment

PLAN PHASE

The BPR tools, methods, and techniques in the following are commonly used for planning the BPR project. There may be other project management tools that supplement the Plan phase based on the team's experience.

➢ Project Management Plan

A formal document used to guide the execution of the BPR project. The Project Management Plan captures milestones, the project and resource management approach, and a risk register, amongst others, that help guide the project throughout its lifecycle. This is a living document that may continuously be revised or expanded upon as the project matures. The Project Management Plan would preferably be approved by the Project Sponsor/champion.

➢ Work Breakdown Structure (WBS) and Dictionary

The WBS is used to define the work in the project in a hierarchical manner and helps develop the project schedule. It organizes the work of the project into manageable chunks. The WBS Dictionary provides supplemental detail about each of the WBS elements.

➢ Project Schedule

The project schedule is a tool that documents the individual tasks to be completed during the project, which resources are assigned to those tasks, estimates of task length to completion, and costs associated with each task, amongst other data elements. The Project Manager will track and update the Project Schedule throughout the project's lifecycle.

➢ Critical Path

The critical path is a sequence of project network activities that shows the longest duration and shortest time possible to complete the project.

- **GANTT**

A graphical depiction of the project's schedule based on the WBS items.

- **Milestone Chart**

A milestone chart is a visual representation of the significant events or activities to occur throughout the project.

- **Communications Management Plan**

The Communications Management Plan defines the communications requirements for the project and dictates how information will be provided to the stakeholders. It also defines how feedback can be solicited and collected back from the stakeholders, ensuring a full communication loop.

- **Risk Register and Risk Responses**

A document used to capture and monitor risks associated with the project. The risk register aids the team in understanding all of the risks and their likelihood and impact. Risk Responses provide a means to capture potential mitigation or avoidance opportunities and allow the team to track which actions will take place surrounding each risk.

AS-IS PHASE

The BPR tools, methods, and techniques in the following are commonly used for the As-Is Discovery and Documentation of a BPR project. There may be other tools that supplement the As-Is phase based on the teams operating norms.

- **Business Process Model and Notation (BPMN)**

An industry standard and the Army's standard for documenting processes. BPMN uses a common language with symbols representing activities, flows, and data which can be interpreted by process stakeholders and implementers.

- **Process Hierarchy Analysis**

The analysis of the process in relation to other processes within a hierarchical framework. This analysis is dependent upon a process classification framework, which creates a common language and contextualization of processes for their management and logical organization and analysis with duplication minimization.

- **Life of the Process Model**

A technique of examining processes across its stages and lifecycle. This includes initial, maturing, and final stages of evolution and growth. Once information has been collected and organized, an initial process model may be crafted to communicate information more easily to stakeholders, management, and leadership. Analyzing the processes helps understand how they fit into a system

of processes and how they evolve as a process matures. Processes should continually be refined during the lifecycle.

- **Process Storyboard and Journey Map**

A set of tools and techniques that uses design-based thinking and customer-centric point of view for process analysis. In the analysis of a process, customer and SME interviews provide the overall interactions taking place within the process. Insights can be consolidated into observations in a storyboard that presents the flow of events of the process. It allows those involved to be able to "walk" through a process in terms that can be commonly understood by the process customer. Journey maps further focus on the process by defining personas of the different customers and those involved in process execution. The process is further articulated by "mapping" customer paths through the process based on their persona and how the customer interacts with execution personas. The sentiment of those involved is captured along this path to identify areas for further analysis where negative or neutral sentiment exists. The journey map supports audit gaps for additional internal and external data needs and also provides a tool to evaluate the impact of implementation improvement actions/solutions. Both process storyboards and journey maps rely on the voice of the customer.

- **Process Assumption Listing/Brainstorming**

A technique to identify assumptions about a process with the intent to identify known assumptions, but more importantly, hidden/unspoken assumptions. Results in an organized list of assumptions from brainstorming efforts around process assumptions. Assumption listing/brainstorming is used to prioritize the most important assumptions. Assumptions must also be tested for relevance and applicability as they may be outdated or result in unexpected outcomes.

