



# **PinkSCAN™ Assessment Report**

**University of Alaska  
Office of Information Technology**



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## 1 EXECUTIVE SUMMARY

The University of Alaska (UA) Office of Information Technology (OIT) requested an assessment be performed in June-July, 2012 to evaluate and report on maturity levels of six IT Service Management (ITSM) processes within the OIT organization. This assessment compares the maturity results found against the best practices described by the Information Technology Infrastructure Library (ITIL<sup>®</sup>) framework.

The stated objective of this process maturity assessment is to gain an understanding of the progress OIT has made to date with process maturity and to establish an initial assessment baseline. The recommendations of the assessment will be used as input into the development of a Service Improvement Plan.

The online survey results and validation workshops conducted by the Pink Elephant consultant provided the input into the overall maturity score and formed the basis of the PinkSCAN report. From the online survey, workshop and supporting documentation materials, the following validated maturity scores have been assigned to each of the processes reviewed. The Importance Scores are the average of all survey participant responses for the five “Importance” questions asked for each process.

IT SERVICE MANAGEMENT PROCESS	MATURITY
Incident Management	1.52
Service Catalog Management	1.47
Knowledge Management	1.04
Service Level Management	1.02
Change Management	0.95
Problem Management	0.93

**Table 1** – Process Maturity Scores

IT SERVICE MANAGEMENT PROCESS	IMPORTANCE
Change Management	3.37
Service Level Management	3.35
Incident Management	3.28
Knowledge Management	3.23
Service Catalog Management	3.20
Problem Management	3.00

**Table 2** – Process Importance Scores

**Note:** For a detailed description of the maturity ratings refer to [Section 5.1](#).



## 1.1 Overall Observations and Conclusions

The overall observations and conclusions are derived from the assessment findings and validation workshops, in support of the business case:

- IT staff within the University of Alaska are highly committed to providing good support to students, administrative staff and faculty members. The levels of service being provided are based on this commitment
- IT staff go to extraordinary efforts to maintain service and respond to customer needs
- IT staff rely heavily on experience and tribal knowledge and, when major issues arise, work well together as a team

### 1.1.1 ITSM Program

- A formal ITSM program has been established to govern, support and enable a Service Lifecycle approach. This provides the structure necessary to:
  - Sustain existing service levels
  - Identify ongoing changing customer requirements
  - Improve services in response to those changing requirements
- The organization is beginning to adopt the principles and concepts of the ITIL framework and aligning an overall ITSM approach with the strategic goals and objectives of the IT organization
- The ITSM program is being managed through a formal project management methodology and structure
- Process Owners are appointed for each process under review
- The level of understanding of ITSM, the ITIL framework and the concept of IT services providing value to the business is limited to a small number of staff having achieved some level of ITIL certification or having had prior experience

### 1.1.2 Process

- OIT has recently completed initial process improvement of the Incident Management process and the IT Service Catalog using the ITIL framework
- OIT services are being developed and communicated, including a methodology to support the identification and documentation of services
- The IT staff throughout the organization tends to be highly reactive to their environment rather than proactive. This can be attributed to the lack of process definition, measurement and execution



- The current levels of service are not sustainable at the current level of maturity of the processes assessed
- There is little management of processes making it difficult to identify and implement service or process improvements
- The maturity level of the processes assessed are at or below an “initial” level of maturity, where it is understood that improvements are necessary but not well understood or defined
- The low maturity level of each of the processes does not make process integration possible
- There is a direct correlation between the low process maturity levels, low integration scores and the Culture Survey results showing a significant lack of information flow within the organization
- The day-to-day focus of the UA IT departments is on technology, infrastructure and applications, but each tends to be treated separately, working in functional “tower” environments
- The concept of an end-to-end service comprising all relevant domains and components is beginning to be recognized
- Consistent application of terms such as Incident, Problem and Service Request is not evident

### **1.1.3 Role**

- Process Owners have been identified and named; however, organizational accountability for the effectiveness and efficiency of the assigned processes has not been established

### **1.1.4 Measurement Framework**

- Process metrics, when examined, primarily focus on numbers of things such as incidents and changes, reported from each department
- Some reports are produced but they are not consistently used for identifying efficiency and effectiveness improvements

### **1.1.5 Tool**

- The use of multiple stand-alone tools makes it difficult and time consuming to manage the processes so that improvement opportunities can be identified and realized
- A single integrated tool suite for ITSM is available to support all processes and enable IT staff to become more efficient and effective and reduce the amount of effort wasted on redundant activities



### **1.1.6 Training**

- ITIL Foundation training is scheduled to be offered in-house to train people in a group/team training environment, which is recognized as being more effective than in a public setting

### **1.1.7 Communication**

- In the workshops, communication was mentioned as one of the biggest challenges the support teams face

### **1.1.8 Governance**

- While there is a comprehensive listing and description of services on the OIT website many are described as technical or support services, and not consistently connected to business services
- The concept of IT governance as it pertains to business performance, value creation and effective resource utilization is not in evidence
- The culture is somewhat innovative but with limited respect for rules and sharing of information
- The culture survey and assessment indicates that the environment may not readily support an ITSM initiative and that the IT groups may not be able to act on the recommendations in this report unless an overall Organizational Change Management approach is adopted



## 1.2 Overall Recommendations

The following recommendations apply generally to the assessed OIT processes. They are detailed here to avoid redundancy in process specific recommendations:

### 1.2.1 ITSM Program

- Establish a driving need throughout the organization for service improvement, with clear goals and objectives, and a broad base of support
- Establish an overall Continual Service Improvement strategy and specific service and process improvement plans that include a comprehensive and integrated measurement framework
- Align goals for each process with overall IT strategic, tactical and operational goals
- Establish process design and implementation teams to further develop the process elements defined by ITIL, as well as the training requirements for the staff and automation requirements for each process
- Clearly identify and communicate success criteria for the improvement initiatives
- Keep the change effort on track and promote high levels of energy, focus and commitment by identifying early successes (commonly referred to as “quick wins”). These can be used to:
  - Help convince change skeptics of the benefits
  - Enable success to build on success
  - Help retain the support of influential stakeholders
  - Help expand the guiding coalition and get more people on board and committed to the program
  - Help build confidence to tackle even more complex implementation issues and process integration
  - Encourage and stimulate buy-in and commitment from all areas
  - Help secure additional funding for future improvement initiatives

### 1.2.2 Process

- If the current Incident Management process document is found to be sufficient for the organization, use it as an enterprise-wide standard process model to provide a foundation for consistent, repeatable process design, implementation and improvement practices



- Since ITIL is intended to be used as the foundation to develop a shared vocabulary, document a glossary in a common documentation repository, communicate/train on it and begin to use it in all meetings and communications
- Ensure all process design and implementation activities are cross-functional and span all OIT departments. Ensure appropriate representation from all campuses, operating units and technology groups for process design, implementation and operational management
- Develop and communicate a process documentation standard for procedures and work instructions
- Establish and communicate the standard centralized process document repository. Provide role-based access to this site to all stakeholders
- Ensure all process documentation is controlled through a Change Management process
- Recognize that ITIL processes do not need to be implemented in their entirety to provide value. For each process identify and implement early improvements that meet an immediate need

### **1.2.3 Role**

- Involve the Process Owners as early as possible in the improvement initiatives to ensure continual improvement measures are in place and process integration is optimized
- Understand the skills required for each process role and perform a formal skills and behavior gap analysis. Close any gaps by providing training and ongoing coaching

### **1.2.4 Measurement Framework**

- Develop a consistent approach to identifying, capturing and reporting process metrics. Align the process metrics with both business and IT strategies and requirements. Although some metrics are measured and reported from each department, establish a mechanism for creating a holistic OIT scorecard to reflect all services that are delivered and supported
- Identify and report on Critical Success Factors (CSFs) and Key Performance Indicators (KPIs) for each process to ensure ongoing efficiency and effectiveness of service delivery and continual improvement. Critical Success Factors are those elements of a process or service which are vital to delivering the expected outcome or creating value
- Identify no more than three to five CSFs per process, and ensure that there are no more than two to three KPIs for each CSF
- Develop and standardize process scorecards to support process governance. A typical scorecard approach is to capture and report CSFs and KPIs across the following dimensions:



- Value
  - Is the process delivering expected value to the business and within the respective service/process area?
- Quality
  - Is the process meeting pre-defined quality requirements?
  - Is it being measured to account for where there might be errors or gaps that need to be addressed?
- Performance
  - Is the process performing as expected or planned?
  - Are KPIs being met?
- Compliance
  - Has the culture embraced the process or are there pockets of resistance or non-conforming behavior?
- Establish a reporting schedule, including report frequency and format, and identify information appropriate to each level within the organization. Begin regular process reporting as soon as possible to create and communicate a baseline
- Take action on report results for performance and process improvement

### **1.2.5 Tool**

- The integration of the HP Service Manager suite with other existing monitoring and discovery tools would greatly enhance OIT's ability to manage the services and supporting processes and infrastructure
- Develop a standard practice for creating and documenting ITSM process-specific tool requirements. Identify these requirements at the procedural level in order to support the day-to-day process activities including workflow, data entry, quality assurance and reporting
- Ensure that the toolset supports each process design and enables process integration for (at least) the six in-scope processes, and provides process management information and reports required for continuous improvement

### **1.2.6 Training**

- Establish a comprehensive training strategy to ensure that all OIT staff have the requisite levels of knowledge about ITSM and about the ITIL processes within the Service Lifecycle



- Use training as an opportunity to reinforce the ITSM objectives and provide group discussion on “how to do this here”
- Identify and match levels of knowledge to roles and responsibilities assigned within each of the processes. The current culture may be very resistant to change unless a clear understanding of the requirements for, and benefits of, moving to a service and process driven approach is well established through role-based training
- Develop a sustainable and universal training program for all OIT staff as well as those that rely on OIT services, as appropriate
- Train and provide ongoing mentoring for global and local policies, processes, procedures and tools, particularly in the early stages of implementation to ensure that all personnel become capable of executing process activities as required. Without coaching and mentoring, experience has shown that results are often less than expected
- Not everyone in the organization will require ITIL certification. Balance the kind of training and level of training available against the time, effort, cost and value of the training:
  - Some staff will require only procedure and tool level training
  - Other staff will need more in-depth process training that leads to certification
- For those who will be engaged in designing the processes, ITIL Foundation training is recommended
- For those who will be engaged in process ownership or management consider ITIL Intermediate level training. Key process resources such as Process Owners, Process Coordinators and process team members are candidates for training at the intermediate level

### **1.2.7 Communication**

- Establish an overall communication strategy that includes an awareness campaign to promote, explain and socialize the ITSM approach. Aim to inform and educate as well as to motivate interest, action and adoption of the processes as they are being designed and implemented within the environment
- Develop a comprehensive ITSM Communication Plan that includes:
  - Stakeholders (audiences)
  - Communication methods/vehicles
  - Communication content and development
  - Ongoing review



- Delivery channel(s)
- Feedback
- Rules of engagement (who, what, when, where and how)
- Develop the Communication Plan for the overall program as well as for each individual process. Ensure that the program manager and each Process Owner work together to maintain and manage these plans, making them accessible to all key stakeholders with role-based access privileges

### **1.2.8 Governance**

- Formalize the ITSM Steering Team with clearly defined goals/objectives, scope, roles and responsibilities
- Develop and implement an enterprise-wide process governance structure, vital to supporting overall ITSM process planning, improvement, decision-making and risk management. The following are typical process governance activities performed by the ITSM Steering Team:
  - Oversight of the ITSM vision and mission
  - Oversight of the ITSM governing principles
  - Oversight of the ITSM governance activities including process compliance, process changes, program portfolio management (including continual process improvement initiatives) and maintenance of process standards, etc.
  - Development and management of the ITSM process governance organization
  - Documentation and administration of global ITSM process policies
  - Management and publication of an enterprise-wide ITSM Balanced Scorecard
  - Documentation and management of enterprise-wide ITSM process controls
- Carry out an organizational change program to ensure successful adoption and execution of the ITSM program. It is important that management present a strong single voice of support for the initiatives that will foster a culture of collaboration necessary for success
- Take steps to identify specific risk factors related to organizational changes and provide a baseline for specific risk management and mitigation strategies
- Establish enterprise-wide global process policies to ensure there is increased visibility and transparency between the various departments
- Communicate senior management support of the ITSM program across the entire organization, stating program goals and objectives and sense of urgency in order to gain and sustain momentum and adoption



- Conduct formal “lessons learned” exercises after each short-term process improvement initiative and longer term process implementation projects to improve process design, implementation, tool, communication and training capabilities for the next set of initiatives
- Establish an overall ITSM roadmap that embodies the recommendations within this report. Consider carefully the amount of process work and organizational change that can take place at any one time
- In the roadmap define a phased approach (timelines and milestones) for implementing the six (or more) ITIL-based processes, including process, tool, resource and implementation timelines and dependencies
- Put in place a reward and recognition system to reinforce behaviors appropriate to the new way of working. Reward and recognize teams for the planning and prevention of crisis behaviors (firefighting)
- Put mechanisms in place for capturing and applying learning and insights from each project to future efforts

### **1.2.9 High Level Implementation Guidance**

- Define a realistic implementation plan that articulates clearly to everyone how implementation actions will occur, how they will be monitored and how course corrections will be made
- Consider a phased approach that will enable the organization to more effectively manage the necessary organizational and cultural changes
- Consider existing areas of process maturity within the organization as a means of accelerating overall process improvements and minimizing unnecessary cost and risk associated with rework, redundancy and replacement of existing effectiveness and efficiencies
- Consider the requirements for Subject Matter Experts to support the program and determine if and how to use external resources to provide guidance to the Steering Committee, project managers and process teams themselves
- Define and communicate mechanisms for:
  - Tracking progress
  - Real-time feedback
  - Information sharing
  - Emotional “escape valves”
  - Judging effectiveness



The following is a suggested high level sequence of development for process improvements:

### **1.2.9.1 Phase One**

- Differentiate between incidents, problems, service requests and changes
- Ensure that incidents are captured, managed and reported separately from problems, service requests and changes
- Establish an Incident Management process improvement team, led by the Process Owner, to evaluate the integration of event monitoring tools and Incident Management activities in place today across all OIT groups. Agree on key Incident Management workflows
- Ensure that the Incident Management process is adopted and adapted across OIT
- Improve the category structure in Incident Management to help analyze recurring incidents
- Improve data quality and prioritization within Incident Management so the Problem Management process will be effective
- Document and publish standard Prioritization, Categorization, Escalation and Notification models
- Develop a plan for end-to-end service monitoring and metrics, and determine a way to capture and report on end-to-end metrics such as availability and capacity in order to measure current service delivery capability
- Begin documenting integrated tool requirements with a focus on validating and configuring HP Service Manager as the tool that can be used to record and manage all incidents, service requests, events, changes, problems, releases and configuration items, and also provide self-service and automated workflow capabilities
- Identify the development requirements to create incident records from all event monitoring tools
- Continue the development of the Service Catalog, while developing the process for its maintenance and upkeep
- Leverage the Service Catalog to begin identifying requests that can be fulfilled via a self-service interface and requests that can be made and tracked using the Service Catalog as an input channel into Request Fulfillment

### **1.2.9.2 Phase Two**

- Develop a global Change Management process that is scalable for the management of all OIT changes



- Ensure differentiation between changes that require normal procedures and those that can be handled as service requests through the Request Fulfillment process
- Analyze the current Change Advisory Board meetings to ensure they are focused on value-added activities
- Develop a Request Fulfillment process focused on assisting IT users to request and receive products and services from OIT as well as enabling service delivery people to work together to efficiently provide those products and services
- Begin to measure existing service level achievements and document, where appropriate, service level objectives
  - As a starting point select the top five (5) high-value, high-touch services in order to address resource and/or funding constraints

### **1.2.9.3 Phase Three**

- Establish a formal Problem Management process
- Leverage the Prioritization Model developed in Incident Management to define the Problem Management service levels by priority with special attention to identifying problem impact, cost, skills, resources and time to fix
- Although the Service Asset and Configuration Management (SACM) process was not part of the assessment, begin to strategize and plan the approach for capturing and leveraging Service Asset information and the design of a Configuration Management Database (CMDB)
- Create an overall implementation plan for SACM that will be executed across subsequent phases of the program



## 2 IT ORGANIZATION AND ENVIRONMENT

UA OIT is a strategic service organization providing technology tools, expertise, and planning to facilitate the University of Alaska's mission. The OIT vision for the IT Service Management program is to improve customer and user satisfaction, organizational effectiveness, and operational efficiency through the adoption of consistent, streamlined processes in association with organizational culture change.

OIT services are provided locally to the University of Alaska Fairbanks (UAF) and to UA state-wide, complemented by services at the University of Alaska Anchorage (UAA) and the University of Alaska Southeast (UAS). The network infrastructure connects the three University campuses and thirteen community campuses to instructional technologies, administrative computing, voice and data services as well as the internet.

OIT's Departments and Groups include:

- **Office of the Chief Information Technology Officer (CITO)**
  - The Office of the CITO consists of the CITO and Assistant to the CITO. The CITO is OIT's executive leader who supports technology services across the UA system. This position reports directly to the UA president and the UAF chancellor
- **IT Business Office (ITBO)**
  - The Executive Officer is responsible for financial management, strategic planning and alignment, and management of the OIT Business Office. Business Office operational responsibility includes fiscal operations, procurement, contract and property management, human resources, event organization, travel, and recharge center coordination. Serving as the OIT liaison to UA and UAF executive management, the Executive Officer coordinates and reviews all OIT budget requests and business plans
- **User Services (US)**
  - US is the front line group working directly with students, faculty and staff, ensuring delivery of IT services. User Services is the first point of contact to assist with technology needs and provides help desk assistance, training, and desktop support. Additionally, User Services is an integral part of UAF's instructional delivery through academic computing support (smart classrooms, computer labs, Blackboard) and manages the System-Wide service, video conferencing for distance education



- **Application Services (AS)**
  - AS programs, integrates and maintains academic and business solutions for the University of Alaska System. These solutions range from system-wide applications such as Banner/UAOnline (accounting, class registration, tuition & fees payment, payroll, purchasing, etc.), DegreeWorks (graduation planning and degree audits), Google Apps for Education (calendar, docs, email, groups), The Housing Director (campus student housing) and the unified login credentials (only one password for everything!), to campus-specific solutions such as online bookstores, library borrower databases, campus health center and parking services applications. AS serves the University departments, who serve UA's students, employees, guests and the public at large. To accomplish its role AS relies heavily on partners homed in Statewide Administration and UAF departments, including many groups within OIT itself
- **Infrastructure Technology Services (ITS)**
  - ITS provides the foundation and security for all deployed systems including networks, telephones, and servers. The University requires continuous operation of these critical systems, which are available and monitored twenty four hours a day, seven days a week, 365 days a year. ITS participates in internal and external reviews resulting in identification of Single Points of Failure and security vulnerabilities
- **Technology Oversight Services (TOS)**
  - TOS provides leadership in strategic planning, project management and technology innovation. Working closely with the CITO, TOS provides oversight of the planning and implementation of OIT services throughout the UA system. One of the challenges for TOS is to summarize technology services in a clear, concise format to allow both OIT and the University to measure the quality of these services

### **OIT Mission and Values**

The University of Alaska (UA) inspires learning, and advances and disseminates knowledge through teaching, research, and public service, emphasizing the North and its diverse peoples. UA OIT is a merged unit composed of UA staff and UAF staff. It is guided by both system principals and campus principals, rooted in the strategic areas of focus at UAF. OIT provides University consumers with technology, tools and resources to support and enhance learning, research and outreach for Alaskans.

OIT exists to serve and empower the University community, facilitating the University's mission to educate Alaskans and supporting basic and applied research to advance economic opportunity.



OIT recognized that its value is predicated on how well it provides high quality services and maintains stable technologies to support the University missions.

As a result, OIT is committed to:

- Providing access to robust, reliable and cost-effective technology infrastructure for teaching, research and outreach
- Supporting a common set of basic IT services that provides access to networks, information systems, and support services
- Maintaining clearly articulated service levels to meet the expectations of both IT users and service providers
- Engaging and communicating with the user base to assist OIT to establish and evaluate service priorities and to provide appropriate institutional oversight
- Planning in partnership with faculty, students, and administration for future IT services and requirements needed to support University programs and enhance competitiveness for Alaska institutions
- Implementing fiscal management practices appropriate for higher education to provide high quality, cost-effective basic services and differential services



### 3 PROJECT SCOPE

This PinkSCAN™ assessment targets the maturity and capability of six (6) IT Service Management processes, workflows and procedures used within UA OIT. The processes were assessed on the basis of their execution across organizational boundaries and departments within UA OIT.

The objectives of the assessment are to identify:

- The quality, maturity, effectiveness, and consistency of the IT Service Management processes
- The cultural climate in relation to how the respondents view the organization

As requested by the OIT Project Sponsor, the survey focused on the following IT Service Management processes:

Section Reference	IT Service Management Process
<a href="#">6.1</a>	<a href="#">Change Management</a>
<a href="#">6.2</a>	<a href="#">Incident Management</a>
<a href="#">6.3</a>	<a href="#">Knowledge Management</a>
<a href="#">6.4</a>	<a href="#">Problem Management</a>
<a href="#">6.5</a>	<a href="#">Service Catalog Management</a>
<a href="#">6.6</a>	<a href="#">Service Level Management</a>

**Table 3** – Assessment Scope

Management and staff members were identified by the Project Sponsor to participate in the online survey and workshop process. Upon completion of the online survey and workshop, a gap analysis of the processes was completed. The results are presented in [Section 6](#) of this report.

Each of the online survey participants also completed a culture survey that was analyzed to help assess the culture of UA OIT. A description of the organizational climate index is included in [Section 7](#).



## 4 ASSESSMENT PROCESS

The PinkSCAN assessment was carried out with members of the departments within UA OIT. Management and staff participated in an online survey with selected candidates participating in a follow-up workshop format to evaluate the quality and effectiveness of the ITSM processes as they relate to the overall UA OIT organization.

The purpose of the assessment is for Pink Elephant to gain a comprehensive understanding of how OIT delivers IT services in relationship to the ITIL process framework. To accomplish this goal, individuals were chosen to represent the viewpoints of management and staff in the execution of the assessed processes as practiced across the in-scope OIT departments.

The focus of this assessment was to perform a gap analysis of the current processes against the best practices described by ITIL. As a result of this analysis, Pink Elephant provides recommendations for improvement initiatives and activities.

The assessment consisted of the following elements:

- Completion of an online process maturity survey
- Analysis of the online survey results to identify potential process strengths or opportunities for improvement or any inconsistencies
- Validation of the online survey results regarding the relative maturity of the assessed ITSM processes using a workshop format
- Presentation of findings including recommendations on how the quality of IT services may be improved

This assessment provides a baseline scoring of process maturity at a single point in time. Due to the compressed nature of the survey and workshop schedule, some elements need to be assumed or taken at face value from the participants. This being considered, the PinkSCAN is an excellent tool when used to define the process maturity levels as a baseline for planning and improvements.



#### 4.1 Workshop Participants

The OIT Project Sponsor selected candidates for the online survey and process maturity workshop by considering the following criteria:

- Process Owner
- Process Manager
- Service Manager
- Tool Administrator(s)
- Group representation (Manager, Team Leader, Operational staff)
- Process involvement (current and future)
- Strategic, Tactical or Operational view points

Process	Number Of Survey Responses	Workshop Attendees – Name	Group
Change Management	63	Jim Durkee	OIT Technology Oversight Services
		Kevin Jacobson	OIT Technology Oversight Services
		Bill Wakefield	OIT Application Services
		Collin Lichtenberger	OIT Infrastructure Technology Services
		Nathan Zeirfuss	OIT Technology Oversight Services
		Robert Tompkins	OIT User Services
		Anthony Shaw	OIT Infrastructure Technology Services
		Pete Pavey	OIT Application Services
		James Gentry	OIT Infrastructure Technology Services



Process	Number Of Survey Responses	Workshop Attendees – Name	Group
Incident Management	63	Kenny Coon	OIT User Services
		Jason Davis	OIT User Services
		Gary Bender	OIT User Services
		Rosen Kehayov	OIT Application Services
		Kathleen Boyle	OIT Technology Oversight Services
		Jarkko Toivanen	OIT Infrastructure Technology Services
		James Milburn	OIT Application Services
		Dave Hill	OIT Infrastructure Technology Services
		Robert Hale	OIT User Services
Knowledge Management	34	Kenny Coon	OIT User Services
		Steve Mullins	OIT Technology Oversight Services
		Jane Vohden	OIT Application Services
		Shannon Telling	OIT User Services
		Dan Kloepfer	OIT User Services
		Heather Havel	OIT Application Services
		Steve Larsen	OIT Infrastructure Technology Services
Problem Management	46	Martha Mason	OIT User Services
		Kevin Jacobson	OIT Technology Oversight Services
		Jim Durkee	OIT Technology Oversight Services
		Collin Lichtenberger	OIT Infrastructure Technology Services
		Phil Jacobs	OIT Application Services
		Jason Davis	OIT User Services
		Travis Payton	OIT User Services



Process	Number Of Survey Responses	Workshop Attendees – Name	Group
Service Catalog Management	30	Cara Brunk	OIT User Services
		Shannon Telling	OIT User Services
		Martha Mason	OIT User Services
		Kelly Gitter	OIT User Services
		Michael Scott	OIT User Services
		Dave Hill	OIT Infrastructure Technology Services
		Dana Platta	OIT Application Services
Service Level Management	23	Kevin Jacobson	OIT Technology Oversight Services
		Wendy Rupe	OIT Business Office
		Walker Wheeler	UAF Distributed Technician
		David DeWolfe	OIT Infrastructure Technology Services
		Ivan Leibbrandt	OIT Infrastructure Technology Services
		Jason Davis	OIT User Services
		Earl Voorhis	OIT Infrastructure Technology Services
		Donna Rohwer	OIT User Services

**Table 4** – Assessment Workshop Participants



## 5 ASSESSMENT RESULTS

### 5.1 Process Maturity Assessment Model

The maturity score is based upon the Capability Maturity Model developed by the Carnegie Mellon Software Engineering Institute. This model has been adapted by Pink Elephant to assess the maturity of ITSM processes based on the ITIL framework.