- **Milestone Chart**

A milestone chart is a visual representation of the significant events or activities to occur throughout the project.

- **Pareto Diagram**

A "Histogram" used to determine the significant overall effect of a process or activity. Common measurements include cost, frequency, time, and quantity. Results are organized to show which elements have the most significance as described in Pareto's 80/20 rule.

- **Statistical Process Control Chart**

Used to track process variation over time. A center line is used to show the average as process outcome results are plotted along the graph. An upper and lower line are added to show the upper and lower control limits.

- **SIPOC Diagram**

SIPOC, short for Suppliers, Inputs, Process, Outputs, and Customers, is used to document the various participants, activities, and artifacts of a process.

- **Job Shadowing**

An in-person technique used to witness first-hand how a process stakeholder performs the work of the process. This allows the BPR practitioner to view the process steps in real time and garner information that may not otherwise be expressed during larger group workshops.

The BPR tools, methods, and techniques in the following are commonly used for the As-Is Analysis a BPR project. There may be other tools that supplement the Launch phased based on the teams operating norms.

- **Process Profile**

The process profile creates a high-level understanding of the constituent elements and characteristics of the process for it to be managed within a portfolio and classification framework. The process profile is composed of, but not limited to, the following: name, description, value statement, owner, subject matter expert, SIPOC summary, start point, end point, and triggers.

- **A3 Analysis**

Based on the principles of Shewhart's Plan Do Check Act (PDCA), A3 Analysis uses steps to perform problem solving. Steps include analyzing the root cause, developing corrective actions, and monitoring.

- **Five Whys Analysis**

A root cause analysis technique whereby the BPR practitioner will repeatedly ask the question "why" to wade through symptoms in order to identify the root cause. Five is typically enough times to ask "why" before reaching the root cause.

- **Force Field Analysis**

A framework for examining the forces, both helping and hindering, that influence the process.

- **Disconnect Analysis**

An analysis technique that identifies gaps within a particular process or set of processes. It is used in conjunction with a process map to ensure reference linkage between artifacts. Customizable attributes can be used to help weigh the level of importance against specific goals and also assess impact damage. Perceived disconnects should be itemized. The analysis can then be used in

supporting prioritization and sequencing of potential solutions. Disconnect analysis can also be used as a quality checklist for testing proposed solutions.

- **Process Value Analysis**

An analysis technique to identify process waste and provides analytical information if the process is meeting expectations. It is used to identify process activities that add value from those that do not. This analysis starts with a process map with information flows that enable the process is clearly identified. The analysis considers process activities as well as the management and information systems that support the process. This helps measure potential process waste in cycle time, bottlenecks, inefficiencies, and defects. Waste discovered in the value analysis helps identify potential areas for improvement and overarching trends.

- **Process Ecosystem Analysis**

A process ecosystem is a model that describes how all processes are interconnected and driving towards business/mission successes and outcomes in the context of the Army environments. The process ecosystem has the following business/mission components: organizations, policies, processes and procedures, standards, business rules, and business glossary (lexicon/terminology). The process ecosystem has the following technical components: systems, data, system logic, standards, and a technical glossary. Analysis of the ecosystem allows a holistic understanding of the business/mission landscape and informs the design for a process-oriented architecture or the design/redesign of the process considering landscape dependencies.

- **Super System Map**

A tool to establish the organizational profile in which a process resides, with a focus on environmental factors and influences. It provides a picture of the process in relation to its organization and environment, which enables understanding, analysis, management, and improvement of relationships between factors and influences. This is based on models created by the Rummler-Brache Group and is composed of seven key components: process, organization, customers, suppliers, competitors, environmental influences, and stakeholders.

- **Voice of the Customer**

Captures feedback from customers both internal and external to the organization. This is done through one-on-one interviews, surveys, and workshops.

TO BE PHASE

The BPR tools, methods, and techniques in the following are commonly used for To-Be Process Design of a BPR project. There may be other tools that supplement this step phase based on the teams operating norms.