The Capability Maturity Model describes the following levels:

Maturity Level	Description
0 – Non-Existent:	We do not do this or we do not have this across the organization.
1 – Initial:	This may be done from time to time across the organization but is not done consistently each time. We have talked about developing something like this but we have not yet started to do so.
2 – Repeatable:	There may be procedures for this in some parts of the organization but since they are not formally documented or adopted there is a high reliance on individual knowledge, experience and informal relationships.
3 – Defined:	We have standardized this across the organization with documented objectives, activities, procedures, roles and metrics. All of the people who perform the process activities have received appropriate training and are expected to follow them in accordance with the documentation.
4 – Managed:	This is fully recognized and accepted throughout the organization as the way we work. We have performance standards that we use to measure this activity and report against planned results.
5 – Optimized:	We seek to remove as much variability from this process as possible. As an organization we continually use feedback to ensure this activity aligns with overall business and IT goals and to identify improvement opportunities.

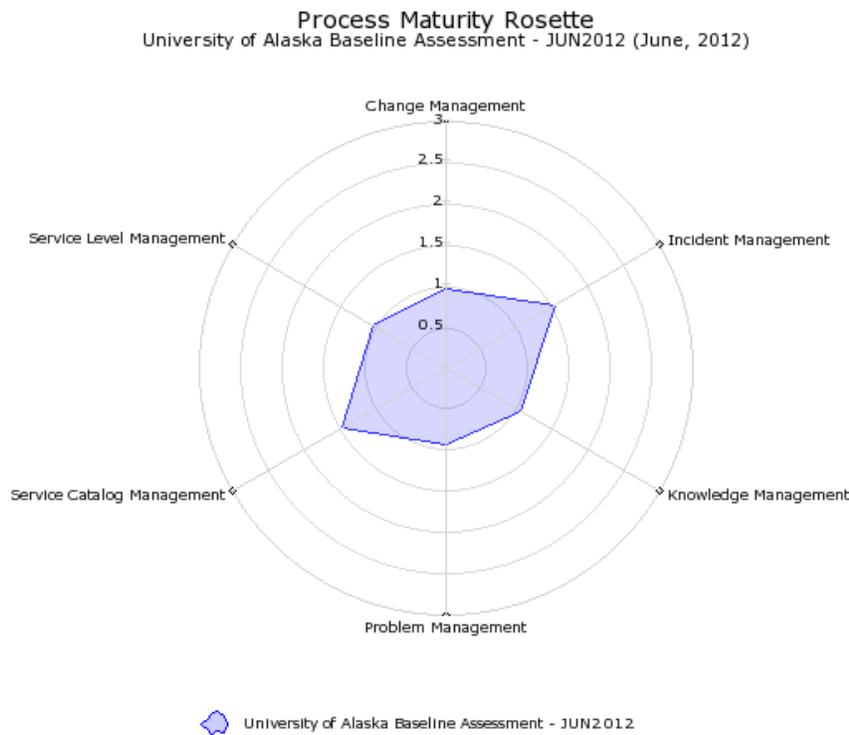
**Table 5** – Capability Maturity Model

Survey participants are asked to respond to up to thirty-five statements for each process survey. The survey statements describe an ideal state and the survey participant is asked to select one Capability Maturity Model response. In addition to the responses listed in the table above, the survey participant also has the option of responding, “I Don’t Know.” The “I Don’t Know” responses are averaged into the final maturity score with the same value as the “Non-Existent” responses and are investigated further during the validation workshops.

## 5.2 Process Maturity Results

The following graph provides an overview of the results of the PinkSCAN assessment for the processes listed above as practiced within OIT. The concentric circles represent the stages of maturity of the processes, while the segmentation specifies the degree of maturity attained for each process under examination.

Maturity is measured as indicated by end-to-end activities that are consistent and repeatable across organizational silos and is not specific to individual departments. The assessment does not relate to organizational development or organizational maturity – it is strictly focused on the maturity of each process as compared to the ITIL framework.



**Figure 1** – Assessment Results



### 5.3 Maturity Score Related To Process Importance

As part of the online survey, participants are asked to identify the importance of the process across five dimensions: People, Process, Product (Tools), Partners and Performance. The results of all “Importance” questions are summarized to reflect the overall perception the survey participants have of the importance of each process.

The graph below compares the survey process maturity score against four areas:

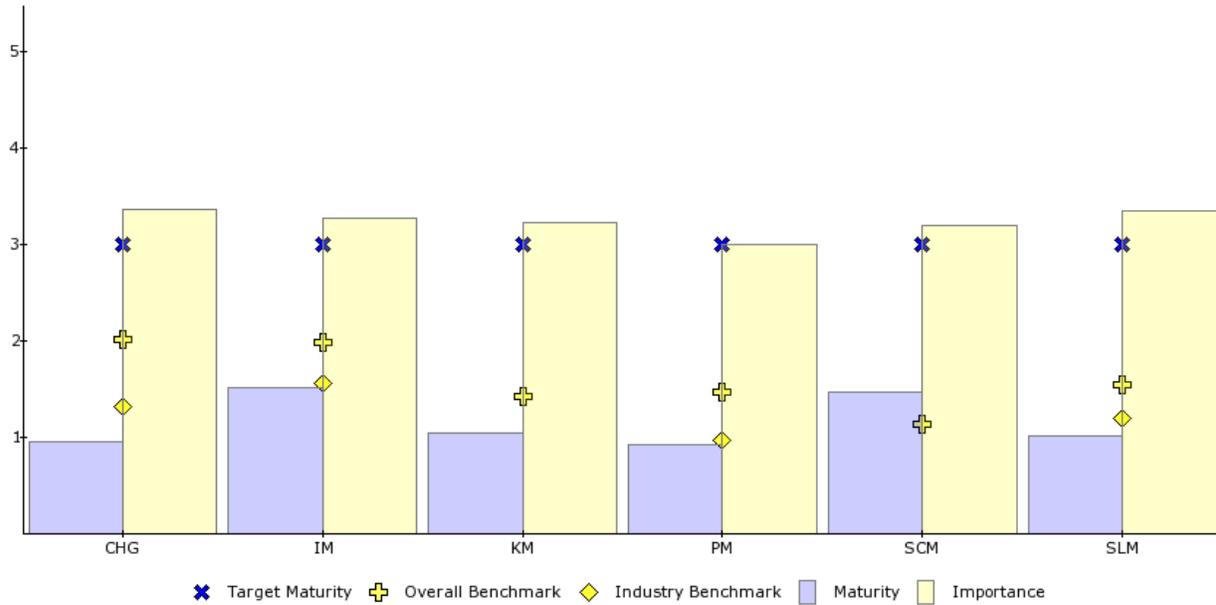
- Perceived Importance – as described above
- Target Maturity – a score identified by the organization for their future state maturity
- Overall Benchmark\* – maturity comprised of all survey results validated by Pink Elephant
- Industry Benchmark\* – maturity comprised of survey results validated by Pink Elephant for an industry sector comparable to University of Alaska

\*Note: Non-validated self-assessment scores are not included in the benchmark data.

This data should be utilized, with other internal input and known business requirements to assist in determining which processes require investment and a possible priority order for those investments.

The following graph shows the relationship between the process maturity, level of importance, benchmarks and defined targets. These are used for comparison purposes. Benchmark data is shown where the number of validated assessments is large enough to show relevant information. Where there is insufficient data, the benchmark symbol is not displayed in the graph.

Process Maturity And Importance Scores  
 University of Alaska Baseline Assessment - JUN2012 (June, 2012)



**Figure 2 – Importance Results**



## 5.4 Industry Benchmark Score For Process Maturity

The chart below compares process scores for UA OIT against the industry benchmark as well as a comparison to all the scores in the benchmark. The benchmark data is based on more than 200 assessments Pink Elephant has conducted for other clients. Non-validated scores are not included in benchmark results. Analyzing differences compared to the benchmark result can be useful in determining next steps and priorities for OIT.

Please note: This report contains benchmark rating as of July, 2012

Industry Benchmark Score For Process Maturity  
University of Alaska Baseline Assessment - JUN2012 (June, 2012)

Process Name	Process Acronym	All Benchmark Maturity Scores as of July 23, 2012	Your Maturity Score in June, 2012	Education Benchmark Maturity Score as of July 23, 2012
Change Management	CHG	2.01	.95	1.32
Incident Management	IM	1.98	1.52	1.56
Knowledge Management	KM	1.43	1.04	N/A*
Problem Management	PM	1.47	.93	0.97
Service Catalog Management	SCM	1.13	1.47	N/A*
Service Level Management	SLM	1.55	1.02	1.19

N/A\* indicates that benchmark data does not exist or is too small for valid analysis on this process.

**Figure 3 – Industry Benchmark Score**



## 6 PROCESS ANALYSIS

Information from the process surveys, facilitated workshops and any process documentation reviewed with the assessor were analyzed and observations of process control elements, activities and process enablers were documented for each of the assessed processes. Based on the observations, the assessor was able to draw conclusions about good practices that exist in the organization today and improvement opportunities. Improvement opportunities are documented as recommendations for short-term and longer-term process improvement projects.

The process score and maturity level are the validated score after the assessor has completed the analysis of all of the data. This score may be higher or lower than the original survey score based on the additional information learned through the facilitated workshops and documentation review.

Three graphics representing data from the assessment survey are shown for each process. These graphics can be used as input for additional understanding of how current process practices are perceived by the overall group surveyed:

- Maturity Level Percentage (Pie Chart) – the percentage of the total number of responses in each of the maturity levels plus “I Don’t Know” can raise questions about a varied distribution of responses
- Integration Scores – each process survey contains one statement about integration from the process to five other ITIL processes. Integration is an important component of mature processes. Integration results should be reviewed to identify opportunities for future process improvements
- Maturity by Function/Role – the percentage by management and staff may indicate differences in perception in each of the different functions and can be used to question why one group’s perception is different from another’s



## 6.1 Change Management

### Process Purpose / Objective

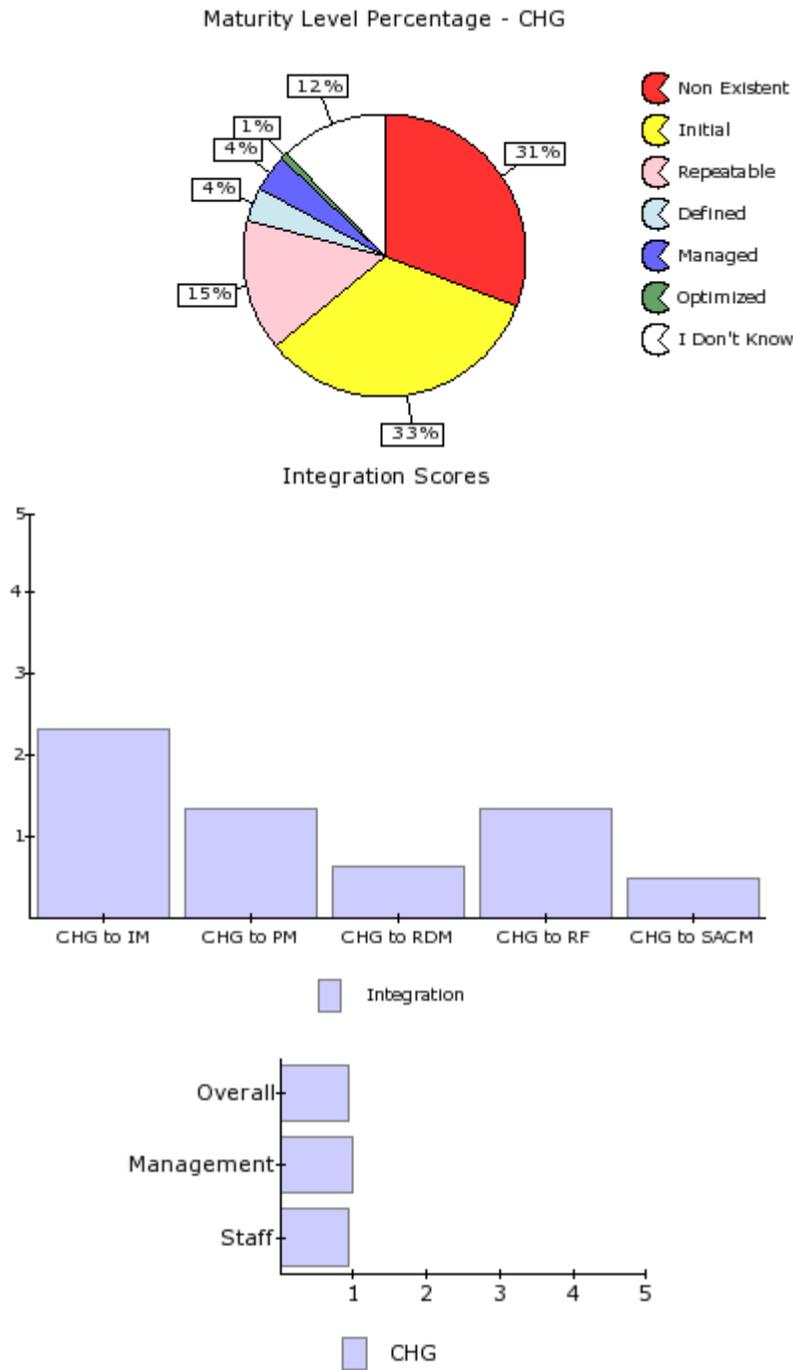
The purpose of the Change Management process is to control the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT services.