- **Brainstorming/Ideation**

The BPR Project Lead or other practitioner will guide SMEs, leadership, and other stakeholders in brainstorming sessions to design the To-Be process. The group will use the findings from the As-Is analysis, particularly what was discovered using the Five Lenses, to brainstorm ideas to improve or radically change the process.

- **Brain writing**

Similar to brainstorming, participants write ideas down anonymously. They pass the ideas onto other participants who will further build upon those ideas and pass the idea down to the next participants. After a few rounds, the person holding the card presents it to the group. By submitting and sharing ideas anonymously, participants feel more open to expressing ideas, particularly those that may seem outlandish or have the potential to cause contention amongst the group. These may prove to be the most valuable ideas, especially once filtered down or enhanced by other minds in the room.

- **Finding Shangri-La**

When developing potential ideas for the reengineered process, the BPR team imagines what the best possible solution would be if it were not inhibited by constraints such as money, resources, time, or policy. This ideal scenario, "Shangri-La," is then examined through the Five Lenses and evaluated under other constraints. The purpose is to begin with the best possible process and modify it to meet real-life requirements.

- **Qualify Ideas by Level of Impact**

Ideas that are radical versus optimization-based should be treated very differently from each other. Ideas for the reengineered process are categorized into radical, incremental or optimized, and then ranked in terms of impact.

- **Idea Refinement and Vetting**

As ideas are refined and become more accepted, continued refinement of those ideas may still be required. The BPR practitioner may use sticky notes ranking ideas in terms of value, feasibility, and investment required, as well as identifying any strengths and weaknesses. Ideas are analyzed by the group and revisited as they are further assessed as potential solutions.

- **Six Thinking Hats**

Members of the BPR project team, and perhaps new external members who can provide objective feedback, may be assigned to a "thinking hat" and probe the process design option from the assigned point-of-view. The six thinking hats include:

- Blue Hat: What is the work of the process? What are we thinking about for the process? What is the goal? What is the big picture for the process?
- White Hat: Considering purely what information is available, what are the facts about the process?
- Red Hat: Intuitive or instinctive gut reactions or statements of emotional feeling to the new process (but not any justification).
- Black Hat: Logic applied to identifying reasons to be cautious and conservative of the new process design. They are practical and realistic.
- Yellow Hat: Logic applied to identifying benefits and seeking harmony. Sees the brighter, sunny side of situations from the new business process.
- Green Hat: Statements of provocation and investigation, seeing where a thought goes with the design of the new process. Thinks creatively, outside the box.

- **Idea Uniqueness and Value Matrix**

Each participant selects one to three ideas and categorizes them into one of the quadrants of the worksheet, according to highest or lowest value and highest or lowest level of uniqueness. After ideas are placed in respective quadrants, the participant explains why they placed these ideas in that quadrant. As a team, identify idea consolidation opportunities. With that consolidated idea, use a new Post-it Note to replace the previous Post-it Note(s). Repeat the process, but now look specifically at other quadrants where the team could combine or refine to make the business process design idea more unique and a higher value.

- **Idea Viability Matrix**

Ideas for the reengineered process are places on the matrix according to how well the idea meets a particular constraint or requirement, such as support Army strategy, or adheres to LRPs.

- **Scenario Development**

This technique provides an illustrative perspective of a series of activities, resulting in measurable value of a new business process design, a future vision for its implementation/integration, and the potential outcomes that could be derived. These scenarios will provide business and IT leaders with a finite set of plausible "scenario" narratives of an ideal future business outcome from the reengineered processes and subsequent changes to the Five Lenses.

- **Map Ideas to the Strategic Relevance to Value Matrix**

This matrix provides a visual that will aid participants in ideation and analysis workshops with an easy-to-read plotting of ideas. This matrix is ideal for accelerating the decision-making process on how to approach each business process design idea for analysis and recommendations.

CLOSE PHASE

The BPR tools, methods, and techniques in the following are commonly used for closing a BPR project. There may be other tools that supplement the Close phase based on the teams operating norms.

- **Final Report Template**

The Final Report will include the challenge definition, artifacts, and a description of all of the analysis performed on both the As-Is and To-Be" processes, a list of stakeholders, applicable LRPs, process maps, and any other pertinent information that will assist the reader with understanding how and why the new process was developed and its value to the organization.

- **Project Roadmap**

A Project Roadmap will assist with transitioning the reengineered process to the implementation team. The Roadmap will provide a basis for how long this team can reasonably expect the new process to be instituted and adopted based on research done by the BPR team.

- **Executive Briefing**

The Executive Briefing will summarize the information in the Final Report, including any background information, analysis, and recommendations for the newly reengineered process.

Glossary

Abbreviation	Definition
A2R	Acquire to Retire
A3 Analysis	A3 is the paper size
ABEA	Army Business Enterprise Architecture
ABS	Army Business Strategy
ACSIM	Assistant Chief of Staff for Installation Management
ASA ALT	Assistant Secretary of the Army (Acquisition, Logistics, and Technology)
APD	Army Publishing Directorate
APMS	Army Portfolio Management System
APQC	Army Productivity & Quality Center
AR	Army Regulation
ASSC	Army Shared Services Center
ATP	Authority to Proceed
B2R	Budget to Report
BCAC	Business Capability Acquisition Cycle
BEA	Business Enterprise Architecture
BMA	Business Mission Area
BPMN	Business Process Model and Notation
BPR	Business Process Reengineering
C2P	Concept to Product
CAE	Computer-aided engineering
CAPA	Corrective Action and Preventive Action
CECOM	Communication Electronics Command
CM	Cost Management
CMO	Chief Management Officer
COA	Course of Action
CPI	Continuous Process Improvement
CRD	Capability Requirements Document
CTC	Critical to Customer
CTQ	Critical to Quality
CV	Capability View Taxonomy
D2RR	Deploy to Redeploy/Retrograde
DA-PAM	Department of Army Pamphlet
DBS	Defense Business System
DCS	Defense Collaboration Services
DI	Data Interface
DOD	Department of Defense
DOTMLPF	Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities, Policy
E2E	End to Ends

EKR	Enterprise Knowledge Repository
EL	Environmental Liabilities
ERP	Enterprise Resource Planning
EXORD	Executive Order
FM&C	Financial Management & Control
FORSCOM	US Army Forces Command
GANTT	Gantt Chart (named after Henry Gantt)
H2R	Hire to Retire
HQDA	Headquarters Department of the Arm
HRM	Human Resource Management
IE&E	Installations, Energy, & Environment
ISO	International Organization for Standardization
IT	Information Technology
KPI	Key Performance Indicator
KSA	Knowledge, Skills, Abilities
LRP	Laws, Regulations, Policy
M2P	Market to Prospect
MDA	Milestone Decision Authority
MOE	Measures of Effectiveness
MOP	Measures of Performance
ASA MR&A	Assistant Secretary of the Army (Manpower and Reserve Affairs)
NIST	National Institute for Standards and Technology
O2C	Order to Case
OBT	Office of Business Transformation
OCM	Organizational Change Management
OMB	Office of Management and Budget
OPA	Organizational Process Assets
OPORDS	Operations Order
OV	Operational View Taxonomy
P2O	Prospect to Order
P2P	Procure to Pay
P2R	Proposal to Reward
P2S	Plan to Stock
PDCA	Plan Do Check Act
QFD	Quality Function Deployment
RCA	Root Cause Analysis
S2S	Service to Satisfaction
SEC	Software Engineering Center
SIPOC	Suppliers, Inputs, Process, Outputs, and Customer
SLA	Service Level Agreement
SMART	Specific, Measureable, Achievable/Attainable, Realistic/Relevant, and Time Bound

SME	Subject Matter Expert
SOP	Standard Operating Procedure
SR2R	Service Request to Resolution
TRIZ	Theory of Inventive Problem Solving
TTP	Tactical Techniques and Procedures
USC	United States Code
VAUTI	Visible, Accessible, Understandable, Trustable, and Interoperable
VOC	Voice of the Customer
WBS	Work Breakdown Structure