The objectives of the Change Management process are to:

- Respond to the customer's changing business requirements while maximizing value and reducing incidents, disruption and re-work
- Respond to the business and IT Requests for Change that will align the services with the business needs
- Ensure that changes are recorded and evaluated, and that authorized changes are prioritized, planned, tested, implemented, documented and reviewed in a controlled manner
- Ensure that changes to configuration items are recorded in the Configuration Management System
- Optimize overall business risk
  - It is often correct to minimize business risk , but sometimes it is appropriate to knowingly accept a risk because of the potential benefit
- Changes should be managed to:
  - Optimize risk exposure (supporting the risk profile required by the business)
  - Minimize the severity of any impact and disruption
  - Achieve success at the first attempt
  - Ensure that all stakeholders receive appropriate and timely communication about change so that they are aware and ready to adopt and support the change

#### 6.1.1 Assessment Score

- Maturity Score – 0.95 (Non Existent / Initial)
- Importance – 3.37



**Figure 4 – Change Management Scores**



### 6.1.2 Observations and Conclusions

- Change Management as a formal, documented process spanning all of UA OIT does not exist. Activities and procedures associated with Change Management such as Change Request submission and impact assessment are completed in an ad hoc manner
- Management of changes is based on individual and group experience and knowledge and common practices related to the technical domain in question
- Meetings are held to discuss the merits and risks of specific changes and approvals given based on experience and knowledge of the stakeholders involved in the change
- There is no common definition for what constitutes a “change”. Each department has their own definition and their own way to track changes
- There are no formal standards for acceptance criteria to guide decisions to approve or deny Change Requests
- There is no clear distinction between activities and procedures that comprise Change Management and those that are part of the Release & Deployment Management process. Much of the Change Management discussion covered Release & Deployment Management activities
- Knowledge of a pending change is not consistently communicated to all stakeholders prior to sign off. This creates challenges and inefficiencies in coordinating and scheduling the changes and required resources needed to execute them
- There is no agreed and documented change authorization model that defines the level of authorization required for each change category
- A Change Advisory Board (CAB) concept exists in some areas, but may not include the right stakeholders
- The management of changes is limited to individual change control functions. It does not include management reports about efficiency and effectiveness of the Change Management process nor does it enable identification of improvement opportunities
- Roles and responsibilities are not clearly defined or assigned across OIT. Roles associated with Change Management activities are technology based and not process based; for example the role of Change Owner, Change Manager or Change Coordinator are not formally defined or documented
- Reviews of changes may be carried out in response to specific issues associated with the change within technology groups but is not part of a formal, planned procedure
- Standard Changes, those intended to be pre-authorized by the Change Management process, are identified in some areas, but are not used to provide efficiencies across OIT



- Changes are categorized based on risk, as defined by the number of users that may be affected. This criteria is based on subject matter expertise among the staff in each of the technical domains but is not formally documented as part of the overall Change Management policies
- The Change Schedule is subject to change by implementers who decide on their own to do the change at a different time than was authorized
- HP Service Manager is used to support the documentation of changes. Other tools exist that serve to document specific changes to varying degrees but this is associated with activities more accurately defined as part of the Release & Deployment Management process
- There is a work initiation process which is separate from the Change Management process. When a change is ready to go into the live environment the change information is entered into the Change Management tool
- The process primarily supports change control or notification activities ensuring changes are raised, recorded, reviewed, authorized and implemented consistently; however, just prior to implementation
- There is a lack of formal end-to-end validation and testing of a change to prevent a subsequent failure
- Changes are categorized based on the technology and change approvers are assigned based on the technology domain
- There is reliance on the knowledge of team members to provide system and service impact analysis
- Change-related incidents are not tracked
- Changes are not formally reviewed after they are complete. There are no formal procedures for conducting comprehensive Post Implementation Reviews (PIRs)



### 6.1.3 Recommendations

- Assign a global Change Manager (Process Owner, promoter, advocate and ultimate Change authority) accountable for the end-to-end Change Management process across all in-scope departments
- Provide support for the global Change Manager role by assigning process representatives (Change Coordinators) from each functional group or department
- Reconsider the overall scope of the Change Management process within the organization so that the approvals at the senior management levels are effectively communicated in a timely manner to the IT groups that will ultimately be responsible for execution of changes and project deliverables
- Determine change success criteria that include business benefits, rather than just focusing on the technical aspects of a change
- Define and document Change Management policies that provide consistent standards to address the need for adequate risk assessment details, including resource requirements and the impact on the technology, the business customer and IT resources
- Policies should also address testing requirements, success criteria and Post Implementation Review procedures
- Establish change categories, for the purposes of change authorization, which allow for thorough risk assessment, approval and scheduling of all changes. By doing so, all changes that impact services can be managed within the scope of Change Management in an efficient, cost-effective manner:
  - Pre-approval of routine, low-risk changes, requiring individual unit manager approval
  - Changes that require broader management level approvals by groups of managers
  - Changes that are deliverables of project initiatives
- Identify an Authority Matrix that defines the roles and responsibilities within the Change Management process not only to execute change approvals but to manage all changes from submission to closure following a Post Implementation Review
- Create and define roles for a Change Advisory Board and Change Manager roles for staff or managers granted authority to individually approve minor changes
- Establish a Forward Schedule of Change that includes all changes within the scope of the process. This schedule should be accessible to all stakeholders on a read-only basis



- In the long term, define a full service lifecycle Change Management process which encompasses both a conceptual approval to do a change as well as the later lifecycle approval to promote the change to production
- Provide oversight and authorization for the work performed in each of the Release and Deployment Management process activities
- Define and document the scope of Change Management required to coordinate all changes, including communications between change builders and implementers to ensure successful changes by change category
- Define, document, communicate and enforce clear standardized requirements for deployment and implementation timelines to enforce compliance to agreed change windows. Communicate these standards and procedures for reporting instances when agreed change windows are not used or are exceeded
- Integrate Change Management with the following processes:
  - Incident Management – ensures changes are not having a negative impact on the stability of the production environment
  - Project Management – ensures high visibility and business impacting changes are managed for impact/risk and authorized
  - Request Fulfillment (when it is developed) – to ensure Standard Changes, once approved, can be handled easily
  - Problem Management (when it is developed) – to ensure changes are submitted to resolve Known Errors and performs trending on change-related incidents
- Establish a cross-functional team to help identify UA-wide requirements for the Change Management toolset to:
  - Support wide acceptance and proper use of the tool
  - Capture change information, including specific change types/categories that contain fields for technology-specific data which can provide additional detail for true impact assessment
  - Identify relevant documentation requirements based on change type/category
  - Automate change authorization workflow based on change type/category
- Define cross-organizational roles and responsibilities based on the Change Management process activities. Develop a RACI (Responsible, Accountable, Consulted, Informed) Authority Matrix to:
  - Formally identify and communicate the role of the Change Management Process Owner



- Clarify the process roles and responsibilities
- Ensure that all roles are aligned to functional job descriptions and cross-functional organizational structures
- Post and communicate information and minutes from all CAB meetings so that communication is cascaded to all change stakeholders. This communication can serve as a channel for informal education and awareness of the process
- Improve reporting for Change Management to measure efficiency and effectiveness of the process activities. Specifically:
  - High/low risk by change type
  - Successful and unsuccessful changes with business impact and risk justification
- Define initial Critical Success Factors (CSFs) for Change Management that might include:
  - Efficient and prompt handling of changes
    - This grounds any assertion that the Change Management process provides value, and justifies the Change Management process
  - Change handling meets standards
    - Timely and successful change implementations without unanticipated change-related incidents are chief measures of customer satisfaction. This assumes that anticipated impacts are agreed across the enterprise
  - ITSM tools support the Change Management process
    - Once the process has been established, the enabling tools assist, and do not hinder the achievement of process outcomes
  - Management commitment to Change Management
    - Leadership plays a key role in setting the attitudes, behaviors and culture to achieve desired outcomes
- Define initial Key Performance Indicators (KPIs) for Change Management that might include:
  - Reduced percentage of changes classified as Emergency, Urgent or Critical
  - Reduced percentage of unauthorized changes
  - Reduced percentage of change-related incidents
  - Change Management review meetings are regularly held and well attended



- Regular reviews of the Change Management process and procedures for no-value-add activities



## **6.2 Incident Management**

### **Process Purpose / Objectives**

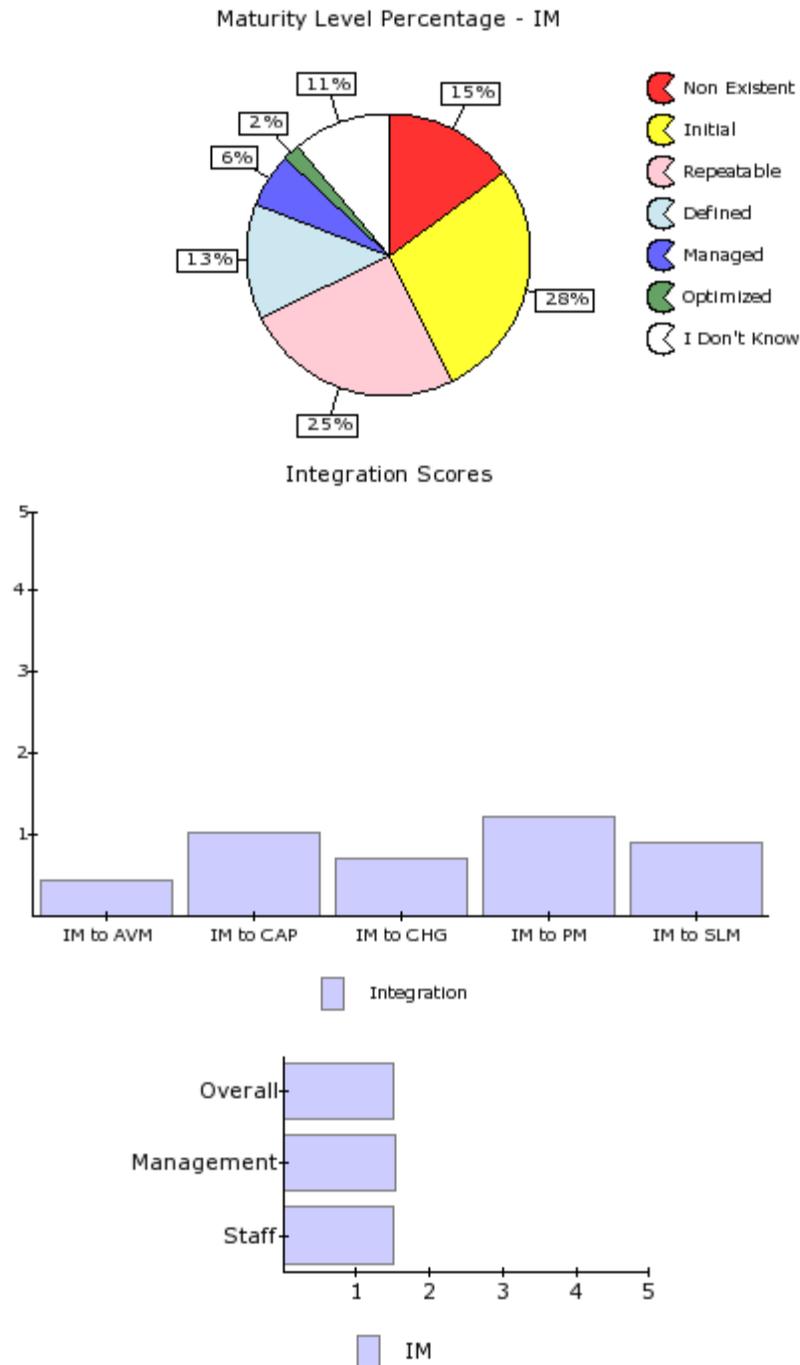
The purpose of the Incident Management process is to restore normal service operation as quickly as possible and minimize the adverse impact on business operations, ensuring that agreed levels of service quality are maintained.

The objectives of the Incident Management process are to:

- Ensure that standardized methods and procedures are used for efficient and prompt response, analysis, documentation, ongoing management and reporting of incidents
- Increase visibility and communication of incidents to business and IT support staff
- Enhance business perception of IT through use of a professional approach in quickly resolving and communicating incidents when they occur
- Align Incident Management activities and priorities with those of the business
- Maintain user satisfaction with the quality of IT services

### **6.2.1 Assessment Score**

- Maturity Score – 1.52 (Initial)
- Importance – 3.28



**Figure 5 – Incident Management Scores**



## 6.2.2 Observations and Conclusions

- This process ranked highest in maturity and is one of the processes that is followed relatively consistently (but not completely) across the enterprise
- The Incident Management Process Owner role is defined and assigned; the Process Owner seems to be known within the organization
- Incident Management process documentation includes a workflow diagram that clearly illustrates the Incident Management process as well as accompanying activity descriptions and roles
- The Support Center, the Single Point of Contact for users to contact IT staff, is not consistently used:
  - Users are sometimes encouraged to contact 2<sup>nd</sup> line staff directly
  - It is not uncommon for users to establish rapport with specific IT staff members who have provided good service in the past and use that IT staff as their primary point of contact
- Incidents can be assigned to technical groups responsible for the component that is affected based on information from monitoring tools
- There are multiple points of contact available to users depending on the nature of the issue and the service or resource being impacted by the incident
- Users may contact IT staff via email or phone and it is common for users to approach IT staff directly face-to-face. These incidents are initially assigned to a particular group based on point of contact
- Incidents are re-assigned (escalated) to another group if it is discovered that the issue lies in that technical domain
- Any practices related to an Incident Management process followed within different IT groups are not documented
- Specific functional group effort, knowledge and expertise are the determining factors in how an incident is handled
- The concept of ownership of an incident record throughout its lifecycle is not understood
- Specific IT staff members having ownership of incident resolution is a widely understood practice
- Reporting on the Incident Management process as a whole does not exist. There is no formal measurement and reporting in place



- Consistent and universally held process terminology and definition is not in evidence. There is no clear distinction between the definition of an incident, a problem and a service request. There are no universal terms for “User” or “Customer” as ITIL defines them
- Clear definition of incident prioritization and categorization models is lacking
- A defined measurement framework makes process improvement very difficult
- Overall, the approach to Incident Management is reactionary and based on individual expertise, commitment and cooperation rather than formally defined procedures
- There are no Service Level Agreements (SLAs) between OIT and its customers in support of Incident Management



### 6.2.3 Recommendations

- Define and implement a formal Incident Management process based on ITIL best practices. This includes documentation of procedures for handling all incidents according to a common categorization and prioritization model
- Clearly establish the Single Point of Contact for all users and define the procedures for initiating contact, the means of contact and the required responses to contacts from users
- Establish common terms and definitions related to Incident Management. In particular, the definition of what constitutes an Incident, a Service Request, a Problem and a Change need to be agreed and clearly documented and articulated to all UA IT staff
- Appoint the Support Center as owner of all incident records regardless of where it has been assigned in the organization. This single point of accountability for monitoring, managing, reporting and closing all incidents is a best practice approach that ensures all incidents can be effectively resolved, and improvements to the process more readily identified
- Establish process policies that define escalation and notification procedures and tie these to the prioritization and categorization models to ensure that timely and appropriate functional and hierarchical escalations occur
- Identify roles and responsibilities within all functional groups to act as Incident Analysts to ensure assignment of records and execution of incident investigation, diagnosis and resolution
- Expand on the current measuring and reporting functions around response times to include Incident Management process metrics, Critical Success Factors and Key Performance Indicators that are related directly to the objectives of the process
- Establish clear Incident Management policies where all inputs to Incident Management require an incident record to be opened in HP Service Manager regardless of where the incident is reported
- Require all OIT staff to follow Incident Management process and policies
- Establish metrics and reporting for the overall Incident Management process and activities. Cover not only basic Service Desk metrics about speed to answer and volumes, but also metrics that detail bottlenecks, and most frequent call types and errors to allow for trend analysis and ongoing improvement
- Configure HP Service Manager so incidents, service requests, problems and changes can be managed as separate record types which can be linked



- Establish a shared, easily searchable knowledgebase to improve the resolution of incidents and enable incident matching, allowing support staff to share knowledge between 2nd and 3rd level teams
- Develop the RACI (Responsible, Accountable, Consulted, Informed) Authority Matrix to clarify Incident Management roles and responsibilities, ensuring that all roles are well-defined, clear and aligned to OIT functional job descriptions and cross-functional organizational structure
- Develop a communication, escalation and notification model to provide clear guidance on communication based on priority level and potential time periods during the incident lifecycle (e.g. define the audience, method and notification time-trigger based on the incident priority). Where possible, automate these notifications as part of Service Level Management functionality within the tool
- Develop and provide training to all support levels to reinforce incident record update practices and procedures. Ensure the tiered support teams understand their role within the process and actively participate in incident record updates
- Consider the following Critical Success Factors to measure initial improvements:
  - Efficient Incident Resolution
    - This grounds any assertion that the Incident Management process provides value to individual users, and justifies the Incident Management process
  - Support Center is the Single Point of Contact (SPOC)
    - Incident Management communicates incident status through the Support Center
  - Required knowledge is shared
    - Incident Management shares incident data with support teams and the business to inform their continual improvement processes. Incident Management also solicits information from business units and support teams to better manage Known Errors and recurring incidents
  - Management commitment to Incident Management
    - Leadership plays a key role in setting the attitudes, behaviors and culture to achieve desired outcomes
- These Key Performance Indicators (KPIs) may provide the initial data points in support of the CSFs:
  - Reduce average resolution time
  - Increase percentage of incidents solved by the Support Center



- Reduce percentage of incidents initiated by end-users contacting support teams directly
- Reduce incident record quality issues
- Management is known to be a user of the Incident Management process



## 6.3 Knowledge Management

### Process Purpose / Objective

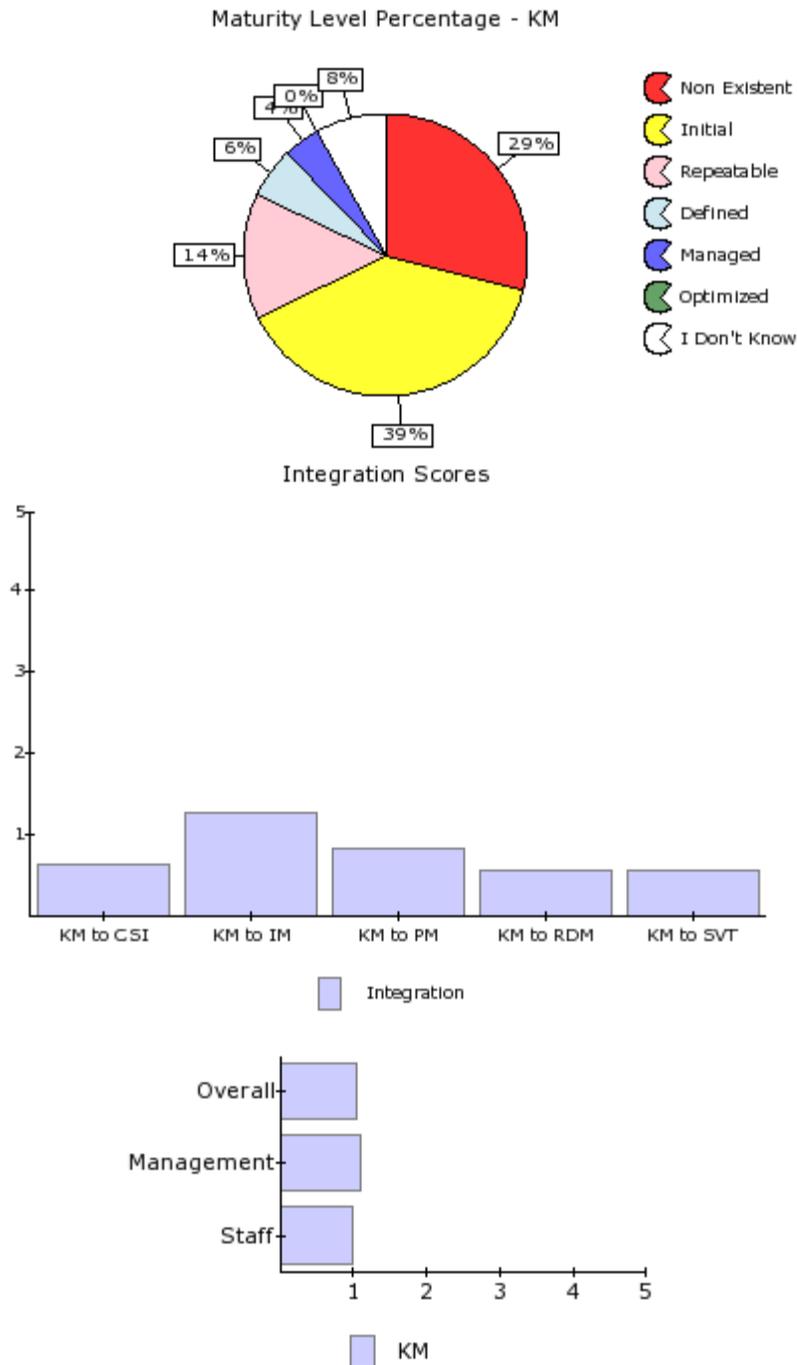
The purpose of the Knowledge Management process is to share perspectives, ideas, experience and information; to ensure that these are available in the right place at the right time to enable informed decisions; and to improve efficiency by reducing the need to rediscover knowledge.

The objectives of Knowledge Management are to:

- Improve the quality of management decision-making by ensuring that reliable and secure knowledge, information and data is available through the service lifecycle
- Enable the service provider to be more efficient and improve quality of service, increase satisfaction and reduce the cost of service by reducing the need to rediscover knowledge
- Ensure that staff have a clear and common understanding of the value that their services provide to customers and the ways in which benefits are realized from the use of those services
- Maintain a Service Knowledge Management System (SKMS) that provides controlled access to knowledge, information and data that is appropriate for each audience
- Gather, analyze, store, share, use and maintain knowledge, information and data throughout the service provider organization

#### 6.3.1 Assessment Score

- Maturity Score – 1.04 (Initial)
- Importance – 3.23



**Figure 6 – Knowledge Management Scores**



### 6.3.2 Observations and Conclusions

- There is no end-to-end Knowledge Management process. It is currently a decentralized process with each support team responsible for developing and updating knowledge within their discrete areas of expertise
- A Process Owner has recently been identified for Knowledge Management
- There are documented knowledge records stored in a Wiki
- The Support Center is currently the primary user of knowledge articles produced
- The Support Center staff document knowledge articles using templates. These articles are not maintained in HP Service Manager, but reside in a SharePoint site
- Level 2 resources have access to their own SharePoint knowledge articles; these are not relevant for troubleshooting by Level 1 support
- Support Center knowledge articles are searchable via keywords
- Knowledge articles are not regularly communicated to the Support Center for facilitating incident resolution
- Some articles go through a technical review by a Manager or Team Lead at the Support Center
- There is no regular review of knowledge articles for relevance and helpfulness
- Individual groups create documentation on an as-needed basis for use within the group
- The Desktop Support team is beginning to actively engage in knowledge sharing with the Support Center; however, there are still challenges in receiving timely information prior to a production release
- Project Teams and Application groups rarely provide information for the Support Center to capture in knowledge articles
- There is a heavy reliance on individual knowledge and experience
- These Knowledge Management challenges were expressed during the workshop:
  - Multiple repositories
  - No centralized control
- Knowledge sharing is not institutionalized as part of the UA culture. Most people rely on “tribal knowledge” and refer to colleagues for information which is often not documented or readily available, resulting in each group creating and managing information disparately and redundantly



- The workshop participants said there is a need for a Knowledge Management process and database due to the ongoing risk of losing information and knowledge as people transition from one role to another and/or leave the University



### 6.3.3 Recommendations

- Launch an initiative to conduct an inventory of existing portals, documents and information sources as a first step in establishing a Knowledge Management approach
- Implement a Knowledge Management process to improve the quality of management decision making by ensuring that reliable and secure information and data is available throughout the Service Lifecycle to meet business needs
- Establish the role of an enterprise-wide Knowledge Manager and ensure all support teams are aware of the role, responsibilities and authority in facilitating the effective use of knowledge required to support UA OIT
- Establish a Knowledge Management strategy and documentation structure to ensure information and data is captured, stored and accessible
- Improve integration between Level 2 and Level 3 support teams and ensure operational handoffs and necessary documentation is available to support teams and stored in a central repository well before a production release
- Develop a centrally accessible Knowledge Database with documents that are standardized, communicated and available to all that need access
- Provide regularly scheduled role-based and specific application and infrastructure cross-training to backup support staff to ensure adequate knowledge transfer and knowledge sharing amongst the support teams
- Understand and document information or knowledge that the organization needs:
  - How does each item of data relate to other data, information and knowledge?
  - Where and how should it be stored?
  - Who is responsible for collecting, updating and maintaining it?
  - What legal, regulatory or governance considerations apply to it?
  - How long is it needed?
  - How will it be consolidated, archived or deleted when it is no longer needed?
  - Who should be allowed to access it?
  - Who should be allowed to change it?
- Establish document governance and control guidelines with enforceable metrics to ensure documents are regularly reviewed for relevance, currency, accuracy
- Identify appropriate CSFs based on OIT's objectives for the process. Some samples include:



- Availability of knowledge and information that helps to support management decision-making
- Reduced time and effort required to support and maintain services
- Successful implementation and early life operation of new and changed services with few knowledge-related errors
- Improved accessibility and management of standards and policies
- Reduced dependency on personnel for knowledge
- Develop KPIs appropriate for your level of maturity and CSFs. Monitor achievements against your chosen KPIs and use them to identify opportunities for improvement. Carefully consider the following KPIs for adoption:
  - Increased number of times that the Service Knowledge Management System (SKMS) is accessed
  - Increased percentage of SKMS searches by managers and users that receive a rating of 'good'
  - Increased number of times that material is re-used in documentation such as procedures , test design and Support Center scripts
  - Increased number of accesses to the SKMS by Service Operation teams
  - Reduced transfer of issues to other people and more resolution at lower staff levels
  - Increased percentage of incidents solved by use of known errors
  - Increased results in Knowledge Management satisfaction survey of Service Operation teams
  - Reduced number of incidents and problems categorized as 'knowledge-related'
  - Increased percentage of successful service transitions
  - Increased number of standards and policies stored in the SKMS
  - Increased number of times that standards and policies in the SKMS have been accessed



## **6.4 Problem Management**

### **Process Purpose / Objective**

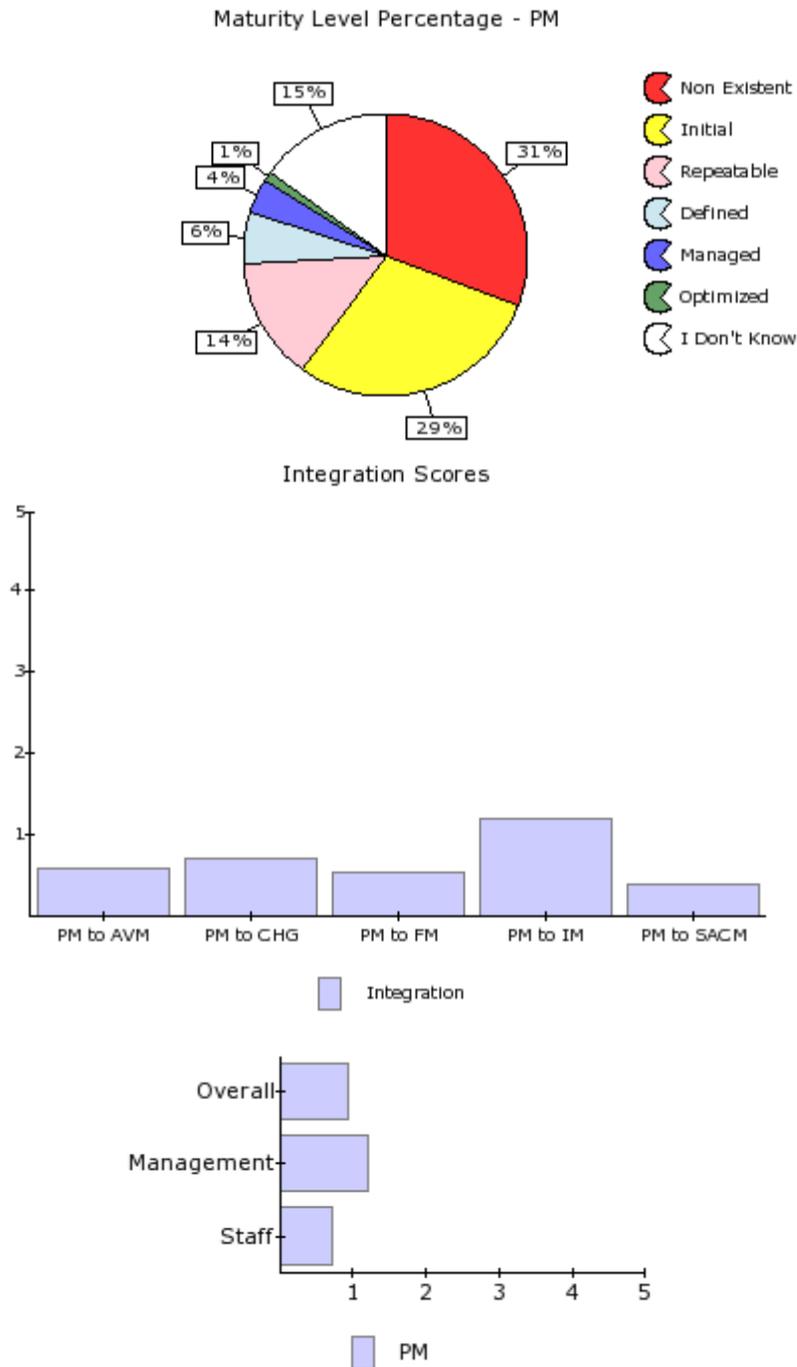
Problem Management is the process responsible for identifying and removing systemic issues within the IT environment impacting service availability and for managing the lifecycle of all problems.

The objectives of the Problem Management process are to:

- Prevent problems and resulting incidents from happening
- Eliminate recurring incidents
- Minimize the impact of incidents that cannot be prevented

#### **6.4.1 Assessment Score**

- Maturity Score – 0.93 (Non-Existent / Initial)
- Importance – 3.00



**Figure 7 – Problem Management Scores**



## 6.4.2 Observations and Conclusions

- Problem Management is not clearly defined as a process. All activities related to an ITIL based Problem Management process are carried out on the basis of individual and technology group experience, expertise and knowledge and not on a formally agreed, documented and repeatable process
- A Problem Management Process Owner has been identified but does not appear to have the authority to get everyone to use the process across the enterprise
- Staff understands the importance and value that a formal Problem Management process can provide to OIT and the University
- There may be a fair number of problems that are not being addressed today that could provide permanent resolution and eliminate recurring incidents
- There is little or no distinction made or understood between an incident and a problem and no distinction between Incident Management and Problem Management processes. As a result, individuals determine the best course of action between applying a temporary work-around or carrying out Root Cause Analysis to discover a permanent resolution on a case by case basis
- There is no separate problem record ready to be used in HP Service Manager although the capability exists
- If a problem is detected and action is needed to determine the Root Cause, identify a workaround or a permanent fix, an incident record may be used to track those activities
- There is no evidence that OIT follows a documented and well understood Root Cause Analysis (RCA) procedure. “RCA” has been the term generally accepted as synonymous with the term “Problem”
- RCA discussions are primarily focused on Major Incident resolution and there is little evidence that there is follow-through to ensure the error is removed and incidents are eliminated or reduced
- There is no Known Error Database, but every application area keeps their own “bug list”
- Workarounds may be documented in a knowledge document, but this is not general practice outside of the Support Center
- Each OIT group tracks their own known problems and specific knowledge articles
- Proactive measures such as trend analysis and analysis of the incident records for the purposes of identifying resolving problems do not exist largely because incident records are not kept up well enough



### 6.4.3 Recommendations

- Define and document a Problem Management process based on the ITIL best practices. Include both reactive as well as proactive activities designed to prevent future incidents in the process
- Facilitate problem identification, classification and prioritization through analysis of incident records, monitoring data and inputs from other processes as well
- Move the organization toward a more complete view of issues that are causing downtime or are a threat to cause downtime in the future and allow for a more systematic approach to reducing or eliminating adverse impacts of downtime to the University users
- Define and assign roles and responsibilities for specific activities such as:
  - Incident Matching for the purposes of problem identification
  - Work-around documentation in support of Incident Management
  - Trend analysis to identify current and future threats to services
  - Major Problem Reviews to identify areas for improvement in the overall provision of IT services to the University
- Develop a measurement framework that focuses attention on a balanced view of the Problem Management process with Critical Success Factors and Key Performance Indicators aligned with the goals and priorities of the process and of the OIT organization in delivering services to its customers
- Clearly and formally separate and define the Incident and Problem Management processes:
  - Ensure the goal of each process is understood
  - Ensure problems are recorded, tracked and reported separately from incidents, preferably using the same tool to leverage integration requirements
- Provide a definition of a “Problem” and establish OIT-wide criteria for when to open a problem record. Typical conditions requiring a problem record include:
  - Major Incidents
  - Incidents requiring a work-around or resolution
  - Repeating incidents or trends
  - Reports of the current environment to enable proactive action to prevent future incidents



- Develop, document, gain agreement on and implement an OIT-wide RCA methodology and practice with an initial focus on conducting RCA on Major Incidents, and if a workaround or permanent fix is not known
- Integrate the new Problem Management process into the work practices of all technical teams that recommend workarounds and fixes
- Establish a procedure for conducting Major Problem Reviews with key technical Subject Matter Experts (SMEs), business representatives and key stakeholders
- Ensure incident data and problem resolution data is audited and available for trend analysis and pattern determination resulting in information that enables informed decision-making when managing problems
- Ensure problem analysis and RCA data is documented, stored and searched within HP Service Manager which will facilitate linking problems to changes and related service and system components
- Provide the Problem Management Process Owner with the proper authority to:
  - Bring SMEs together to provide trending and reporting information
  - Lead RCA teams
  - Provide problem reporting and process improvement recommendations
- Provide role-based process and technical training to all staff allocated to conduct Problem Management activities, specifically problem identification, investigation and diagnosis
- Communicate the benefits of the Problem Management process to provide focus for both reactive and proactive aspects
- Establish policies that will enable increased coordination between technical teams to ensure that the key objectives for the distinct Incident Management and Problem Management processes are being met
- Capture and publish Problem Management metrics. For example:
  - Percentage of problems resolved in a given time period
  - Average cost of handling a problem
  - Backlog of outstanding problems and the trend (static, reducing or increasing)
  - Percentage of problems opened due to recurring incidents
  - Percentage accuracy of the Known Error Database (from database audits)



## **6.5 Service Catalog Management**

### **Process Purpose / Objective**

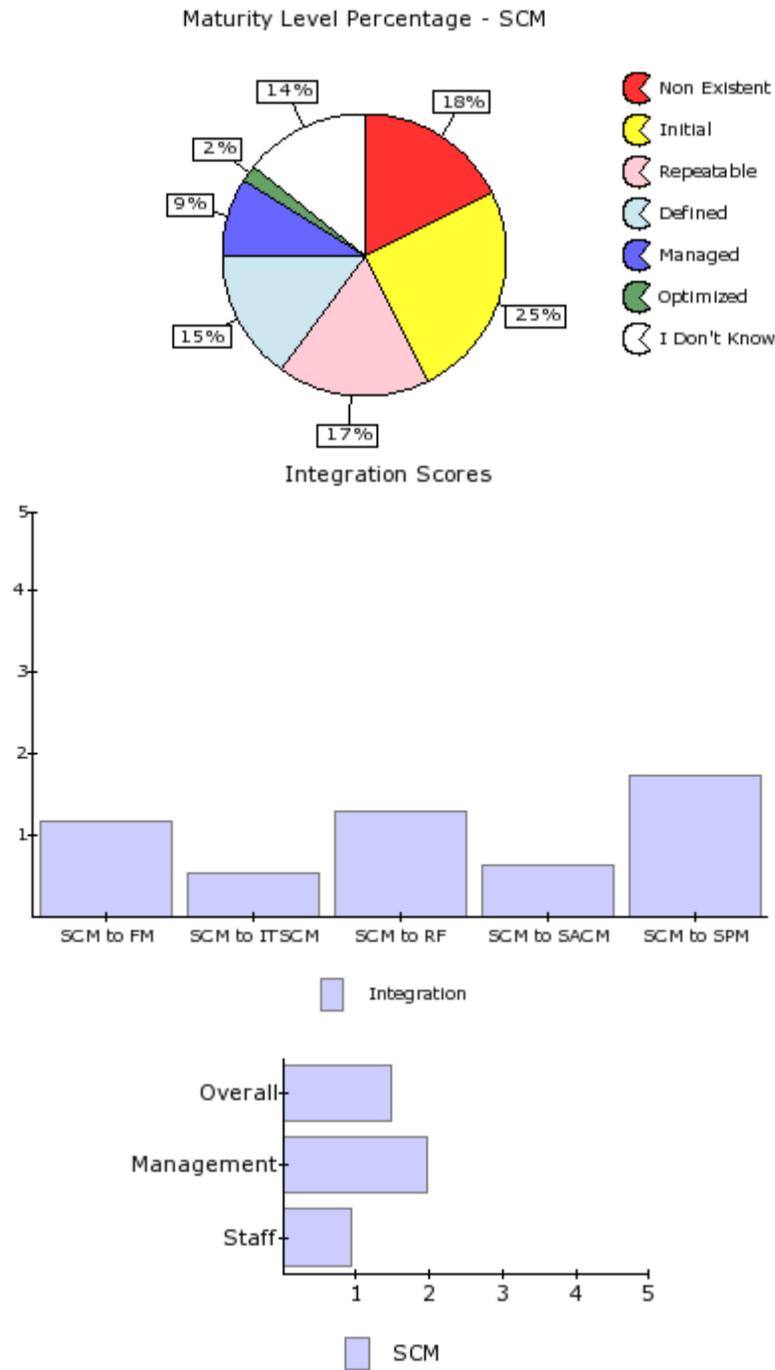
The purpose of Service Catalog Management is to provide and maintain a single source of consistent information on all operational services and to ensure that it is widely available to those who are authorized to access it.

The objectives of Service Catalog Management are to:

- Manage the information contained within the Service Catalog
- Ensure the Service Catalog is accurate and reflects the current details, status, interfaces and dependencies of all services that are being run, or being prepared to run, in the operational environment
- Ensure that the Service Catalog is made available to those approved to access it in a manner that supports their effective and efficient use of the information
- Ensure the Service Catalog supports the evolving needs of all other Service Management processes

### **6.5.1 Assessment Score**

- Validated Maturity Score – 1.46 (Initial)
- Importance – 3.20



**Figure 8 – Service Catalog Management Scores**



## 6.5.2 Observations and Conclusions

- A single, centrally accessible Service Catalog is used to document and publish the details of all services currently available
- The Service Catalog is used as an entry point for users to request services
- Users can request services through any OIT person instead of using the Service Catalog
- There is no defined process to manage the Service Catalog, but it is beginning to be established
- “Service” seems to be a recognized term across OIT but there is not a consistent definition of what constitutes a service and how a service can be determined and defined
- Business users are made aware of the Service Catalog and services provided to them on an individual basis
- The accountability for accuracy of the Service Catalog is currently in the hands of the Process Owner
- There are standard templates in place to document services published in the Service Catalog with criteria for required and optional content
- Changes to the Service Catalog are controlled via the Change Management process in order to maintain the accuracy of information
- The Service Owner role does not exist for all Services, consistently
- A measurement framework has not been established for Service Catalog Management that identifies measures and reports on metrics aligned to Critical Success Factors and Key Performance Indicators
- Information regarding retired services is not captured within the Service Catalog
- Service Provider staff is aware of the Service Catalog, but do not use it consistently
- Process improvement initiatives are being planned as a result of capturing and managing feedback



### 6.5.3 Recommendations

- Consistently include the following when defining a service:
  - A simple, business facing description of the service (involve the business in this part of the exercise)
  - Service Owner
  - Service availability
  - Support hours
  - Process for requesting the service
  - Service level targets
  - Service hierarchy (identifying the customer-facing and the technical supporting services and the relationships between the two views)
- Develop and document a Service Catalog Management process, to include:
  - Policies, procedures, roles and metrics to assure the continued accuracy of the Service Catalog, including:
    - Creating a service
    - Updating a service
    - Validating the accuracy of the Service Catalog
    - Actions to resolve inaccuracies within the Service Catalog
    - Service Catalog metrics and dashboards
    - Process for managing exceptions and escalations
- Define the interfaces with tightly integrated processes, initially including:
  - Request Fulfillment
  - Change Management
  - Incident Management
- Ensure the Service Catalog tool can support the two views of a Service Catalog:
  - Business services (customer facing)
  - Technical services (supporting services)
- Each defined service should have a Service Owner assigned. One approach to consider is that when assigning Service Owners they should be senior in the organization and have



the ability to influence and translate technical services into business services. This role should be empowered to work with the business to identify and manage expectations

- Identify appropriate CSFs and KPIs for Service Catalog Management, using these samples for consideration:
  - CSF -An accurate Service Catalog
    - KPI – Increase in the number of services recorded and managed within the Service Catalog as a percentage of those being delivered and transitioned into the live environment
    - KPI – Percentage reduction in the number of variances detected between the information contained within the Service Catalog and the ‘real-world’ situation
  - CSF – Business users’ awareness of the services being provided
    - KPI – Percentage increase in the completeness of the customer-facing views of the Service Catalog against operational services
    - KPI – Percentage increase in business user survey responses showing knowledge of services listed in the Service Catalog
    - Increase in measured business user access to intranet-based Service Catalog
  - CSF – IT staff awareness of the technology supporting services
    - KPI – Percentage increase in completeness of supporting services against the IT components that make up those services
    - KPI – Increase in Support Center and other IT staff having access to information to support all live services, measured by the percentage of incidents with the appropriate service-related information



## **6.6 Service Level Management**

### **Process Purpose / Objective**

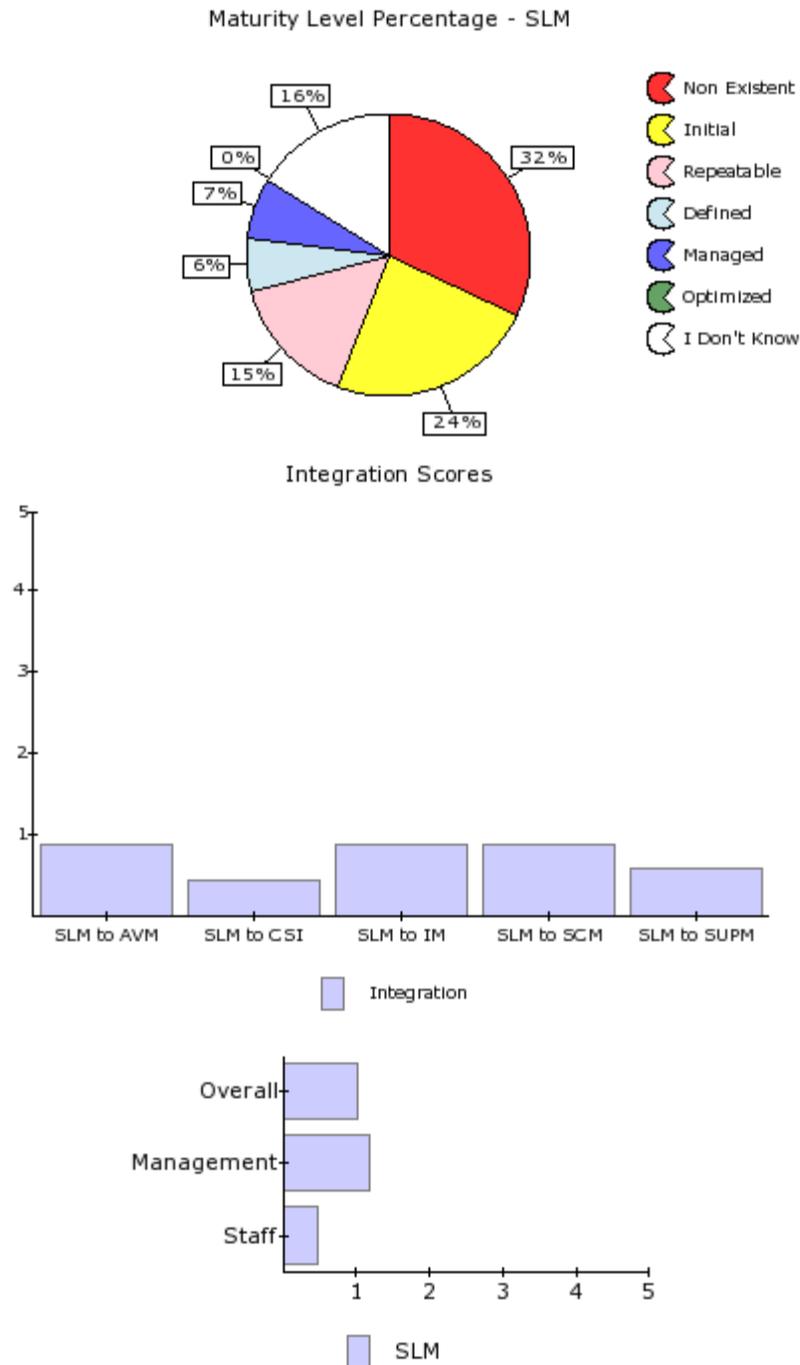
The purpose of Service Level Management is to ensure that all current and planned IT services are delivered to agreed achievable targets.

The objectives of Service Level Management are to:

- Define, document, agree, monitor, measure, report and review the level of IT services provided and instigate corrective measures whenever appropriate
- Provide and improve the relationship and communication with the business and customers in conjunction with Business Relationship Management
- Ensure that specific and measurable targets are developed for all IT services
- Monitor and improve customer satisfaction with the quality of service delivered
- Ensure all parties understand the level of service to be delivered
- Ensure that appropriate measures to improve service quality are implemented

### **6.6.1 Assessment Score**

- Maturity Score – 1.03 (Initial)
- Importance – 3.35



**Figure 9 – Service Level Management Scores**



### 6.6.2 Observations and Conclusions

- Service Level Management (SLM) is not recognized as a standard process across OIT:
  - The agreements that do exist with business units are primarily focused on the ability of one group/technology to deliver their part of a service
- There is a Process Owner assigned to the process
- Service Owners have not been assigned
- The process, templates and tools for creating and managing enterprise Service Level Agreements (SLAs) have not been defined; however, some of these exist for the groups that have agreements with their business partners
- Service level performance achievements are not consistently monitored and measured against targets documented in Service Level Agreements
- Service review meetings are not held regularly with customers to discuss service level achievements and any plans for improvements that may be required as a result of the review
- There is no focus on customer feedback from service reviews, customer satisfaction surveys or other customer interactions to monitor customer satisfaction and identify service improvements



### 6.6.3 Recommendations

- One of the most important goals of Service Level Management is to build strong relationships between OIT and its customers/users. Find out what their needs and issues are and learn how OIT can help them be more productive and efficient
- It is difficult to establish Service Level Agreements (SLAs) without a clear understanding of what the service provider can actually deliver:
  - Begin by defining Operational Level Agreements (OLAs)
  - These need to be in place to support any SLAs
  - Once established, OLAs need to be reviewed each time a service is introduced or changed to ensure the Service Level Requirements are still viable
- An OLA between the Support Center and the rest of the OIT functional groups such as the desktop, database, or application groups, for example, an OLA regarding response time, is a good first step to ensure there is consistent handling of incidents and service requests
- Establish and document a framework for Service Level Management and a structure for SLAs
- Develop documentation templates that will help steer negotiation meetings and provide clear, specific and unambiguous documentation of requirements and agreements
- Involve customers in developing and agreeing to the initial service targets that will be included in Service Level Requirements
- Consider having multiple people in the Service Level Manager role, perhaps for each OIT unit, to prevent bottlenecks, and ensure they can dedicate time to creating and managing agreements and customer relationships
- Nothing should be included in an SLA unless it can be effectively monitored and measured at a commonly agreed point
- Decide how to monitor an end-to-end service. It requires a proper balance between developing the end-to-end monitoring capabilities and finding ways to best express measures such as availability
- Options for monitoring performance must be assessed, and all decisions must be documented and communicated
- Strive to monitor the end-to-end service level in order to match the customer's perception of the service



- Establish “soft” measures in addition to metrics based on monitoring components and transactions
- Develop methods to assess customer perception and satisfaction such as surveys, user group forums and analysis of complaints and compliments
- Establish procedures for logging and managing all complaints and compliments. These should be logged, communicated with relevant parties and resolved to the satisfaction of the originator
- Agree and document the frequency and format of service review meetings
- Hold regular service reviews with customers to assess any weak areas where targets are not being met either by the service provider or the customer
- Document all service reviews with meeting minutes and create Service Improvement Plans containing action item lists that are tracked for status and completion to address weaknesses
- Produce reports to identify frequency of complaints, types of complaints and any trends that may warrant additional action
- Define, agree and document the SLA reporting mechanisms, intervals and report formats with the customers
- Adopt Service Level Management CSFs and KPIs based on the following samples, as appropriate for OIT’s objectives:
  - CSFs
    - Managing the overall quality of IT services required both in number and level of services provided and managed
    - Deliver the service as previously agreed at affordable costs
  - KPIs
    - Percentage reduction in SLA targets threatened
    - Percentage increase in customer perception and satisfaction of SLA achievements, via service reviews and customer satisfaction survey responses
    - Percentage reduction in SLA breaches caused because of internal OLAs
    - Total number and percentage increase in fully documented SLAs in place
    - Percentage increase in SLAs agreed against operational services being run
    - Percentage reduction in the costs associated with service provision



- Percentage reduction in the cost of monitoring and reporting of SLAs

## 7 ORGANIZATION CULTURE SURVEY

The aim of the Organization Culture Survey is to gain insight into the climate and culture of an organization in order to determine the best means to approach the changes suggested within this report. Process improvement initiatives typically mean changing historical work habits and establishing accountability and responsibility for activities. Understanding and identifying constraints and resistance to change is important for the successful implementation of changes to policies, processes, procedures and standards.

The climate of the UA OIT organization was examined in anticipation of changing policies and procedures. In total there were 67 respondents who participated in the Organizational Culture Survey.

To determine the organizational climate the following analysis has been used. This analysis distinguishes four types of climate:

Name	Characteristics	Focused On
Supporting	<ul style="list-style-type: none"> <li>• Aimed at people</li> <li>• Aimed at values</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation</li> <li>• Tolerance</li> <li>• Support</li> <li>• Maximization of human commitment</li> </ul>
Innovative	<ul style="list-style-type: none"> <li>• Change</li> <li>• Adaptation</li> <li>• Individual initiative</li> <li>• Diversity</li> <li>• Competition</li> </ul>	<ul style="list-style-type: none"> <li>• Growth and risk</li> <li>• Stimulation of initiative</li> <li>• Individual responsibility</li> <li>• Optimal use of human resources</li> <li>• Scientific findings taken into account</li> </ul>
Respect For Rules	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Continuity</li> <li>• Uniformity</li> <li>• Affirmation of the above</li> </ul>	<ul style="list-style-type: none"> <li>• Structure</li> <li>• Formalization</li> <li>• Centralization</li> <li>• Standardization</li> </ul>
Information Flow	<ul style="list-style-type: none"> <li>• Planning</li> <li>• Clear policy</li> </ul>	<ul style="list-style-type: none"> <li>• Productivity</li> <li>• Efficiency</li> <li>• Work pressure</li> <li>• Provision of logical guidelines by organization</li> </ul>

**Table 6 – Types Of Climate**



The framework for the types of climate is formed by the responses to a series of questions relating to two central themes:

- Is development of the individual or fulfillment of business goals the prime role of the organization?
- Is the organization flexible with respect to its operating procedures, or is it aimed at controlling processes?

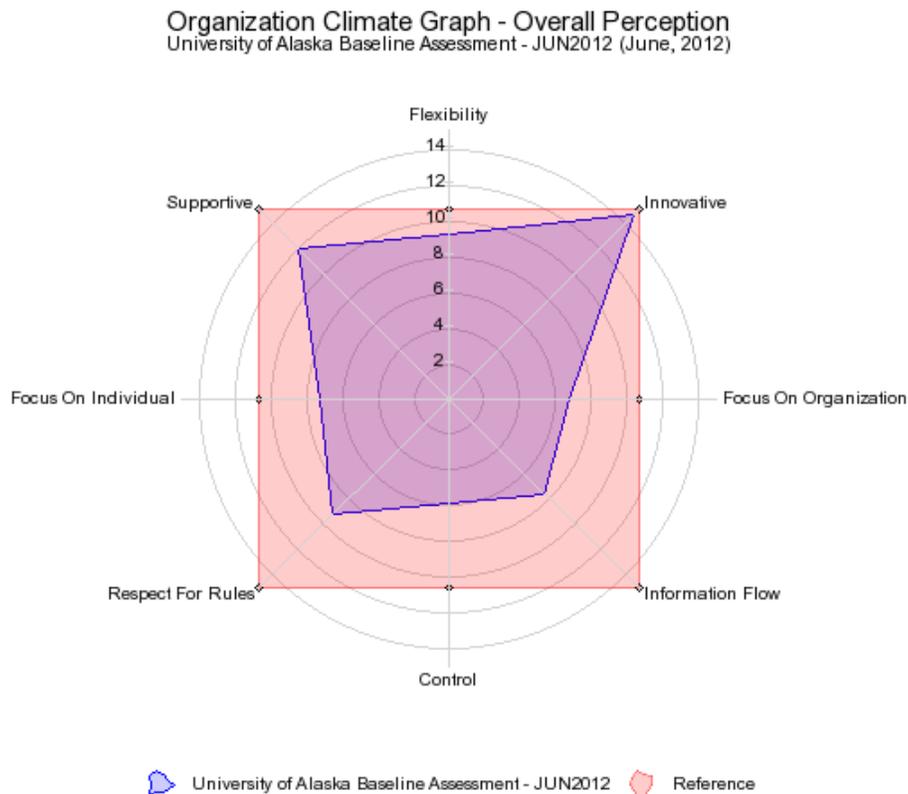
There are four dimensions to the framework diagram. The responses to the questionnaires indicate whether the organizational climate is focused on:

- People
- The Organization
- Flexibility
- Control

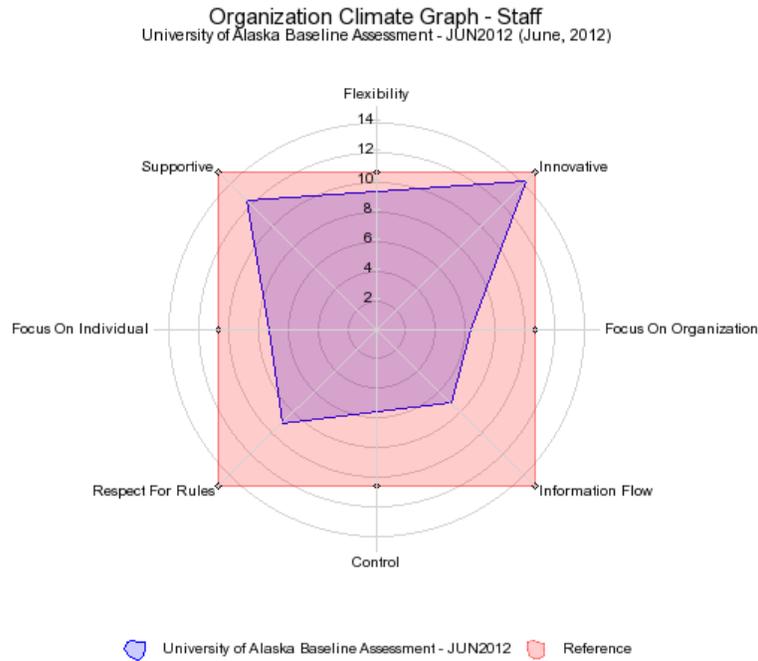
### 7.1 Results And Points For Consideration

The Organization Culture Survey is based on the short form of the Organization Culture Index for Profit Organizations that was developed by the Katholieke Universiteit Leuven, Belgium. The University has developed the frame of reference represented by the square box by taking the responses from over 150 different organizations from different market sectors and industries.

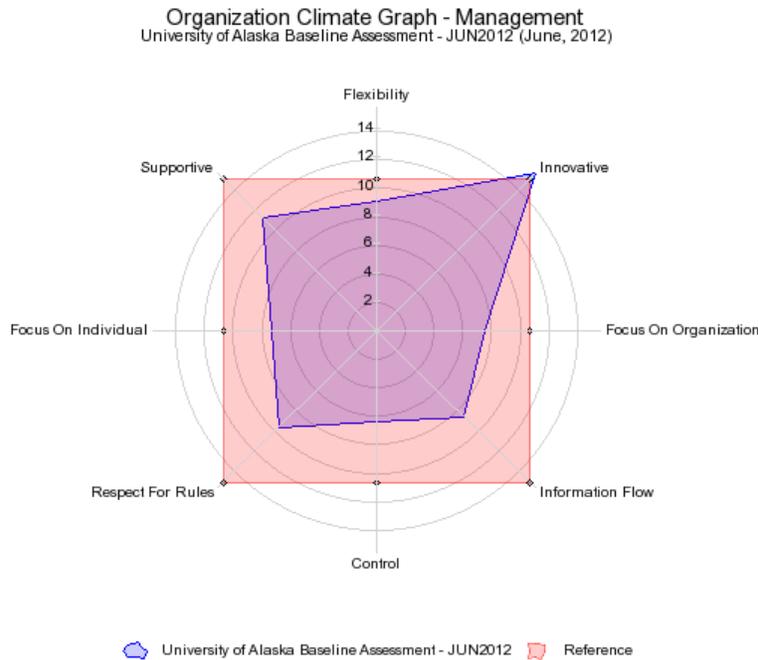
While it is recognized that only a small percentage of the total IT Department staff participated in the culture survey, it is the involvement of these respondents in the current IT Service Management processes that makes it important to understand their perceptions of the UA OIT organizational culture. It is recognized that the results of the survey may differ if a wider base of staff were questioned.



**Figure 10 – Organization Climate Graph – Overall Perception**



**Figure 11 – Organization Climate Graph – Staff Perception**



**Figure 12 – Organization Climate Graph – Management Perception**



### **7.1.1 Supporting Climate**

This axis focuses on attributes and values such as fairness, teamwork, cooperation, and tolerance. It values employee nurturing and well-being. Attributes of this quadrant are group cooperation, tolerance for unique individual and customer characteristics, a culture of support as the primary focus of activity, and finally a “do what it takes at all costs” mentality.

The overall results are below the benchmark indicating a risk to the process initiative. This indicates that management may be facing leadership challenges and other organizational constraints. A supportive culture is an enabler to process change. It is recommended that the overall perspective be explored further to ascertain the origins of this view. Promote a supportive culture as a critical success factor for the initiative to ensure a collaborative culture is maintained.

### **7.1.2 Information Flow**

The survey questions for this axis focused on Information Flow, such as planning and clear communication of policy and information sharing between group members.

The UA OIT results are below the frame of reference, which is in line with the findings documented within this report. Although there are some common practices and procedures communicated within the different groups, there is a lack of shared policies and procedures as well as lack of shared management reporting across the groups.

Risks associated with a score below the frame of reference in this area focus on the extended amount of time it will take for the current culture to adopt a more formal way of working. To mitigate these risks it is critical that OIT develop internal awareness and communication campaigns that promote the process initiatives and define information requirements and flows through processes. This will be supported through automation (toolsets) providing the right information at the right time.

### **7.1.3 Innovative Climate**

This quadrant focuses on attributes such as ability to change and adapt. Attributes also include individual initiative, respect for diversity, and healthy competition. It represents the empowerment of staff to do what is necessary to accomplish goals and solve problems.

The score indicates an innovative culture where staff works to find new and better ways of dealing with events on a daily basis. There is a potential risk that many will see the imposition of rules and policies as stifling individual creativity and/or the ability to serve the UA users as expected.

The challenge for implementing process improvement initiatives will be to channel the creativity of staff into formalized and repeatable processes. Use the innovative culture to support process



design by identifying innovators and putting them on the project team to support process design or other creative activities.

#### **7.1.4 Respect For Rules**

This axis focuses on attributes such as the existence of structure, process formalization, centralization of control and the development of standards.

The results for OIT are significantly below the reference point for Respect for Rules. A score below the reference point is not an unusual result since organizations that are more focused on Innovation often have few formal documented policies or procedures. The conclusion is that both management and staff will have some difficulty accepting formal policies and procedures and may well view them as excessively bureaucratic and inhibiting their efforts to provide customer service at levels expected of them.

A significant cultural shift will be necessary; a shared organizational perception that there is inherent value in developing and following defined processes must be fostered and supported by strong leadership of any improvement program that is initiated. Two critical success factors in realizing an improvement in this quadrant are the development of processes that are seen as value-added to the organization, as well as a carefully thought out communication and education strategy.

#### **7.1.5 Conclusion**

There is a little variance in the perceptions between staff and management survey results. The cultural characteristics related to the results of the survey support observations and conclusions drawn by the Pink Elephant consultant during the process assessment survey validation workshops.

One of the challenges of the cultural survey is that it is often misinterpreted as a stand-alone indicator of overall health. This is not the case, as organizational maturity is indicated by a balanced assessment of People, Process and Technology. As developed within this section of the report, this tool captures the cultural readiness for organizations wishing to make process improvements.

To promote the success of introducing and implementing a service management process improvement program and to mitigate resistance, the following is recommended:

- Consider adopting an organizational change framework to provide guidance and leadership within UA OIT
- Develop an IT organizational structure that will support and enable the introduction and governance of a pro-active, service-focused organization



- Develop training and communication strategies and plans. Along with the organizational change framework it will be crucial to communicate the strategy and vision to ensure understanding and support of the initiative of both staff and managers
- Create an overall ITSM program with a strong awareness campaign and brand image reflecting what this program represents at UA OIT combined with a phased program / project plan
- Create a follow up training and communications plan (and celebration) to reinforce the organization's commitment to support the change over time; this may prevent regression into the status quo

It is critically important to reward the people who do things on a day-to-day basis which make heroism and crisis management unnecessary. An organization that depends on the heroism of individuals won't survive in the long term and will have difficulty handling higher volumes required by the business. This can be avoided by establishing solid rules and processes that govern day-to-day activities. Recognize heroism as an exception and reward the people who create the processes.